CONSUMER REPORTS IN HEALTH CARE:  
Do They Make a Difference?

Helen Halpin Schauffler and Jennifer K Mordavsky  
Center for Health and Public Policy Studies, School of Public Health, University of California, Berkeley, California 94720-7360; e-mail: helenhs@uclink.berkeley.edu, mordavsk@uclink.berkeley.edu

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Abstract The public release of health care–quality data into more formalized consumer health report cards is intended to educate consumers, improve quality of care, and increase competition in the marketplace. The purpose of this review is to evaluate the evidence on the impact of consumer report cards on the behavior of consumers, providers, and purchasers. Studies were selected by conducting database searches in Medline and Healthstar to identify papers published since 1995 in peer-review journals pertaining to consumer report cards on health care. The evidence indicates that consumer report cards do not make a difference in decision making, improvement of quality, or competition. The research to date suggests that perhaps we need to rethink the entire endeavor of consumer report cards. Consumers desire information that is provider specific and may be more likely to use information on rates of errors and adverse outcomes. Purchasers may be in a better position to understand and use information about health plan quality to select high-quality plans to offer consumers and to design premium contributions to steer consumers, through price, to the highest-quality plans.

INTRODUCTION

Although still in the early stages of development (22), the public release of health care–quality data into more formalized consumer health report cards is intended to educate consumers, improve quality of care, and increase competition in the marketplace (45). The primary purpose of report cards is to help consumers make better-informed health care decisions by disseminating comparative information on price, access, and quality of care (32). In theory, consumers who are better informed and more involved in their decisions to purchase health insurance and health care will increase accountability and improve performance in the health care system (6, 45).

The use of report cards is not limited to consumers. Health plans and providers may use report cards to evaluate themselves against others and make improvements
in quality, as well as to assess the quality of providers in their networks (39). Government and employer purchasers may also use the information when selecting health plans for their enrollees. Although other data may be available on the cost of care, report cards provide information on quality and consumer satisfaction that enables purchasers to force health plans to compete for their business and to pinpoint areas in which plans and providers need to improve (21, 26, 27).

There is, however, a disconnect between the theoretical purposes of report cards and the practical use of these tools. Recent studies show that measurement issues (34, 39) and a lack of consumer understanding of indicators of quality (14, 18), as well as a focus on outcomes over process variables (30, 38), impede the use of report cards by both consumers and providers. The purpose of this review is to evaluate the evidence on the impact of consumer report cards on the behavior of consumers, providers, and purchasers. Do report cards influence consumer health care choices? Does the public release of performance data on plans and providers affect market share or stimulate improvement in quality? A brief review of the history of report cards provides a background for discussing the evidence from empirical studies. In concluding, this review considers the implications of this research for health policy and the need for additional research.

HISTORY OF CONSUMER REPORT CARDS

Prior to the development of consumer report cards, access to performance information on health care providers was not available to consumers and was expensive to obtain for purchasers. In the early 1970s, the Joint Commission on Accreditation of Healthcare Organizations mandated that hospitals perform internal quality assurance, but access to this information was restricted to government regulators, internal management, and accrediting bodies (1a). In the mid-1980s, purchasers began to look more closely at their health care costs and began working with health plans to develop tools to control costs and measure utilization and quality. The early report cards, however, suffered from significant variation resulting from the source of the data (administrative data vs clinical records), which limited their use as comparative tools (1a). It was not until 1986, when the Health Care Financing Administration (HCFA) publicly released the first set of hospital mortality rates, that comparative reports were first accessible to consumers. The standardized data allowed for comparisons across hospitals, and the media began to publish this information and rank hospitals. HCFA discontinued the reports in 1992 because consumers were not using them to choose hospitals (25).

In the early 1990s, in the midst of national health care reform efforts grounded in the theory of managed competition (6), once again there was a call for report cards to assist consumers in making health care decisions, as well as to increase accountability among health plans for quality of care (1a). Formal measurements of quality of care, published as part of the Health Plan/Employer Data and Information Set (HEDIS 1.0), were released in 1992, with a second edition (HEDIS 2.0)
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released the following year. HEDIS reports contain information on quality, access to care, enrollee satisfaction, utilization, and financial stability (38a). In March of the same year, the United Health Care Corporation released the nation’s first health care report card (19). Four years later, the Pacific Business Group on Health (PBGH) was the first organization to release information comparing quality across physician groups (35).

Report cards are now designed and disseminated by health systems, health plans, employers, and regulatory agencies, as well as by researchers and consultants. A 1998–1999 survey conducted by the Atlantic Information Services, Inc., profiles organizations developing and using report cards (1). The separation of the designer and the user may be the result of consumers’ desires for an objective, unbiased third party to collect and disseminate the data (25). Organizations, such as the Foundation for Accountability, conduct research on quality measures to determine the most appropriate information to be presented, as well as the most effective format and method of dissemination to be used (7). Understanding what information consumers, purchasers, and providers will use in decision making is critical, for without such knowledge, report cards may be rendered useless. Findings on the preferences, comprehension, knowledge, and utilization of report cards by consumers, providers, and purchasers may result in increased use of report cards, and increased accountability for quality of care.

EVIDENCE FROM THE EMPIRICAL LITERATURE

Methodology for this Review

Table 1 lists the 32 empirical papers included in this review. Studies were chosen by conducting database searches in Medline and Healthstar to identify papers published since 1995 in peer-review journals pertaining to consumer report cards on health care. Studies were also identified from the bibliographic references of these papers. In a few cases, published reports on report cards were also included in the analysis. The analysis is organized into three parts, focusing on evidence of the impact of report cards on consumers, medical care providers, and purchasers.

Impact on Consumers

The research on the impact of health care report cards on consumers addresses their preferences for and comprehension of performance measures, and their use of report cards in selecting health plans. Some studies have also sought to determine which sources of report cards and information about quality consumers trust most. The majority of the research has been conducted using three populations: (a) employees selecting the health plans offered by their employer; (b) adults who have a choice of health plans under Medicare, Medicaid, or private health insurance; and (c) opinion polls of a random sample of American adults.
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<th>Date</th>
<th>Authors (Reference)</th>
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<tr>
<td>2000</td>
<td>Mukamel et al (29)</td>
<td>1993–1995 survey of all NY HMOs, IPAs, and PPOs (n = 31)</td>
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<td>2000</td>
<td>Sorokin (40)</td>
<td>1994–1997 study of a group practice (five report cards; two plans)</td>
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<td>1999</td>
<td>Booske et al (3)</td>
<td>1995 randomized trial of WI state employees (n = 201)</td>
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<td>1999</td>
<td>Scanlon &amp; Chernew (33)</td>
<td>1996 active, nonunion employees in a large firm (n = 46,486)</td>
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<td>1999</td>
<td>Schauffler et al (35)</td>
<td>1996 study of 13 large CA HMOs</td>
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<td>1998</td>
<td>Bentley &amp; Nash (2)</td>
<td>1996 survey of 25 hospitals in PA and 12 hospitals in NJ</td>
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<td>1998</td>
<td>Chernew &amp; Scanlon (4)</td>
<td>1995 survey of Fortune 100 Company employees (n = 5795)</td>
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<td>1998</td>
<td>Gabel et al (8)</td>
<td>1997 KPMG employer survey (n = 1502)</td>
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<td>1998</td>
<td>Knutson et al (20)</td>
<td>1995 survey of MN state employees (n = 3573)</td>
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<td>1998</td>
<td>Maxwell (23)</td>
<td>1996 survey of CEOs of PA hospitals (n = 72)</td>
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<td>1998</td>
<td>Mukamel &amp; Mushlin (28)</td>
<td>1990–1993 Medicare claims (n = 30 hospitals and 114 surgeons)</td>
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<td>1998</td>
<td>Scanlon et al (34)</td>
<td>1996 review of health plan report cards (n = 7)</td>
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<td>1998</td>
<td>Schneider &amp; Epstein (37)</td>
<td>1996 survey of CABG patients in PA hospitals (n = 474)</td>
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<td>1997</td>
<td>Hannan et al (10)</td>
<td>1996 survey of NY cardiologists (n = 450)</td>
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<td>1997</td>
<td>Hibbard &amp; Jewett (14)</td>
<td>Focus groups of uninsured, privately insured, and OR Health Plan (Medicaid) members (n = 104)</td>
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<td>1997</td>
<td>Hibbard et al (16)</td>
<td>1997 survey of 33 large employers in PA, OH, NY, and CA</td>
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<td>1997</td>
<td>Longo et al (22)</td>
<td>1994 survey of MO hospital obstetrics services (n = 88)</td>
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<td>1997</td>
<td>Tumlinson et al (42)</td>
<td>1994 survey of MA state employees (n = 3132)</td>
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The evidence on the impact of providing consumers with information on health care quality using report cards is limited, largely negative, and often contradictory. Although some studies identify the specific performance indicators consumers consider to be most important in selecting a health plan, others find that consumers do not use these indicators in practice. The research also suggests that consumers have limited knowledge or understanding of measures of quality. Although some studies find that providing consumers with information affects their choice of health plan, others find no effect.

**Consumer Preferences for Health Plan Performance Measures** Much of the research on consumer report cards has been conducted to identify the attributes of health plans or health care providers that consumers think would be most useful in making choices. Hibbard & Jewett (14, 15, 18) published a series of papers using focus groups to identify useful indicators of quality to include in report cards. In their research (14), they studied three groups: privately insured, uninsured, and
members of Oregon’s Health Plan, which provides managed care to Medicaid recipients. The researchers classified potential indicators into either “desirable events,” such as rates of mammograms, cervical cancer screening, cholesterol screening, childhood immunizations, and diabetic retinal exam, or “undesirable events,” such as hospital-acquired infection rates, pediatric asthma hospitalization rates, and rates of low-birth-weight babies. Desirable events are those included as indicators of quality under HEDIS and were the most likely to be selected by respondents as important quality-of-care indicators for choosing a health plan. Among the undesirable-event indicators, only hospital-acquired infection rate was selected as important by more than half of the respondents. Indicators of patient ratings of quality and satisfaction received the highest average importance ratings.

Jewett & Hibbard (18) also studied consumer comprehension of the indicators of quality used in report cards within the same three groups. Overall, undesirable-event indicators received the most “low comprehension” comments, with pediatric asthma hospitalization and low-birth-weight births being least understood. Patient satisfaction indicators were the best understood. Across all three groups, approximately half of all low comprehension was due to misinformation, defined as “myth, incorrect statements, or mistaken beliefs,” and half was due to lack of information. Among the privately insured, the majority of low comprehension was due to lack of information. The opposite was true for Medicaid recipients and the uninsured, where the majority of low comprehension was due to misinformation. Low comprehension for desirable-event indicators, patient ratings, and disciplinary actions was primarily due to lack of information. In contrast, low comprehension for undesirable-event indicators was due to misinformation. The indicators that had the lowest comprehension were plan-related concepts, reflected largely in the consumer’s disbelief that health plans have any role in quality of performance. In addition, consumers did not understand what health plan indicators tell them about care. All three groups had high rates of low comprehension on aggregate or quantitative concepts, understanding rates, the nature of the comparisons, aggregate data, and the population-based definitions of quality of care. The authors conclude that there are significant barriers to the use of information about quality and informed consumer choice.

In a third study, Hibbard & Jewett (15) examined the association between indicators of quality that consumers do not understand well and those that are viewed as not useful. They found a direct correlation between comprehension and salience. Indicators on such patient ratings as overall health plan quality and doctor communication were ranked highest for both salience and comprehension. Undesirable-event indicators received the lowest average importance rankings and the highest proportion of low-comprehensive comments. The authors concluded that comprehension drives consumer assessments of importance.

Gibbs et al (9) also conducted focus groups to study what consumers (Medicare, Medicaid, and privately insured) consider important in the choice of a health plan. Most people described the process of selecting a health plan as “difficult and frustrating.” Participants felt that compliance with recommended preventive
care measures was the consumer’s responsibility, not the health plan’s, and that consumer satisfaction ratings were too subjective. Plan characteristics of specific interest to Medicare and Medicaid beneficiaries included access to providers and convenience of location. Among the privately insured, price of health plan and choice of physician were identified as key concerns.

In 1994, the Massachusetts Group Insurance Commission conducted a survey of health plan information needs of state employees in conjunction with the Massachusetts Health Data Consortium (42). Only five items were rated as essential by more than half of the respondents: information on benefits, out-of-pocket expenses, quality of primary care physicians, premium prices, and lists of participating physicians and hospitals. Average out-of-pocket cost was deemed most essential among men, whereas more than half of women considered quality of preventive care, lists of participating doctors and hospitals, and out-of-pocket costs essential.

Two national surveys of American adults were published in 1996 identifying factors most important to consumers in choosing a health plan (17, 31). A 1995 Louis Harris poll found that few Americans (36%) have a good understanding of health plan differences (17). The quality of doctors in a plan was considered most important in choosing a plan for 95% of respondents. A majority believed that information on ratings of hospitals, satisfaction with individual physicians, and comparing health plans would be useful in choosing a health plan. A 1996 Kaiser/Agency for Health Care Policy and Research (AHCPR) telephone survey found that Americans felt there were “big” differences in quality in delivery of care by the various health plans compared with differences between hospitals, between physicians, and between specialists (31). Respondents selected high quality of care, a wide range of benefits, low cost of coverage, and a wide choice of physicians as “very important” in choosing a health plan, whereas fewer than half selected high quality of care as their most important concern.

Impact of Information on Consumer Preferences for Health Plan Performance Measures  Two studies of Wisconsin state employees by Booske and colleagues examined the impact that providing consumers with health plan information had on their preferences for attributes important in selecting a plan (3, 32). They found that following exposure to health plan information made available via a computer system (32), a majority of employees changed the set of attributes they consider in choosing a plan, whereas fewer than half changed the importance ratings for the attributes. Of the subjects who changed their importance ratings, more than half changed ratings on first exposure to the information, and one fifth changed following a second exposure. In addition, subjects’ attitudes toward the decision process improved after receiving more detailed information. Subjects who perceived the problem of choosing a health plan as either very difficult or easy were less likely to spend time accessing or reviewing information in making their decisions.

The second paper also found that exposure to information is associated with a change in consumer preference structure by adding or modifying attributes and/or changing their importance (3). More than 75% of subjects changed the number
of attributes or the importance assigned to them after viewing the information. However, the relative ranking of the top three attributes (cost, choice, and coverage) did not change. The attribute that had the greatest increase in the number of subjects was quality. Subjects who were prompted in a structured way about attributes rated quality much higher than those who were asked in an unstructured way to list important attributes. The authors conclude that the method of elicitation of preferences has a large effect on stated consumer preferences.

Consumer Choice of Health Plans Five studies were identified that assessed the impact of providing consumers with information about health plans in report cards (4, 14, 20, 32, 33). Hibbard & Jewett (14) gave participants in their focus groups sample report cards comparing two plans. The majority of respondents across all groups were more likely to choose the health plan that performed better on undesirable-event indicators and less well on desirable-event indicators than the plan that performed better on desirable-event indicators and less well on undesirable-event indicators. This is the opposite of what the authors would have predicted, given that participants had preferred and understood the desirable-event indicators better than the undesirable indicators. Thus, the issues participants had said in the abstract were important indicators of quality were not consistent with the indicators they used to choose between health plans. The authors conclude that report cards would have a greater impact on consumer choice if more information on adverse events, medical mistakes, and iatrogenic effects was included.

In a study examining the health plan choices of employees of a Fortune 100 company (4), employees were given report cards comparing plan choices during open enrollment in the fall of 1994. Four econometric models (unweighted and weighted share regression models, and conditional and nested logit models) predicting choice of plan were estimated as a function of plan attributes, including price, physicians/members, integration, and report card ratings on prevention, satisfaction, medical treatment, physician quality, and surgical care. The only report card ratings that were statistically significantly and positively associated with health plan choice in one or more models were medical treatment (diabetic retinal exam and clinical management and credentialing measures) and preventive care (immunizations and screenings). Surgical care measures [rates of cardiac catheterizations, coronary artery bypass grafts (CABGs), cholecystectomies, hysterectomies, laminectomies, and general hospital acute care days per 1000 members and cesarean sections per 100 live births] were not statistically significantly associated with plan choice in any of the models. Physician-quality measures (percentage of primary care physicians and specialists who are board certified, and primary care physicians who are terminated) were not significantly associated with plan choice in three of the four models but were positively associated ($p = 0.001$) with plan choice in the conditional logit model. Satisfaction ratings (measured by enrollee satisfaction, percentage of primary care physicians accepting new patients, telephone abandonment rate, and waiting time for nonurgent and urgent appointments) were surprisingly inversely related to plan choice in all four
models. Consumers were less likely to select plans with higher satisfaction ratings compared with those with lower ratings. The authors conclude that “employees do not appear to respond strongly to plan performance measures, even when labeling and dissemination were intended to facilitate their use” (4).

In another study examining the relationship between 1996 health plan enrollment in a large firm and HEDIS performance ratings, the findings also suggest that consumers do not respond strongly to ratings about health plan quality (33). The health plan–quality ratings were a subset of measures from HEDIS 2.0 or 2.5, including surgical care ratings (eight measures), preventive care ratings (five measures), participant satisfaction ratings (four measures), physician-quality ratings (five measures), and medical care ratings (four measures).

In the study of Wisconsin state employees, researchers found a positive relationship between the time consumers spent viewing information and a change in health plan choice (32). They also found that nearly half of all subjects changed their health plan choice after viewing more detailed information. However, in a natural experiment of employees from Minnesota’s State Employee Group Insurance Program (SEGIP), health plan report cards had no statistically significant effect on employees’ knowledge, attitudes, or choice of health plan (20). The only measurable effect of giving the report cards to the experimental group was a change in their perceived level of knowledge about health plan choices for those with single, as opposed to family, coverage ($p < 0.05$), despite a lack of improvement in their actual knowledge level.

**Patient Choice of Hospital**  
We identified one study that assessed the impact of public release of hospital outcomes data on patient choice of hospital. In 1996, patients who had undergone CABG surgery in Pennsylvania during the previous year at one of four hospitals were surveyed (38). Patients were asked about their familiarity and use of Pennsylvania’s **Consumer Guide to Coronary Artery Bypass Graft Surgery**. Although 20% of patients were aware of the Guide, only 12% reported being aware of it prior to undergoing CABG surgery. Only 4% knew their hospital’s categorical mortality rate (higher, lower, or within the expected range) and 2% said the information influenced their choice of hospital. Less than 1% of patients knew the correct rating of the surgeon or the hospital where their CABG surgery was performed. When the Guide was described to patients, 58% said they “probably or definitely” would have changed surgeons if they had known they had a higher-than-expected mortality rate in the previous year.

**Trusted Sources of Consumer Report Cards**  
Several studies asked consumers what sources they trust for information comparing health plans. In focus groups of Medicaid, Medicare, and privately insured adults (9), most participants preferred an informal and familiar information source, such as family and friends. They viewed the federal government with mistrust but had greater trust in state governments and private groups, such as consumer groups. Insurance plans were the least likely to be viewed as trustworthy sources of information.
The Louis Harris poll of Americans in 1995 (17) found that the sources of information Americans were least likely to trust on health care were advertising, the media, and the federal government. In the Kaiser/AHCPR survey of Americans (31), only 39% of respondents recalled seeing any information comparing health plans, and only 13% reported using comparative information in making their health plan decisions. In selecting health plans, hospitals, and physicians, the sources that were ranked as most influential included recommendations from physicians, friends, and family. The authors conclude that despite reports by consumers indicating that they value information on quality, they do not use it to make health plan choices.

Impact on Medical Care Providers

We identified 11 studies assessing the effects of consumer guides and public disclosure of medical outcomes on hospitals and physicians. Nearly half of the studies (5 of 11) assessed the impact of public release of hospital and physician mortality rates associated with CABG surgery. Two additional studies examined the impact of the release of HCFA’s hospital mortality reports. We identified only one study for each category assessing the impact of public release of data on quality of physician groups or health plans.

Hospitals

Three studies assessed the impact of releasing state reports on CABG mortality rates on hospitals (2, 23, 28). The first study examined hospitals with higher performance outcomes to assess changes in market share and price (28). All hospitals offering CABG surgery between 1990 and 1993 were analyzed. Excluding one outlier hospital, the results suggest that during 1990–1991, an increase in mortality rates was not statistically significantly associated with a decline in market share.

A second study examined the impact of the release of A Consumer Guide to Coronary Artery Bypass Graft Surgery on changes in hospital policies and practices (2). A survey of randomly selected chief executive officers of CABG hospitals in Pennsylvania and all CABG hospitals in New Jersey was conducted in 1996. The Pennsylvania hospitals had received annual CABG outcome reports from the state since 1992, whereas CABG hospitals in New Jersey had not. The survey found that Pennsylvania hospitals were more likely to use performance information to recruit staff thoracic surgeons and residents. Seven of the eight Pennsylvania hospitals that initiated this strategy listed a “government agency” as the source of outcomes data, which suggests that the State’s Consumer Guide was the impetus. Performance data did not prompt changes in operational governance in the hospitals; however, in both states it encouraged hospitals to initiate operational changes to improve clinical care for heart patients. The authors conclude that the Consumer Guide on CABG outcomes encouraged Pennsylvania hospitals to make more changes than they would have without the reports.
The third study examined the impact of public disclosure of hospital performance information (including the regional Hospital Effectiveness Reports and A Consumer’s Guide to Coronary Artery Bypass Graft Surgery) on variation in Pennsylvania hospital charges from 1990 to 1994 (23). In 1986, Pennsylvania enacted a law establishing an agency to collect and publish performance information on all acute care hospitals in the state. The law was designed “to make patients and purchasers more informed and selective buyers of medical services, to increase the public accountability of providers, and to encourage hospitals and physicians to compete more on clinical outcomes and charges to reduce costs and improve treatment” (23). The authors hypothesized that public disclosure of comparative charges would increase competition in a market and reduce the level of price dispersion for a service compared with markets where there is an absence of such information. The study found that the 5-year trend of average adjusted charges was not statistically significantly different from zero for either the low- or the high-competition hospitals. The chief executive officers of high- and low-competition hospitals were also surveyed (23), and there were no statistically significant differences in views between high- and low-competition hospitals on the use of the information in public reports, the importance of comparative charges, and the importance of the reports as a whole.

Two studies assessed the impact of the release of HCFA’s “death list,” identifying hospital-specific mortality rates. The first study assessed occupancy changes in New York City hospitals following the public release of the HCFA data in 1985 and 1986 (43). Hospitals were classified as having death rates “higher than expected,” “lower than expected,” and “as expected.” The research found no significant difference in occupancy rates for hospitals with lower- or higher-than-expected mortality rates. The authors conclude that public disclosure of hospital death rates has little impact on hospital use. A second study of the impact of HCFA’s death list from 1986 through 1992, however, found a small effect on hospital admissions, reducing admissions “in the short run by a small but statistically significant amount” (25). Similar studies found no effect on occupancy rates (44). In addition, the effects associated with release of the information were slow to occur, such that only 40% of the effects were felt in the first year. The authors suggest that reports on hospital quality are too general to carry much weight.

One study examined the impact of an obstetrics consumer guide developed by the Missouri Department of Health on hospitals that received the report in 1993 (22). After receiving the guide, 24% rated it neutral—to—not helpful, 29% rated it neutral, and 46% rated it neutral—to–extremely helpful. Within 1 year of the report’s release, nearly half of the hospitals that had not previously offered specific services identified in the obstetrics consumer guide had instituted them: follow-up services (50%), car seats (43%), formal transfer agreements (39%), and a nurse educator for breast feeding (33%). This effect was most pronounced in competitive markets. Hospitals with low-to-average patient satisfaction ratings were more likely to have changed compared with those with high ratings. The authors conclude
that publicly disseminated consumer reports may accelerate changes in quality of hospital care.

Another study assessed public disclosure of data from the California Hospital Outcomes Project and its impact on hospital leaders in California (30). Among the respondents, half reported opening the diskette with patient-specific data, and one third of those pulled specific medical records for review. Approximately 75% of respondents found the California Hospital Outcomes Project report to be useful, particularly for benchmarking purposes, improving their International Classification of Diseases version 9 (ICD-9-CM) coding and educating physicians about documentation and clinical pathways. Criticisms of the report were that it was not timely, the data did not reflect current practice, it described outcomes without information on process of care, and it compared dissimilar hospitals. The authors conclude that “public evaluation of performance represented by the hospital report card ... is not a strong impetus for change or improvement in process of care” (30).

**Physician Groups** We identified only one study assessing the reaction of report cards by physician groups. The purpose of the study was to assess the accuracy of five physician-group report cards prepared by two health maintenance organizations (HMOs) between 1994 and 1997 in a single group practice (40). The study found a high error rate in the report cards compared with medical record data. They found that 14% of patients labeled as having hypertension did not have the condition, as well as error rates of 50% for congestive heart failure cases and 44% for coronary artery disease cases that were reported but unconfirmed by chart review. The study found laboratory performance measures were three to ten times higher than those reported when assessed by chart review. The authors conclude that discrepancies in the measurements presented in report cards compared with data recorded in patient charts may have serious implications for providers, particularly if their performance on report cards is tied to payment.

**Physicians** The three studies that assessed the impact of consumer reports on physicians all addressed the public release of physician-specific CABG mortality rates. The first study examined surgeons’ performance outcomes to determine if better outcomes were associated with a relative increase in their market share and prices (28). All surgeons performing CABG surgery between 1990 and 1993 were analyzed. The association between mortality rates and surgeons’ market-share changes during 1991–1992 was statistically significantly negative. A one percentage point increase in mortality rates was associated with a seven percentage point ($p = 0.02$) decrease in market share.

In the second study conducted in 1995, 50% of Pennsylvania cardiologists and cardiac surgeons were surveyed to determine their awareness of the *Consumer Guide to Coronary Artery Bypass Graft Surgery* and their views of its usefulness, limitations, and influence (37). All the eligible cardiac surgeons and most of the cardiologists who responded to the survey were aware of the *Consumer Guide*. The *Guide* had minimal or no influence on the referrals of most of the cardiologists, with
only 2% reporting a “significant impact” on referrals. The majority of cardiologists and cardiac surgeons who were aware of the Guide had not discussed it with any patients in the preceding year. The major limitations of the Guide were as follows: Important factors were not included, inadequate risk-adjustment methods were used, and mortality rates were not a comprehensive indicator of care provided by a surgeon. Finally, 59% of cardiologists reported that it was more difficult to find a surgeon willing to operate on severely ill patients, and 63% of cardiac surgeons reported that they were less willing to operate on the most severely ill patients.

Another survey of cardiologists in the New York State Chapter of the American College of Cardiology was conducted to determine their reactions to the CABG reports the Health Department had been releasing on a physician-specific basis since 1991 (10). Nearly all the cardiologists (94%) found the release of cardiac surgery outcomes data easy to read, with 67% finding it to be “accurate or somewhat accurate.” Less than half found the reports to be useful or somewhat useful, 78% reported not “routinely” discussing the reports with patients, and 62% stated that the information had no effect on their referrals to cardiac surgeons.

Impact on Health Plans We found only one study that examined the use of consumer reports by health plans. The purpose of the study was to assess whether managed care organizations (MCOs) in New York State considered quality when choosing cardiac surgeons and whether they used the information about risk-adjusted mortality from the New York State Cardiac Surgery Reports (29). The study sample included all HMOs, independent practice associations, and preferred provider organizations licensed to operate in New York (response rate 59%). Almost all the MCOs responded that quality was either most important or second most important in making a decision to “include surgeons on their panel.” However, among the group that considered it “most important,” only 66% had reviewed the New York State Cardiac Surgery Report, and fewer than half were willing to pay for the report if it were no longer distributed for free. The authors suggest that the discrepancy in the value the various MCOs assign to quality and their use of the reports may be due to different definitions and methods of evaluating “quality.”

IMPACT ON PURCHASERS

We identified only one study assessing the impact of report cards on the purchasing decisions of employers. There is, however, a large body of descriptive literature addressing employer attitudes toward report cards and use of information about quality. The only paper to assess the use of National Committee for Quality Assurance (NCQA) accreditation and HEDIS on employer purchasing decisions for employee health plans (8) reports on a 1997 KPMG employer survey of randomly selected firms with 200 or more employees. Fewer than half of the employers were familiar with NCQA and fewer than one fifth were familiar with HEDIS. The larger the firm, the more likely it was to be familiar with these health plan
performance measures. Only 11% of firms indicated that NCQA accreditation was a very important factor in selecting health plans, 5% of firms indicated that HEDIS data and information were very important, and only 1% of employers reported that they provided HEDIS data to employees to assist them in plan selection. The authors conclude that NCQA accreditation and HEDIS data do not affect employers’ selection of health plans.

We also identified several examples of how purchasers are failing to use information about quality in their decisions (5). The 1997 Washington Business Group on Health survey found that report cards were ranked by employers as seventh in priority, and HEDIS as sixth, behind cost, access, and member services in selecting health plans (5). A Deloitte and Touche survey of employers ranked HEDIS as sixth and national accreditation as tenth as important factors influencing their decisions (5). In a national study by KPMG, only 6% of employers said they used HEDIS data when selecting health plans. Additionally, only 35% of employers knew what NCQA accreditation was, of which only 9% require it of plans they offer to employees.

Hibbard et al (16) interviewed 33 purchasers in four states who together covered more than 1.8 million people. Approximately three quarters of the purchasers reported that HEDIS and patient satisfaction data were available to them. They were less aware of the availability of hospital outcomes data. Forty-eight percent reported using consultants to help them make decisions, whereas 21% said they were not selecting plans but were maintaining long-term relationships with existing plans. Thus, only 31% of firms were directly involved in selecting health plans. The authors conclude that purchasers’ awareness of performance data is greatest in regions where report cards on quality are targeted and information is packaged specifically for them. Purchasers give less attention to measures of clinical quality than to measures of service quality. Another paper reviewed the purchasing activities of 14 innovative large US employers (24). This study found that many of the firms were disseminating comparisons of health plan quality and patient satisfaction to employees to promote more educated decisions. Companies have also begun to disseminate HEDIS data as part of open enrollment. However, only a few firms were conducting any quality-improvement activities.

Several other papers cite examples of efforts to incorporate health plan ratings into performance-based contracts. HealthNet bases 2%–3% of reimbursement to physicians on their performance (5). GTE Corporation has been a leader in basing its employees’ premium contributions to health plan quality scores (24). The Pacific Business Group on Health (PBGH) has also been a leader in value-based purchasing, linking 2% of health plan premium to meeting negotiated performance targets. Two papers describe PBGH efforts to evaluate health plan quality and consumer satisfaction with health plans and the use of this information in negotiating contracts and premiums with health plans (35, 36). The paper analyzing 1996 California HMO performance data found that tying premiums to meeting performance targets increased performance on selected HEDIS measures (35). The performance measure with the greatest improvement was prenatal care. Health plans
were less successful in meeting performance targets on childhood immunization, mammograms, and Pap smears.

DISCUSSION

For health plans to compete against each other for employers and enrollees in a competitive market place, economic theory suggests that purchasers (government, employers, and consumers) need to be informed fully about the characteristics, strengths, weaknesses, and trade-offs they face in selecting one health plan over another. Historically, health plans have competed on the basis of price, as reflected in the monthly premium. However, many large purchasers would also like to buy “value” for their health care dollars, and they compare health plans on the basis of both price and quality. The development of consumer report cards, which compare quality of health plans across a number of indicators, was intended to assist consumers in value-based purchasing. Yet, the evidence suggests that most consumers do not use report cards to choose health plans, hospitals, or doctors, and most employers do not use them to choose the health plans they offer to their employees.

What went wrong? Despite a wealth of research attempting to discern what health plan attributes consumers find most useful and important, it turns out that when this information is made available to them, they often do not use it in selecting a health plan. In fact, one study found that consumers used the factors they had identified as being least important and least understood in selecting a plan over those that they had identified as most important and best understood (14). Across the 14 studies that identified the health plan attributes consumers prefer, there is very little consistency. The only factors identified as being most important or useful in two or more studies include cost, coverage/benefits, choice of doctors, quality of doctors, lists of available doctors and hospitals, and preventive care. The only two of these that measure quality are preventive care and quality of doctors. Only one study found a positive association between health plan ratings on preventive care and health plan choice (4), and we identified no research that found an association between quality of doctors and consumer choice. One of the major attributes included in most consumer report cards is satisfaction with health plans. The one study that found an association between satisfaction and health plan choice found a negative relationship; the higher the satisfaction rating, the less likely consumers were to choose the plan (4). Recommendations of family, friends, and physicians are the consumers most trusted sources of information in selecting health plans and providers (9, 17, 30).

The findings with respect to the impact of consumer report cards on medical care providers also suggest that ratings of quality have little effect on hospital occupancy rates, market share, operational governance, or charges. The changes hospitals made in response to report cards were in the services they offered, with the effect most pronounced in competitive markets (2, 23).
One of the areas where we found the least research was on quality of physicians, despite the importance of this factor to consumers. Of the three studies that examined the impact of releasing physician-specific mortality data, only one found a small negative association between mortality rates and market share (28). The other two suggested that physicians did not value or use the reports, and that the reports had not affected their referral practices (10, 37).

In the only study that assessed the extent to which health plans use information about quality, the researchers found that although information about quality was an important factor, the use of published reports played little, if any, role in their decisions (29). In addition, in making decisions about what health plans to offer their employees, most employers have not used comparisons of quality (5, 7). However, employers have begun to use information about quality to improve the quality of care in the health plans they offer to their employees, by tying payment to improvements in performance (5, 24, 35).

There are several reasons why consumers do not use report cards to make health plan and medical care choices. The first is the source of the documents. In a review of the report cards collected in 1998–1999, over 50% (17 of 33) were published by health plans (1), the source consumers are least likely to trust (9). In addition, many consumers do not understand how to interpret the rates presented in the report cards, and they do not understand why their health plan should be held responsible for the care that physicians and hospitals deliver (9, 18). Increasingly, purchasers have been coming to the same conclusion. The information consumers and purchasers really want is on quality of doctors. Recognizing this, PBGH was the first large employer purchasing coalition to report on quality of performance at the physician-group level in California beginning in 1996 (35).

Figure 1 displays the relationships between purchasers, health plans, providers, and consumers with respect to choice and accountability. Purchasers choose health plans, and health plans choose physicians and hospitals to be in their networks. In turn, physicians and hospitals are accountable to health plans, and health plans are accountable to purchasers for providing high-quality care. Consumers choose health plans, physicians, and hospitals for their medical care. As such, health plans, physicians, and hospitals are all accountable to consumers for the quality of care they deliver. Ideally, information on quality should be available along each of the arrows in Figure 1. Not only is this information not available in most cases, but the information on quality that has been made available to consumers is often not understood, not perceived as valid, not trusted, or not used to make better-informed decisions. Designing a usable format for data about quality for consumers and purchasers is difficult and complex (13). The paradox faced by researchers working on this problem is that the easier and simpler the measures are to understand, the less likely they are to reflect meaningful differences in quality and to be effective in increasing accountability and improving plan performance (13).

In addition, there are many gaps in the research. For many of the arrows in Figure 1, there is only one study or no research on the impact of providing information on quality on decision making or behavior. Of the studies we identified that
Figure 1  Accountability implied by report cards.

examined the impact of report cards on consumers, there were only two controlled trials, plus two natural experiments with pre/post-data–collection designs, and five cross-sectional data analyses. However, the research is very recent, with nearly all the studies published in the past 4 years (1996–1999). Much of the research is relevant to the general public, with four studies conducted on Medicaid, Medicare, and privately insured individuals, and research conducted on both government and private employees in a number of different states, as well as nationally.

CONCLUSION

Do consumer report cards on health care make a difference? The evidence suggests that the answer is “not really,” at least not the way they have developed over the past 7 years (1993–2000). So where do we go from here? The research to date suggests that perhaps we need to rethink the entire endeavor of consumer report cards. The task of trying to educate all Americans about the meaning and importance of indicators of health care quality, such as pediatric asthma admissions rates or diabetic retinal exam rates, is not only enormous, it is also impractical, if not impossible. What consumers want most is information on the quality of their
health care providers (17, 32, 38). Consumers are not interested in information that does not apply directly to them or to their health care providers.

Much more research is required, not only to develop measures of individual provider performance that might be more meaningful to consumers (e.g., error rates and adverse outcome rates), but to test the impact of these measures on health care choices. Health plans and providers can be asked to collect information on adverse reactions to medications, in addition to adverse outcomes from diagnostic and therapeutic interventions and surgical procedures. In addition, more research is needed to identify valid methods of measuring, and meaningful ways of reporting, information on quality of individual physician and hospital performance to consumers. Ideally, such information for all doctors and hospitals contracting with a health plan would be available to consumers on enrollment, by request, or on-line. However, the source of the information is important. The data need to be presented to consumers through an independent third party, either a consumer group or a state government.

In the meantime, if the goal is to help consumers make more informed personal health care choices and increase provider accountability to consumers, it may be easier to empower consumers by giving them specific questions to ask rather than answers to questions they do not understand and do not use. Consumers need to take a much more active role in soliciting information directly from their physician. For example, if patients need a diagnostic or therapeutic test, surgical procedure, or medication, they should ask their doctor questions such as the following. (a) How many times have you performed this test or procedure or prescribed this medication in the past year and in the past 5 years? (b) What are the potential major complications resulting from this test/procedure/medication? (c) Of the patients you have personally treated using this test/procedure/medication, how many have experienced each of these complications and how many have died? If a physician will not or cannot answer these questions and will not engage in a conversation addressing these concerns, the consumer should select another doctor who can and will.

Rather than ask consumers what they think is important, we recommend that experts in the measurement of health care quality determine what are the most valid, reliable, fair, and critical measures of health plan, hospital, and physician quality. Data collection efforts can then be redirected to these factors and collected and audited by an independent third party. These data on quality can then be summarized in report cards comparing health plans and providers operating in specific markets.

In addition to continuing to try to design report cards to influence the decisions of individual consumers, health plan report cards need to be designed and targeted specifically to purchasers. Purchasers can then use the information in several ways. They can use information about quality to select high-quality health plans to offer to their enrollees. In addition, knowing that the single most important factor influencing a decision to change health plans is the premium price faced by the consumer (34), purchasers can use performance data to determine their enrollees’ premium contribution. For example, the consumer out-of-pocket premium costs for higher-quality plans would be less than that for plans of lower quality. Purchasers
can design their premium contribution strategy to steer consumers, through price, to those plans that deliver the highest quality of care. Purchasers can also use information about quality to hold health plans and providers accountable through economic incentives to improve their performance on measures of quality.

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