



Robert Wood Johnson Foundation

THE SYNTHESIS PROJECT

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RESEARCH SYNTHESIS REPORT NO. 14
MAY 2008

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Choosing a health care provider: The role of quality information

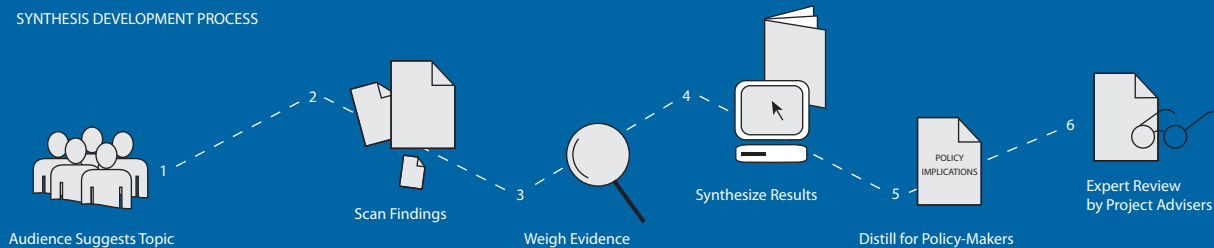
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THE SYNTHESIS PROJECT (Synthesis) is an initiative of the Robert Wood Johnson Foundation to produce relevant, concise, and thought-provoking briefs and reports on today's important health policy issues. By synthesizing what is known, while weighing the strength of findings and exposing gaps in knowledge, Synthesis products give decision-makers reliable information and new insights to inform complex policy decisions. For more information about the Synthesis Project, visit the Synthesis Project's Web site at www.policysynthesis.org. For additional copies of Synthesis products, please go to the Project's Web site or send an e-mail request to pubsrequest@rwjf.org.

SYNTHESIS DEVELOPMENT PROCESS



Introduction

In recent years, there has been emerging interest in using consumers as agents of change to improve health care quality and contain costs. Health care providers vary widely in the resource intensiveness of their practice styles, their adherence to clinical guidelines and the outcomes of care they produce. At the same time, consumers exercise wide discretion in choosing both physicians and hospitals, value the unrestricted ability to choose health care providers and have unprecedented access to health information via the internet [74]. Yet consumers have not traditionally played an active and informed role in making decisions about their health care [5, 33, 41, 43, 56].

Policy-makers and health plan sponsors have pursued different avenues to increase the effectiveness of consumers' health care choices. These avenues include producing comparative information on the cost and quality of health plans and hospitals [53, 83]; providing financial incentives for consumers to consider cost and quality [65]; and structuring the plan and provider choice selection process so that quality and cost differentials are readily apparent to consumers [24].

The growing interest in consumer-driven health care models has focused attention on the role of quality information. Consumer-driven health plans pair high deductible insurance with the option to save money for future health care needs in a tax favored manner [9]. Because these plans do not require enrollees to use particular providers, their success in improving health system performance rests on a consumer's ability to effectively choose high quality physicians and hospitals. Under this model, the public reporting of provider quality information is one of the few "levers" available to policy-makers to influence health system performance. Proponents of greater consumer engagement contend consumers who are aware of the cost and quality of providers will choose high quality, cost-efficient providers. The more consumers choose providers in this manner, the greater the incentive for physicians and hospitals to provide quality care.

This synthesis examines the content of provider quality information and the research on consumers' attitudes about, awareness of and self-reported use of that information. Specifically, the synthesis focuses on the following questions:

1. What aspects of quality do consumers consider relevant to provider choices?
2. What information is currently available to help consumers choose providers?
3. Is publicly available information adequate?
4. Are consumers aware of the information?
5. Do consumers use publicly available provider quality information?
6. Has publicly available information led to more effective provider choices?

We define provider quality information very broadly to include all materials disseminated by public and private entities that are intended to inform consumers' decisions in choosing health care providers. We include in this definition information for which consumers must pay a fee. We do not include information intended to engage consumers to play a more active role in maintaining their health or in evaluating the care they receive.

Introduction

For the purpose of this synthesis, health care provider refers to physicians, physician groups and hospitals. The focus on physicians and hospitals stems from their relevance to the potential impact of consumer-driven insurance models and recent public reporting initiatives undertaken by federal and state governments, large health plans and private entrepreneurs.

Despite its policy relevance, this topic has received relatively little attention in the research literature. By contrast, a large number of studies have examined the effect of information on consumers' choice of health plans [3, 14, 18, 22, 23, 27, 32, 35, 50, 52, 79, 80, 87, 93, 94]. Health plan and provider choices differ in structure, timing, context and the availability of quality information. By contrast to physician and hospital choices, health plan choices typically involve a small number of well-defined alternatives and are made over a limited time and are organized around open enrollment periods. Health plan quality information is aggregated over large numbers of affiliated health care providers and is often distributed in a targeted fashion by employers or public program sponsors. These differences are likely to influence awareness, salience and use of quality information. (See Appendix II for a discussion of the methodological challenges inherent in studying consumers' provider choice.)

What aspects of quality do consumers consider relevant to provider choices?

Quality information will improve consumers' provider choices only if it considers the features of care that consumers perceive as relevant to their provider choices. A large number of recent studies describe consumer perceptions of health care quality. These studies typically employ focus group and survey methods to elicit consumer perspectives on important factors considered in choosing a health care provider. These studies find that consumers conceptualize and value quality of care as distinct from other features of care, such as cost, access and convenience [15, 19, 55, 75, 99].

Qualitative evidence indicates that consumers are strongly interested in public information on provider quality, with preference for information on providers' interpersonal skills. Using focus groups and qualitative interviews a number of studies have explored consumers' preferences for quality information [7, 21, 28, 36, 44, 55, 72, 86, 99]. The results of these studies reveal strong interest for increased public reporting on the quality of physicians and hospitals. Consistent with studies suggesting that interpersonal skills factor prominently in consumers' understanding of physician quality [16, 30, 36, 42, 89, 96], these studies also reveal strong preferences for nontechnical information based on patients' experiences interacting with physicians and hospital staff members over process- and outcome-based measures of provider performance.

Indifference to clinical measures may reflect a lack of understanding of what they mean. There is some indication that disinterest in clinical performance measures found in focus group studies may be driven by consumers' perceived lack of expertise regarding the clinical issues underlying performance data. Jewett and others conducted a series of 15 focus groups with the aim of understanding consumers' comprehension of indicators used to assess the quality of care provided by health plans and providers [44]. The authors found that patient assessments of the interpersonal skills of providers were well understood by focus group participants. By contrast, the authors found that comprehension of process of care measures – including rates of hospital infection, hospital death after heart attack and pediatric asthma complications – was substantially lower, particularly among the uninsured and those with Medicaid coverage. Attitudes and perceptions identified in these studies were echoed by employers, health plan sponsors, and consumer advocates when asked to provide views regarding their constituents' preferences for quality information [21, 59].

Despite consumers' stated interest in publicly reported quality information, the most trusted sources of information on provider quality are personal physicians, friends and family. Two recent representative surveys, one of U. S. consumers and the other of New York state residents, ask respondents to indicate which types of information tell them “a lot” about hospital and physician quality [6, 47]. Both surveys suggest that some vehicles through which such performance data could potentially be disseminated, including newspapers, magazines, government agencies and research organizations, are perceived as substantially less informative than personal physicians and acquaintances. Though not specific to doctors and hospitals, results of a 2000 survey of California residents indicated similar concerns about the trustworthiness of public sources of information about health care and medical needs. Survey respondents rated information on provider quality obtained from personal physicians, friends and family as more trustworthy than information from employers, national magazines, drug companies, government agencies and the internet [10].

What information is currently available to help consumers choose providers?

By contrast to efforts to inform employees about the cost and quality of health plan options, we found little indication that employers, particularly those who offer consumer-driven plans, have been active or effective in providing similar information about providers [60, 78, 92]. Publicly reported quality information on providers is available through a number of sources, however. These sources include federal and state public health officials, health plan sponsors, coalitions of employer groups and national and local media outlets that generate their own information or report on the release of information by other organizations. More recently, private firms have begun to offer consumers provider quality information over the internet via paid subscriptions or one-time user fees.

Clinical Performance Measures. Clinical performance measures provide information on care processes and, in some instances, health outcomes that indicate the delivery of high quality medical care in the eyes of clinical experts. These measures are developed through a structured, evidence-based process in order to ensure objectivity, computability, and comparability across settings and patient groups. While individual consumers are an important constituency [66], performance measures are used primarily by health plan sponsors, groups representing large employers and health care providers, to monitor and improve quality and as the basis for selective contracting arrangements and pay-for-performance initiatives.

Most publicly reported information on clinical performance measures focuses on hospitals, not individual physicians. The most prominent example is the Hospital Compare website sponsored by the U.S. Department of Health and Human Services, launched in the spring of 2005. The website contains information on 21 performance measures based on the rates at which hospitals provide recommended care related to cardiac care, surgeries and pneumonia patients for 4,500 hospitals serving Medicare beneficiaries [11]. To obtain comparisons, users select hospitals of interest from a list generated by the user's selected geographic area (e.g., zip code) and a selected set of performance measures. At least 16 state governments and state hospital associations also release performance data for hospitals operating in their states. Consumers can also purchase hospital performance data from proprietary sources, such as HealthGrades.com and RevolutionHealth.com.

While the overwhelming majority of hospital performance data available to the public measure care processes, data on the mortality of patients admitted to hospitals for cardiac care have been released by the federal government and several states since the late 1980s [68–70]. The release of Medicare hospital mortality data by the then Health Care Financing Administration (HCFA) from 1987 to 1992 represented the earliest of such efforts. In June 2007, Centers for Medicare and Medicaid Services (CMS, formerly HCFA) reinitiated regular reporting of cardiac-related mortality data on its Hospital Compare website.

To date, information describing the clinical performance of individual physicians is not readily available to the public. Notable exceptions are hospital mortality reports for individual cardiac surgeons released by the departments of health in Pennsylvania [70], New Jersey [68] and New York [69]. Our review uncovered only a single major newspaper article describing a health plan-sponsored initiative to provide enrollees with ratings of local doctors in community practice based on performance data in selected markets [65]. The relative absence of individual physician quality measures stems in part from methodological challenges in collecting such data.

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The methodological problems include defining episodes of care outside of hospital settings and identifying specific providers working in group practices from administrative claims data.

Certification. Several organizations publicly report names and contact information for providers who meet or exceed quality standards established by their organizations. One example is the Joint Commission's "Quality Check" initiative, which certifies hospitals [90] and other health care facilities on the basis of accreditation, safety and performance on hospital quality indicators. A second example is the National Committee for Quality Assurance's "Physician Recognition Program," which certifies physicians based on their performance in treating back pain, diabetes, cardiac conditions and stroke [67]. Both organizations make lists of certified providers available through their websites. In some cases, health plans identify certified providers in their directories of network affiliated providers.

Reputation. A number of national and local media outlets sponsor surveys of physicians regarding their opinions about the quality of care provided by other local physicians and hospitals and then formulate lists of highly rated providers based on the responses. While methods for formulating ratings differ, surveys typically solicit nominations by asking physicians to indicate who they would recommend to care for a close family member. The *U.S. News and World Report's* annual report on "America's Best Hospitals" may be the best known source for ratings based on professional opinion. Other sources of provider quality information based on professional opinion include magazines, such as the *Washingtonian*, *Consumer Reports* and *Chicago*, and the publishers of the *Washington Consumer Checkbook* and *America's Top Doctors*.

Patient Experience. By contrast to information about enrollees' experiences with their health plans, ratings of provider quality based on patient experience are not yet widely available. Two notable exceptions include ratings of the quality of large medical groups derived from patient surveys compiled and released via the internet by the State of California's Office of the Patient Advocate [88] and ratings available through commercial websites and publications that invite users or subscribers to evaluate the quality of their physicians and hospitals. Examples of this approach include Suggestadoctor.com, RevolutionHealth.com, RateMDs.com, *Consumer Reports* magazine, and *Washington Consumer Checkbook*. In addition, CMS plans to publicly release Consumer Assessment of Health Providers and Systems (CAHPS) hospital data on its Hospital Compare website in March 2008 [97]. The CAHPS clinician and group survey instrument is currently being pilot tested in two sites, but wider release of physician quality data is not scheduled [97].

The internet has made it possible for patients diagnosed with the same medical condition to join forums to communicate and recommend providers with experience treating their condition. Such information is not typically reviewed or sanctioned by the relevant professional society and the accuracy of the information that patients provide is not verified. Recommendations listed by the Hepatitis Information Center are an example of such a forum [34].

There is an effort under way to standardize the collection of information on patient experience. The Agency for Healthcare Research and Quality (AHRQ) has developed standard tools for measuring patient experiences with hospitals, physicians and physician group practices that can be obtained by survey sponsors at no cost.

Is publicly available information adequate?

To improve consumers' provider choices, and ultimately, health system performance, public reporting must be understandable, accurate and easily obtainable.

Efforts are being made to help consumers understand technical quality information. While data on clinical performance of physicians is not widely available at this time, the consumer-oriented sources of hospital performance data we reviewed reflected concerted efforts by federal and state authorities to make the information relevant and easy to use. For example, the Hospital Compare website now contains ratings based on patient experiences with care and currently contains links that explain the relevance of process of care indicators to underlying quality of care and provide advice on interpreting data [95]. Likewise, the New Jersey Department of Health and Senior Services provides advice to help consumers take an active role in using information to learn about quality and to select health care providers [91].

It is not clear, however, that efforts to make clinical performance measures consumer-friendly are sufficient. For example, screens on the Hospital Compare website intended to instruct consumers on how to use the site are densely packed with information. Moreover, information targeted to consumers on the Hospital Compare website is, in some places, intermingled with information and links intended for hospital administrators and researchers. Resulting confusion may undermine the perceived relevance of the website as a guide to consumers' hospital choices.

The accuracy of publicly available provider quality information can be difficult to assess, even for health care experts. The entities that publicly release provider quality information generally disclose the methodologies used to derive their reports (e.g., Medicare Compare, *U.S. News and World Report*, NCQA Physician Recognition Program, HealthGrades.com, The Joint Commission's Quality Check). However, such disclosures often omit key information, such as survey response rates or references to evidence supporting the validity of a given rating system. Even when detailed information is available, interpretation can require a technical background in areas such as case-mix adjustment, statistical power and sample size, and familiarity with diagnostic and procedure coding of administrative data.

Several studies conducted over the past decade have assessed the validity of widely disseminated hospital ratings developed by private consulting firms including *U.S. News and World Report* and HealthGrades.com by comparing ratings to quality measures derived from medical records and other administrative data sources [12, 13, 54, 100]. These studies find positive associations between rating systems and hospital performance measured through other means. However, high variability within categories limits the ability of the rating systems to discriminate between individual hospitals on the basis of performance and thus reduces their value to individual consumers [54, 100].

The accuracy of reputation-based measures depends on how well physicians can measure the quality of their peers as well as whether the sample is representative of the physician population. Again, we know of no studies of reputation-based quality measures that consider these factors. However, there is some evidence that reputation-based ratings produce very skewed distributions because the majority of doctors will not be mentioned [29]. In the case of hospitals, divergence between performance measures derived from administrative data and reputation-based ratings may be driven by a tendency for surveyed physicians to consider hospitals' performance in treating the most serious cases rather than hospitals' average performance [100].

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Ratings based on patient experience are intended to capture interpersonal aspects of care not assessed through process- and outcomes-based performance measures. As in quality measures based on professional opinion, issues of instrumentation and sampling are paramount in determining the validity of ratings based on personal experiences. Survey questions need to be limited to those aspects of care that patient experience can inform (i.e., interpersonal aspects of quality). Self-selected samples do not represent all patients and therefore many physicians are likely to be unrated or rated by a small, non-representative number of patients. AHRQ CAHPS tools provide guidance to organizations that solicit patient experience data to help ensure validity. Research suggests that patient experience measures are positively associated with measures of clinical quality, but not equivalent [49, 77, 84]. However, validity of patient-based measures for the purpose of improving consumer choices does not necessarily depend on associations with clinical quality as defined by medical experts. A lack of concordance between consumer and expert assessed quality measures is only a concern to the extent that improved consumer satisfaction is not a system performance goal in and of itself.

Publicly available provider quality information is disseminated almost exclusively via the internet. Our review suggests that website sponsors, both public and private, rely heavily on word of mouth and press releases issued to media for publicity. In some instances, consumers can order print versions of website content. Dissemination of information via the internet is relatively inexpensive and allows consumers to customize information to their specific geographic locations and concerns. At the same time, however, information provided via the internet will not be seen by those who are unaware of the existence of such information, who do not use computers or do not have friends and family able to use the internet on their behalf.

Are consumers aware of publicly reported provider quality information?

Awareness of quality information is low. Making quality information publicly available can improve the effectiveness of provider choices only if consumers are aware of it. Existing studies suggest that awareness of publicly available information is low in the general population and among patients with high health care needs for whom the information should be most relevant. National surveys conducted in 1996, 2000, 2004 and 2006 suggest that less than a quarter of consumers recalled seeing information about hospital and physician quality in the past year (Figure 1) [45–48]. Recall rates measured through surveys of New York, Pennsylvania and California residents produce comparably low, and in some cases lower, recall rates, despite the fact that these states had well established public reporting programs at the time the surveys were conducted [6, 10, 82]. Low rates of awareness found in the Pennsylvania study are especially striking because the sample was comprised of cardiac patients for whom hospital mortality information was most relevant.

Figure 1. Percent of Americans reporting having seen quality information on providers [45–48]

	1996	2000	2004	2006
Hospitals	21	15	22	24
Doctors	11	9	11	12

Awareness of publicly reported information appears to vary by socio-demographic characteristics; however, evidence is not consistent or consistently collected. In the California and Pennsylvania studies, individuals with more education and better health status were more likely to recall having seen public reporting [10, 82]. The Pennsylvania study, the only

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one of the three to report awareness by income, found that those with incomes over \$30,000 were more aware of public reporting than those with lower incomes. At the same time, however, these state-based surveys show conflicting results for subgroups defined on the basis of age, gender and ethnicity [6, 10, 82].

In 1998, Schultz and others surveyed employees of firms participating in the Buyer's Health Care Action Group (BHCAG), a group of 28 large employers in the Twin Cities area of Minnesota offering health insurance plans organized around medical groups, called "care systems" [85]. In essence, BHCAG combined employees' choice of health plans and providers into a single decision. In theory, combining these choices would enhance consumer-driven competition among providers on the basis of both cost and quality. Roughly half of all BHCAG-member employees reported being aware of a report card on care system quality disseminated by their employers. While this rate is substantially higher than rates achieved through community-wide dissemination of report cards through local newspapers [51], it still implies that less than half of individuals in the target audience were aware of a relatively intensive dissemination effort. A follow-up study of BHCAG-member employees conducted in 2001 found awareness of the report card had fallen to under 33 percent [1]. In contrast to the other state studies, both BHCAG studies revealed no relationship between health status and awareness of the report card. The earlier survey suggested that individuals who considered access to specialists to be a very important consideration in choosing a care system and those who changed care systems in the past year were more likely than others to recall seeing the report card [85]. Individuals who were primarily concerned with cost and convenience were less likely to recall the report card. The follow-up study found awareness was positively associated with having an employer who actively disseminated the report card, with education and with having an interaction with a medical provider in the past year [1].

Do consumers use publicly reported provider quality information?

Use of publicly reported quality information is low. A number of studies examine consumers' self-reported use of information to inform provider choices. National survey data collected by the Kaiser Family Foundation and the Agency for Healthcare Research and Quality is one of the few efforts to control, even minimally, for consumers' exposure to or awareness of public reporting in examining use. Data from these surveys suggests that in 1996, 2000, 2004 and 2006 less than 25 percent of consumers who reported being aware of quality information used it to choose hospitals, doctors or health plans [45–47]. Despite a targeted dissemination effort, rates of report card use among employees of BHCAG firms who recalled seeing it were only slightly higher at 27 percent [85]. Moreover, awareness of BHCAG-sponsored report cards did not appear related to changes in enrollees' choice of care system over time [2].

Public reporting is a less influential source of provider quality information than friends, family and health care providers. Public information must compete with other sources of information if it is to increase the effectiveness of consumers' health care provider choices. Two surveys, one representative of California residents and the other of U.S. adults with employer-sponsored health insurance, ask respondents about the use of quality information to support hospital and physician choices without controlling for likely exposure to public reporting [10, 33]. Findings from both surveys suggest that consumers are more than twice as likely to report obtaining information about provider quality from friends, family and health care providers than from publicly available information, including report card ratings, media and the internet. Both New York state residents [82] and employees of BHCAG-member firms operating in the Minneapolis-St. Paul area (who were the subject of a targeted information dissemination

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effort) are more likely to report actually using or being likely to use independent quality evaluations or report card data to choose providers [24]. (Figure 2) Consumers' apparent reliance on personal acquaintances is highly consistent with the high value that consumers place on interpersonal aspects of quality and their preferences for nontechnical quality information. At the same time, national survey data provide some indication that the confidence consumers place in friends and family is declining over time, at least in the context of health plan choice [47].

Figure 2. Self-reported likely and actual use of provider quality information

Sample and year	National 2002 [33]	BHCAG 2000 [24]	California 2001 [10]	New York 2004 [6]
Self-reported use	Actual	Actual	Likely	Likely
Specific sources				
Friends and Family	51%	33%	51%	59%
Health care providers	12%	8%	48%	60%
Independent evaluations or report card ratings	24%	50%	24%	40%
Website/Internet	—	—	19%	36% ^a

Note: Columns do not sum to 100% because categories are not mutually exclusive.

^aWebsite sponsored by the NY state Department of Health.

The use of public information appears related to experiences with the health care system among U.S. adults with employer-sponsored insurance. Characteristics associated with use of public information include not having stayed overnight in a hospital last year, anticipating a hospital stay in the next year, being enrolled in a managed care plan for more than two years and having recently switched health care providers due to dissatisfaction [33].

Two representative surveys suggest racial and ethnic groups obtain provider quality information in different ways. A study of U.S. adults with employer-sponsored insurance, found that compared to whites, Hispanics were 11 percentage points more likely and African Americans 18 percentage points more likely to use public sources of information [33]. Data describing the extent of racial and ethnic differences in use of public sources of information are not available for the California sample. However, the authors report that Hispanics were less likely than their white counterparts to report “talking to others” as a source of information about the quality of health care providers.

Relevance rather than comprehension may explain low rates of information use. When asked about reasons for not using hospital quality information, respondents to a national survey were more likely to attribute factors related to relevance than factors related to comprehension (Figure 3) [47]. While not asked specifically about factors relating to complexity or comprehension, cardiac patients in Pennsylvania indicated a perceived lack of choice limited use of the State's hospital report card [82],

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Figure 3. Reasons given for not using hospital quality information [47]

No need to make hospital decisions	68%
Information not specific to personal health conditions	53%
Factors other than quality were more important	42%
Information did not include a specific hospital	34%
Information was confusing or difficult to understand	10%

High levels of satisfaction with one’s own provider and lack of perceived quality differences across providers may also help to explain why consumers do not consider public reporting relevant. A nationally representative survey conducted in 1996 (sponsored by the Agency for Health Care Policy and Research and the Kaiser Family Foundation) suggests that roughly two-thirds of consumers perceive quality differences to be small or nonexistent among local hospitals, family doctors and specialists [45]. At the same time, a number of studies have documented consumers’ belief that the quality of care they receive from their own doctor is of superior quality compared with other doctors [4]. This finding is echoed in a survey of employees of BHCAG member firms who were more likely to attribute lack of use of quality information to being satisfied with their current health care provider or having no plans to switch providers rather than to factors related to the complexity of the report card [85].

Cognitive research suggests that formatting can play an important role in determining whether consumers effectively use quality information once they are aware of it [31, 37, 93, 98]. Harris-Kojetin[31, 73] derived lessons based on a series of studies aimed at reducing the cognitive burden associated with consumers’ use of health plan quality reports. These lessons include:

- keep information short, clear and easy to use;
- address diversity in the target audience;
- help consumers understand the fundamental features of their choices;
- assist consumers in determining and differentiating their preferences;
- minimize complexity by breaking the choice task into a series of small components;
- help consumers understand why and how to use quality information; and
- more information is not necessarily better.

In principle, lessons such as these could be used to assess the potential for publicly reported quality information to influence consumer choices. Through the course of our review, however, we did not identify systematic assessments of the adequacy of currently available information. Nonetheless, it is our impression that the quality of formatting varies widely across information sources.

Findings

Has publicly available information led to more effective provider choices?

There is little, if any, direct evidence regarding the effectiveness of provider quality information in driving consumers to higher quality health care providers. During the course of our review, we found no studies that link the dissemination of information to consumers choosing higher quality providers. One study did link publicly available information with consumers' ability to identify high quality providers, however. Hibbard and others used a pre-post design to examine the effect of disseminating a hospital quality report card community-wide through newspaper inserts and employers in Madison, Wisconsin. Although self-reported use of the report card was well below 10 percent, the study found that the dissemination was associated with perceived differences in the quality of local hospitals and with the ability to correctly identify better performing hospitals.

While there is no evidence linking publicly reported quality information and consumer choice of high quality providers, there is some evidence of an effect on the providers themselves. Among the most rigorous quantitative studies are those conducted over the past decade measuring changes in market share and mortality following the public release of cardiac bypass report cards in New York, Pennsylvania and California [17, 20, 26, 61, 62, 64, 76]. Several authors have reviewed these studies and concluded that report cards resulted in (1) negligible to moderate declines in patient volume at under-performing hospitals resulting from declines in the number of surgeries performed on low-risk patients, and (2) improved quality of care in under-performing hospitals as evidenced by declines in risk-adjusted mortality and self-reported engagement in quality improvement initiatives [17, 38, 39, 53, 57, 63, 71, 81]. Despite consensus surrounding the nature of the effects, it is not possible to identify from these studies their underlying causes. The influence of report cards on the individual behavior of consumers is one of many potential causes, including changes in physician referral patterns, selective contracting by managed care organizations, surgeon "cherry picking" of low-risk patients and efforts by hospitals to limit surgeries by under-performing surgeons [17, 20, 101].

Conclusions

A key question facing policy-makers considering more aggressive dissemination and promotion of public reporting in light of these findings is whether information is effective in steering consumers to higher quality doctors and hospitals when it is used. Through the course of our review, we did not identify rigorous efforts to catalog and evaluate the existence and adequacy of public reporting efforts. Likewise, we did not identify direct evidence assessing whether public reports are effective in steering consumers to higher quality providers. The literature we did review suggests that while consumers value both provider quality and provider quality information, only a minority of consumers is aware of and uses quality information to inform provider choice.

By casting too broad a net, the existing literature may create an overly pessimistic portrayal of consumers' acceptance and use of public reported efforts launched to date. When interpreting published rates, it is important to keep in mind that existing studies do not examine awareness and use among rigorously defined subgroups of consumers who have (1) been exposed to quality information either directly or indirectly through acquaintances and (2) are willing and interested in choosing or switching providers. (We discuss the methodological challenges in Appendix II.) As a result, these studies may understate the potential effectiveness of public reporting efforts.

Implications for Policy-Makers

Our review offers several practical lessons for policy-makers considering the development or refinement of public reporting efforts as a means of improving consumers' provider choices.

Information about the quality of individual physicians remains largely non-existent.

The lack of physician quality information coupled with wide variation in physician practice style [25] casts doubt on the consumer-driven health care movement to improve health system performance, at least in the near term.

Questions about the value of public reporting remain unanswered. The current literature does not assess whether public reports are effective in steering consumers to higher quality providers. If this is not the case, then public reporting has little hope of improving broader health system performance. Obtaining such knowledge is paramount to assessing the potential value of investment in public reporting initiatives.

Consumers understand “the case for quality.” A wide variety of qualitative studies conducted over the past two decades suggest that consumers value health care quality as distinct from other features and also see quality as multifaceted. Consumers also appear to value greater access to provider quality information. Together these findings suggest that the failure to use public reporting to inform provider choice does not result from consumer indifference.

Existing public reporting increasingly reflects research on consumer preferences for information. For example, performance data reported by federal and state authorities provide definitions and contextual information to assist consumers in interpreting technical information. Moreover, reporting tools explicitly designed to address consumers' preferences for data on the interpersonal skills of physicians and hospital staff is available via the Hospital Compare website.

Measures based on expert judgment can help convey technical quality information, but further development is required. While consumers appear to recognize and value technical quality, studies reveal resistance to technically-oriented quality information. Quality information derived from professional opinions and third-party credentialing programs represent a potential vehicle for conveying “bottom-line” technical quality without the cognitive burden required to interpret technical information. Validation of such measures by a trusted, independent body may help to increase their credibility.

Reliance on the internet limits access to publicly available quality information.

Federal and state authorities rely heavily on the internet to disseminate provider quality information. The internet has the advantages of being low cost and offering consumers the opportunity to customize information to their specific geographic locations and concerns. However, the survey data we reviewed indicated that many consumers do not make frequent use of the internet and distrust health information available from the internet. Thus, our review suggests that in order to be successful, policies and initiatives aimed at increasing consumer involvement in health care decision-making through the provision of provider quality information will need to reach consumers who are not computer savvy and/or lack health literacy skills.

The Need for Additional Information

Future research efforts should focus less on consumer preferences for information and more on the process through which consumers become aware of and use provider quality information and on the effectiveness of consumer choices. (We discuss the challenges to mounting such efforts in Appendix II.)

Research needs to connect explicitly the provider choices of individual consumers to established measures of provider quality. Carefully designed research may help to analyze this connection in the case of hospitals, where quality measures and reporting tools are well-established. Assessments of the value of public reporting of physician quality will have to wait for consensus to develop around the appropriate measurement of individual physician quality.

Research needs to examine the effects of public reporting in relevant settings and populations, in order not to understate the potential benefits of public reporting. Studies of consumer awareness should be conducted among those likely to have been exposed to quality information based on the dissemination method (e.g., web-based interventions among internet users, newspaper stories among newspaper subscribers). Likewise, studies measuring the use of public reporting to choose health care providers should be conducted among those who are willing and interested in choosing or switching providers.

Studies are needed to measure the effect of information on consumers' perceptions of provider quality. Even if consumers don't report using provider quality information, the information may still be effective in helping consumers to be aware of provider quality differences. Such changes in knowledge may influence provider choices at some later date. Also, the accuracy of self-reported perceptions may be more practical to measure than actual provider choices.

Research that uses experiments may improve knowledge about the effectiveness of public reporting efforts. Ideally, investments in the development and dissemination of provider quality information would be guided by evidence of effectiveness. However, such evidence is lacking and gathering it is challenging. Theoretically, the effectiveness of public reporting could be measured by comparing the quality of providers chosen by consumers subsequent to the release of public reports with the quality of providers chosen prior to release. However, it is difficult in practice to distinguish the effects of public reporting on consumers from other factors that influence provider choice, such as health status and insurance coverage. Researchers involved in the development of the health plan quality reporting tools (e.g., CAHPS) have used experimental studies to help isolate the effects of information from other factors [58, 87]. Such methods are likely to be informative in the case of provider quality information as well.

The use of public reporting by racial and ethnic minorities remains an important but understudied topic. Our review uncovered evidence indicative of racial and ethnic differences in awareness [6] and use [10, 33] of public reporting by racial and ethnic status. If replicated, these findings may indicate a role for quality information in overcoming health disparities that are generated by a lack of trust in the quality of one's health care providers and by a lack of confidence in the ability of personal acquaintances to discern quality and recommend high-quality providers [33]. At the same time, however, research suggesting that individuals from lower socio-economic groups are less likely to use the internet to obtain health care information [8] reinforces the notion that alternative dissemination strategies will be required to ensure that racial and ethnic minorities benefit from public reporting.

The Need for Additional Information

Specific research questions that will help address these issues include:

- Can public reporting of provider quality information alone influence consumers' willingness to switch providers or are more intensive efforts focusing on consumer activation required?
- What factors are associated with consumers' heavy reliance on friends, family and health care providers with whom they have relationships? Given these factors, can public reporting efforts be designed to be more influential?
- How large a barrier is consumer awareness of provider quality relative to other barriers to effective choice, such as cost, convenience, and appointment waiting time?
- Are enrollees in consumer-driven health plans more likely to seek out and be aware of provider quality information compared to enrollees in more traditional health plans?
- Given its low cost, how can public officials effectively promote public reporting via the internet?
- What are the information needs of racial and ethnic minorities? Are special efforts required to meet them?
- Is currently available provider quality information accurate and user friendly? How can it be improved?

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The studies reviewed in this synthesis consider consumers' attitudes, beliefs and self-reported use of provider quality information. While many of these studies are broadly generalizable, they uniformly lack controls for information exposure and patient characteristics to identify and isolate consumers who consider themselves in the “market” to choose or switch health care providers and thus are receptive to comparative quality information. If quality information does in fact make consumers' provider choices more effective, existing studies are not adequately designed to detect these effects or to identify affected subgroups of consumers.

Isolating the effect of public reporting on provider choice requires researchers to assemble data that enables them to distinguish the effects of public reporting on consumers (1) from other sources of information and factors that influence provider choice, such as a new health condition, and (2) from the effects on other parties, such as the selective contracting of doctors and hospitals by insurers. However, such data can be difficult to assemble in the context of provider choice, because the discretion of individual consumers drives key elements of the process. A lack of formal coordination means that the provider choice process is not well-defined or documented, by contrast to the health plan choice process. We review key challenges below.

- **Identifying relevant consumers.** Consumers facing provider choices are self-defined on the basis of personal circumstance (e.g., changing health conditions, dissatisfaction, changes in insurance, residential relocation) and are not identified in readily available administrative data. General population surveys will contain a substantial proportion of individuals whose circumstances make it unlikely that otherwise salient information will motivate them to switch or choose new providers within a practical time frame. Specialized methods are required to obtain data on samples of “choice-ready” consumers.
- **Identifying the decision-maker.** Provider choices are often made, in whole or in part, by caregivers and other health care providers. Specialized methods are required to obtain data on the effect of quality information on decision processes involving multiple parties.
- **Defining choice sets.** The set of providers considered by consumers varies based on individual circumstances, such as travel distance and work schedules and preferences for particular provider characteristics, such as gender and race. Thus, provider directories or lists of providers who practice in a given geographic location will be of limited relevance for measuring provider switching.
- **Verifying exposure to quality information.** Individual discretion determines the timing and channels through which consumers obtain provider quality information. Consumers may throw out information published in magazines and newspapers or set it aside for later use. Likewise, consumers may not be aware of information posted on the internet. In theory, consumers should be more aware of quality information as dissemination efforts intensify. Unfortunately, existing research does not measure the relationship between dissemination strategies and awareness. Instead, studies measure consumer awareness in a single geographic area or in the context of dissemination programs without a means of comparing awareness in the absence of the dissemination effort.

- **Verifying the validity of provider quality information.** To improve provider choices, publicly available quality information must accurately identify high and low quality providers. Formal assessments of accuracy are hindered by proprietary methodologies, unpublished technical information, and the lack of a “gold standard” against which to assess accuracy (such as medical record data).
- **Identifying choices.** Provider choices are not documented in a centralized source. Claims databases maintained by insurance companies can potentially be used to document when the consumer obtains services from the selected provider. Depending on the circumstances, however, administrative utilization databases may or may not include all relevant decision-makers or providers.

Appendix III Summaries of Empirical Studies

Summary of quantitative studies of consumer preferences for and perceptions of provider quality information

Authors (Date)	Sample Design	Question Content	Main Findings	Subgroup Findings
Kaiser Family Foundation/AHRQ, 2000 and 2004.	Nationally representative telephone survey of adults age 18 fielded in 2000 and 2004 (n=2,000).	Respondents were asked to indicate what sources of information told them “a lot” about the quality of doctors and hospitals.	Importance ratings were stable throughout the surveys. In both surveys, over 60% reported that patient volume, board certification, and the number of malpractice suits tell “a lot” about physician quality compared with 52%–57% indicating that patient surveys regarding how well a doctor communicates tell “a lot” about physician quality. Likewise, over 55% reported that reported medical errors, patient volume, and mortality rates tell “a lot” about the quality of a hospital compared with 50%–52% indicating that patient surveys regarding quality of care tell “a lot” about hospital quality.	NA
Boscarino and Adams, 2004	Telephone survey of New York State residents age 18 and older (n = 1,001) fielded in 2003–2003.	Respondents were asked to indicate the sources of quality information that would have “a lot of influence” on choice of physician.	Percent rating the following sources as influential: provider recommendations (62%), recommendations from friends and family (52%), patient surveys (37%), researchers from independent medical institutions (35%), government agencies (17%), health plans (14%), and the internet (9.6%).	NA
California HealthCare Foundation, 2001	Telephone survey of California residents age 18 and older fielded in 1999–2000 (n=4,000).	Respondents were asked to rate the trustworthiness of different sources of information about “health care and medical needs.”	Percent indicating they have “a lot” of trust in the following: own doctor (71%), friends and family (53%), employers (34%), national magazines (30%), government agencies (21%), drug companies (20%), the internet (13%).	Subgroup ratings for these sources were generally consistent with findings from the combined sample.

Appendix III Summaries of Empirical Studies

Summary of quantitative studies of consumer awareness of publicly available quality information

Authors (date)	Sample design	Question content	Main findings	Subgroup findings
Schneider and Epstein, 1998	A telephone survey of patients of cardiac surgeons rated in Pennsylvania's <i>Consumer Guide to Coronary Artery Bypass Surgery</i> fielded in 1996 (n=200).	Respondents were asked about the extent of their awareness of the <i>Consumer Guide</i> prior to or following surgery.	The authors found that only 12% of patients were aware of the report prior to their surgery and only 4% had ever seen a copy of the <i>Consumer Guide</i> .	Being aware of the <i>Consumer Guide</i> was associated with being younger, having attended college, being in poor or fair health prior to surgery, being male, and having income above \$30,000 per year.
Boscarino and Adams, 2004	Telephone survey of New York State residents age 18 and older fielded in 2002–2003 (n = 1,001)	Respondents were asked to recall seeing specific sources of information about the quality of physicians and hospitals in New York State.	Overall, less than 20% of respondents reported seeing physician quality information and less than 25% reported seeing hospital quality information. Less than 5% reported seeing either physician or hospital quality information via the internet, health care providers, work, magazines or radio. Between 12% and 15% reported seeing physician and hospital quality information via word of mouth, television and newspapers.	Females and those with greater education were more likely to report seeing physician and hospital quality information.
Schultz, et al., 2001	Telephone survey of Minneapolis-St. Paul area employees eligible to choose "care systems" (i.e., a health plan structured around a single medical group) through an employer-sponsored health insurance program fielded in 1998 (n=1,009).	Respondents were asked to indicate if they recalled seeing a report card distributed by employers that compared local medical groups on the basis of patient-rated quality.	47% of respondents with single coverage and 52% with family coverage reported seeing the report card.	Respondents who rated access to specialists as very important in choosing a care system were more likely to recall seeing the report card. Those who considered cost and convenience very important were less likely to recall seeing the report card. Changing care system in the past year was positively associated with seeing the report card.
California HealthCare Foundation, 2001	Telephone survey of California residents age 18 and older fielded in 1999–2000 (n=4,000).	Respondents were asked whether they recalled seeing information comparing the quality of doctors, medical groups, and hospitals in the past year.	29% reported seeing information comparing doctors and/or medical groups and 20% percent reporting seeing information comparing hospitals.	Older respondents, those who spoke English, and had more education were more likely to report having seeing information comparing health care providers.
Kaiser Family Foundation/AHRQ, 1996, 2000, 2004 and 2006	Nationally representative telephone survey of adults age 18 and older fielded in 1996, 2000, 2004 and 2006 (n=2,000).	Respondents were asked whether they recalled seeing information comparing the quality of doctors and hospitals in the past year.	The proportion of respondents who recalled seeing hospital quality information in 1996, 2000, 2004 and 2006 was 21%, 15%, 22% and 24% respectively. The proportion of respondents who recalled seeing physician quality information during the same time period was 11%, 9%, 11% and 12%.	NA

Appendix III Summaries of Empirical Studies

Summary of quantitative studies of consumer use of publicly available quality information

Authors (date)	Sample design	Question content	Main findings	Subgroup findings
California HealthCare Foundation, 2001	Telephone survey of California residents age 18 and older fielded in 1999–2000 (n=4,000).	Respondents were asked how likely they were to use different types of information about health care providers, including talking to others, media, and publicly available quality information.	Respondents were most likely to report using the following sources of likely information: talking to those with the same medical condition (56%), friends or family (51%), other health care providers (48%). Respondents were less likely to report using the following publicly available information: independent evaluations or ratings (24%), visiting a website (19%), calling a toll-free number (14%), or reading newspapers or magazines (22%).	Hispanics were less likely to report talking to others as a likely source of information
Kaiser Family Foundation/AHRQ, 1996, 2000, 2004 and 2006	Nationally representative telephone survey of adults age 18 and older fielded in 1996, 2000, 2004 and 2006 (n=2,000).	Respondents were asked whether they used the quality information they saw to make a health care decision (includes doctor, hospital, health plan). Respondents in 2004 who had seen hospital quality information, but had not used it, were asked why not.	15%, 12%, 19%, 20% reported using information they had seen in 1996, 2000, 2004 and 2006, respectively. 68% reported not making any hospital decisions at the time, 53% said information was not specific to personal health conditions or concerns, 42% reported factors other than quality were important, 34% said information didn't include a specific hospital, 10% reported information was difficult to understand.	NA
Feldman et al., 2000	Telephone survey of Minneapolis-St. Paul area employees eligible to choose among competing medical groups through an employer-sponsored health insurance program (n=1,009).	Respondents were asked to indicate whether they had used various sources of information to choose a medical group.	60% of respondents indicated using employer-provided information, 33% used friends and family, 8% used health care providers, 13% used advertisements, and 50% used personal experience.	Rating the ability to see specialists without a referral was negatively associated with using employer-provided information. Chronic illness, having recently seen a doctor, having a higher income were associated with using non-employer sources of information.
Harris, 2003	Nationally representative web-based survey of adults with employer-sponsored insurance fielded in 2002 (n=1,541).	Respondents were asked to indicate whether they had used various sources of information to choose a physician.	51% reported using friends and family; 24% reported using a public report (e.g., report cards or newspaper stories); 12% reported using consultations with health care providers.	Having a hospital stay in the past year and living in the Northeast reduced the likelihood of using public reporting of information. Being African American or Hispanic or having recently switched doctors due to dissatisfaction increased the likelihood of using public reporting.

Appendix III Summaries of Empirical Studies

Summary of quantitative studies of the perceived effectiveness of publicly available quality information

Authors (date)	Sample design	Question content	Main findings	Subgroup findings
California HealthCare Foundation, 2001	Telephone survey of California residents age 18 and older fielded in 1999–2000 (n=4,000).	Respondents were asked to recall having seen comparative quality information and how useful it was.	64% reported information comparing hospitals was very or somewhat useful. 66% reported information comparing doctors or medical groups was very or somewhat useful.	Hispanics, those in fair or poor health, and those with less education found comparative health care information more useful than others.
Schneider and Epstein, 1998	A telephone survey of patients of cardiac surgeons rated in Pennsylvania's <i>Consumer Guide to Coronary Artery Bypass Surgery</i> fielded in 1996 (n=200).	Respondents were asked to evaluate the influence of the <i>Consumer Guide</i>	57% of respondents who acknowledged seeing the <i>Consumer Guide</i> indicated it was a major or moderate influence on choice of hospital. 21% of respondents who acknowledged seeing the <i>Consumer Guide</i> indicated it was a major or moderate influence on choice of surgeon.	NA

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RESEARCH SYNTHESIS REPORT NO. 14
MAY 2008

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