Contract No.: 233-02-0086
MPR Reference No.: 6110-230

MATHEMATICA
Policy Research, Inc.

Literature Review: Using Quality Information for Health Care Decisions and Quality Improvement

Final Report

May 6, 2005

Tim Lake
Chris Kvam
Marsha Gold

Submitted to:

Department of Health and Human Services
Agency for Healthcare Research and Quality
Redland Technology Center
1st Floor
540 Gaither Road
Rockville, MD 20850

Project Officer:
Charles Darby

Submitted by:

Mathematica Policy Research, Inc.
955 Massachusetts Ave., Suite 801
Cambridge, MA 02139
Telephone: (617) 491-7900
Facsimile: (617) 491-8044

Project Director:
Marsha Gold

PAGE IS INTENTIONALLY LEFT BLANK TO ALLOW FOR DOUBLE-SIDED COPYING

ACKNOWLEDGMENTS

We would like to thank several individuals who contributed to this report. Charles Darby, the project officer, and other staff members at AHRQ and members of the CAHPS consortium, provided us with guidance on the research questions to address in this report, and pointed to useful reference sources in our literature search. Paul Cleary at Harvard and Beth Kosiak at AHRQ provided comments on an earlier draft, and Samantha Sheridan at Westat provided information on CAHPS activities and history. At Mathematica, Sue Felt-Lisk reviewed an earlier draft of the report, and provided many useful comments. Anna Katz, Fabrice Smieliauskas, and Jan Watterworth assisted with the literature search. Caitlin Johnson edited the report, and Eileen Curley formatted and produced the report.

PAGE IS INTENTIONALLY LEFT BLANK TO ALLOW FOR DOUBLE-SIDED COPYING

CONTENTS

Chapter		Page
	EXECUTIVE SUMMARY	xi
I	**INTRODUCTION: GOALS AND METHODS**	1
II	**OVERVIEW OF THE CAHPS PROJECT**	7
III	**LITERATURE REVIEW FINDINGS**	13
	USE OF QUALITY INFORMATION FOR CONSUMER AND PURCHASER DECISION-MAKING	13
	Consumers	14
	Purchasers	19
	USE OF QUALITY INFORMATION FOR QUALITY IMPROVEMENT ACTIVITIES	21
	Health Plans	22
	Hospitals	23
	Other Providers	24
	FINDINGS FROM EVALUATIONS OF CAHPS MEASUREMENT AND REPORTING EFFORTS	25
	Outcomes and Methods	25
	Key Findings	26
	Ongoing Research on Uses of CAHPS Tools	28
	SUMMARY OF KEY FINDINGS	28
	Consumer and Purchaser Decision-Making	29

Chapter **Page**

III *(continued)*

Quality Improvement Activities 29
CAHPS Evaluations 30

IV **CONCLUSIONS** 33

REFERENCES 35

TABLES

Table		Page
I.1	USES AND USERS OF CAHPS-TYPE INFORMATION	4
II.1	KEY CAHPS PROJECT ACTIVITIES	9
II.2	OVERVIEW OF CAHPS PRODUCT LINES	11

PAGE IS INTENTIONALLY LEFT BLANK TO ALLOW FOR DOUBLE-SIDED COPYING

FIGURES

Figure		Page
I.1	FRAMEWORK FOR EVALUATING CAHPS, FUTURE PRIORITIES, AND HOW TO SUPPORT THEM ORGANIZATIONALLY AND FISCALLY	3

PAGE IS INTENTIONALLY LEFT BLANK TO ALLOW FOR DOUBLE-SIDED COPYING

EXECUTIVE SUMMARY

Health care quality measurement and reporting activities have grown rapidly over the past decade. Measurement and reporting efforts are now supported by diverse stakeholders for many different reasons, including marketing and planning, government regulation and private accreditation, enhanced consumer and purchaser decision-making, increased accountability of providers, and provider quality improvement activities (Marshall et al. 2000). The development of CAHPS® surveys, led by the Agency for Healthcare Research and Quality (AHRQ), has been a key part of these activities. Initiated in 1995, the CAHPS project has become a leading mechanism for generating scientifically sound measures of *consumer perspectives* on health care access and quality. The CAHPS project initially focused on the development of measures of health plan performance, but has broadened its focus to cover the full spectrum of health care services.

This report is part of a strategic planning study to help AHRQ and its collaborators take stock of what has been accomplished in the CAHPS project so far, and to identify areas of relative strengths and weakness, future priorities, and appropriate models for structuring public-private financing to achieve these priorities. Major components of the study include interviews with key stakeholders, a consensus development process, and a review of applicable public-private models. This report presents a review of the published literature on research conducted over the past decade. The goal of this review is to begin the process of assessing CAHPS' strengths and weaknesses, how it relates to the rest of the quality data collection and reporting field, in what directions CAHPS should be moving, and AHRQ's role in furthering the CAHPS project.

To conduct the review, we searched electronic databases for all relevant articles and other documents in health-care related publications that matched search term criteria. We limited our search to publications after 1994. Using Web sites of key organizations involved in quality measurement and reporting, we also sought documents that may not have been identified in our formal search. Organizations include AHRQ, CMS, Institute of Medicine, the National Quality Forum, Foundation for Accountability, Leapfrog, and key foundations that have sponsored work on quality measurement and reporting

FINDINGS IN BRIEF

Our review of the recent literature indicates that increases in the availability of comparative quality information on health plans and providers has the potential to support and improve

decision making and quality improvement activities. However, additional work remains to address the factors that may limit these effects on consumer/purchaser decision-making and quality improvement activities.

Use of Quality Information for Consumer and Purchaser Decision-Making. The research literature indicates that most consumers remain unaware of publicly available quality information (Robinson and Brodie 1997; Kaiser/AHRQ 2000; Kaiser/AHRQ 2004). However, awareness appears to be growing, and when consumers are made aware of published quality information, they generally react positively to it. Nonetheless, they continue to prefer information from other trusted sources, such as family members, friends, or a trusted physician—indicating a lower level of acceptance of published quality information. We also found that presentation, formatting and availability of appropriate contextual information are important given the cognitive challenges of comprehending what can be highly technical information—particularly when the information involves clinical quality measures based clinical or administrative data, as opposed to consumer-reported experiences (Hibbard et al. 2002a; Hibbard et al. 2002b; Hochhauser 2000, Hibbard et al. 2000, Harris-Kojetin et al. 2001; Kanouse, Spranca, and Vaiana 2004).

Findings are mixed on the effects of disseminating quality information on actual consumer decision-making (see, for example, Chernew and Scanlon 1998; Knutson et al 1998, Feldman, Christianson, and Schultz 2000; Scanlon et al. 2002; Harris 2002; Wedig and Tai-Seale 2002). Some studies show small, statistically-significant effects of targeted dissemination efforts on consumer decisions, including plan-switching or selection of higher-rated plans or providers, but others show no effects. Some studies also show that more educated or informed consumers, and those actively making decisions are most likely to use quality information to choose plans or providers.

Large employer or purchasing coalitions are more likely than small employers to demand and collect quality information. However, the extent to which quality is actively considered (versus other features, such as costs) appears to be limited, but a conclusive answer about this remains unclear without further research (Fraser and McNamara 2000). Nonetheless, research appears to indicate that the business case for quality needs to be made more conclusively in order for major purchasers to become more active users of quality information.

Use of Quality Information for Quality Improvement Activities. A few notable studies indicate that publication of quality information leads to enhanced quality improvement activities by providers, although this research has been conducted primarily on hospitals (see, for example, Hibbard et al. 2003). Health plans report using quality information for a wide range of quality improvement activities, including establishing baselines of performance, goal setting, targeting interventions, and measuring progress towards goals (Scanlon et al. 2001). Publicly reported quality information is most useful to health plans for establishing benchmarks for comparisons with competitors.

To be most effective for quality improvement, published quality information needs to "actionable", including the ability to drill down with specific measures to find root causes, timeliness of data feedback, availability of scientifically tested and standardized measures, and

availability of useful national, regional, or local benchmarks with adequate risk adjustment. Organizational factors affecting extent of quality improvement activities among plans and providers include a strong culture of innovation and teamwork, and high level of employee satisfaction. Regulation and accreditation appear to be more important environmental factors than market competition in predicting the degree of quality improvement efforts in the current market environment.

Results from CAHPS-Specific Evaluations. A set of CAHPS pilot demonstrations and descriptive studies of the use of HP-CAHPS-related data by different stakeholders indicate that the CAHPS project has been successful in making available a set of scientifically-valid and practically-useful products, including survey instruments, data reporting mechanisms, and technical assistance (See, for example, Shaller 2004; Farley et al. 2002a; Farley et al. 2002b; Scanlon et al. 2002; Fox et al. 2001; Damiano et al. 2002; Farley Short et al. 2002; Carman et al. 1999; Veroff et al. 1998; Quigley et al. 2003; Morales et al. 2004; Zema and Rogers 2001.) HP-CAHPS is widely-used in the health care industry and is now viewed as the standard for measuring consumers' experiences with care in health plans, including commercial products, Medicare, and Medicaid. Consumers, purchasers, and health plans report that CAHPS-based reporting products are both understandable and useful for decision-making and quality improvement activities.

However, targeted dissemination of CAHPS-based reports did not have significant effects on consumers' decisions in several pilot demonstrations, which is consistent with other research. The lack of effects appears to have resulted from limits on the ability to reach consumers, including getting consumers to read the reports in detail. Consumers who said they had read CAHPS reports, or who were actively considering their choices, were more likely be affected by differences in CAHPS ratings.

CONCLUSIONS

In conclusion, this literature review provides a base of information in support of AHRQ's ongoing strategic planning process, which will involve (1) interviews with key CAHPS stakeholders and users, (2) a consensus process focusing future priorities, and (3) further research to identify potentially applicable private-public partnership models for sustaining CAHPS in the future.

We found that CAHPS—primarily through its development and support of a health plan CAHPS instrument in CAHPS I—has achieved an important goal of making publicly available a standardized and tested survey instrument for use in assessing consumers' experiences with health care. There is also considerable evidence suggesting that consumers, purchasers, and health plans who are exposed to HP-CAHPS related information react positively to it and find such information useful for their diverse purposes. Presumably, these are also fundamental goals for other CAHPS instruments currently under development in CAHPS II. Our literature review highlights the factors, contextual issues, and challenges for supporting future use of CAHPS products by consumers, purchasers, health plans and providers.

PAGE IS INTENTIONALLY LEFT BLANK TO ALLOW FOR DOUBLE-SIDED COPYING

CHAPTER I

INTRODUCTION: GOALS AND METHODS

Health care quality measurement and reporting activities have grown rapidly over the past decade. Measurement and reporting efforts are now supported by diverse stakeholders for many different reasons, including marketing and planning, government regulation and private accreditation, enhanced consumer and purchaser decision-making, increased accountability of providers, and provider quality improvement activities (Marshall et al. 2000). The development of CAHPS® surveys, led by the Agency for Healthcare Research and Quality (AHRQ), has been a key part of these activities. Initiated in 1995, the CAHPS project has become a leading mechanism for generating scientifically sound measures of *consumer perspectives* on health care access and quality. The CAHPS project initially focused on the development of measures of health plan performance, but has broadened its focus to cover the full spectrum of health care services.

This report is part of a strategic planning study to help AHRQ and its collaborators take stock of what has been accomplished in the CAHPS project so far, and to identify areas of relative strengths and weakness, future priorities, and appropriate models for structuring public-private financing to achieve these priorities. Major components of the study include interviews with key stakeholders, a consensus development process, and a review of applicable public-private models. This report presents a review of the published literature on research conducted over the past decade. The goal of this review is to begin the process of assessing CAHPS' strengths and weaknesses, how it relates to the rest of the quality data collection and reporting field, in what directions CAHPS should be moving, and AHRQ's role in furthering the CAHPS project.

The role of CAHPS has evolved over time and as a result, the focus of this literature review is relatively expansive. At its core, the review seeks to understand how consumers and purchasers use information on access and quality to support health plan and care choices and how that same kind of information may be used for quality improvement. For purposes of simplicity, we refer to the information of interest as "quality information," although its content is more expansive. We focus primarily on consumer-reported information on access and quality, or clinical process of care or outcomes data. However, we also touch on administrative reports

of plan or provider characteristics, for example, benefits and costs that are sometimes packaged with quality related information. These reports may also include guidance on or factors to consider when making choices or improving quality of care. The review also covers results from specific evaluations of CAHPS measurement and reporting efforts.

Research questions addressed by the review include:

- Who are the key organizations and actors involved in the development of CAHPS and what were the key decisions and milestones in the development of CAHPS products and services?

- What are the organizational, environmental, and psychosocial factors that encourage or limit the ability of consumers or purchasers to use quality information when making health care choices?

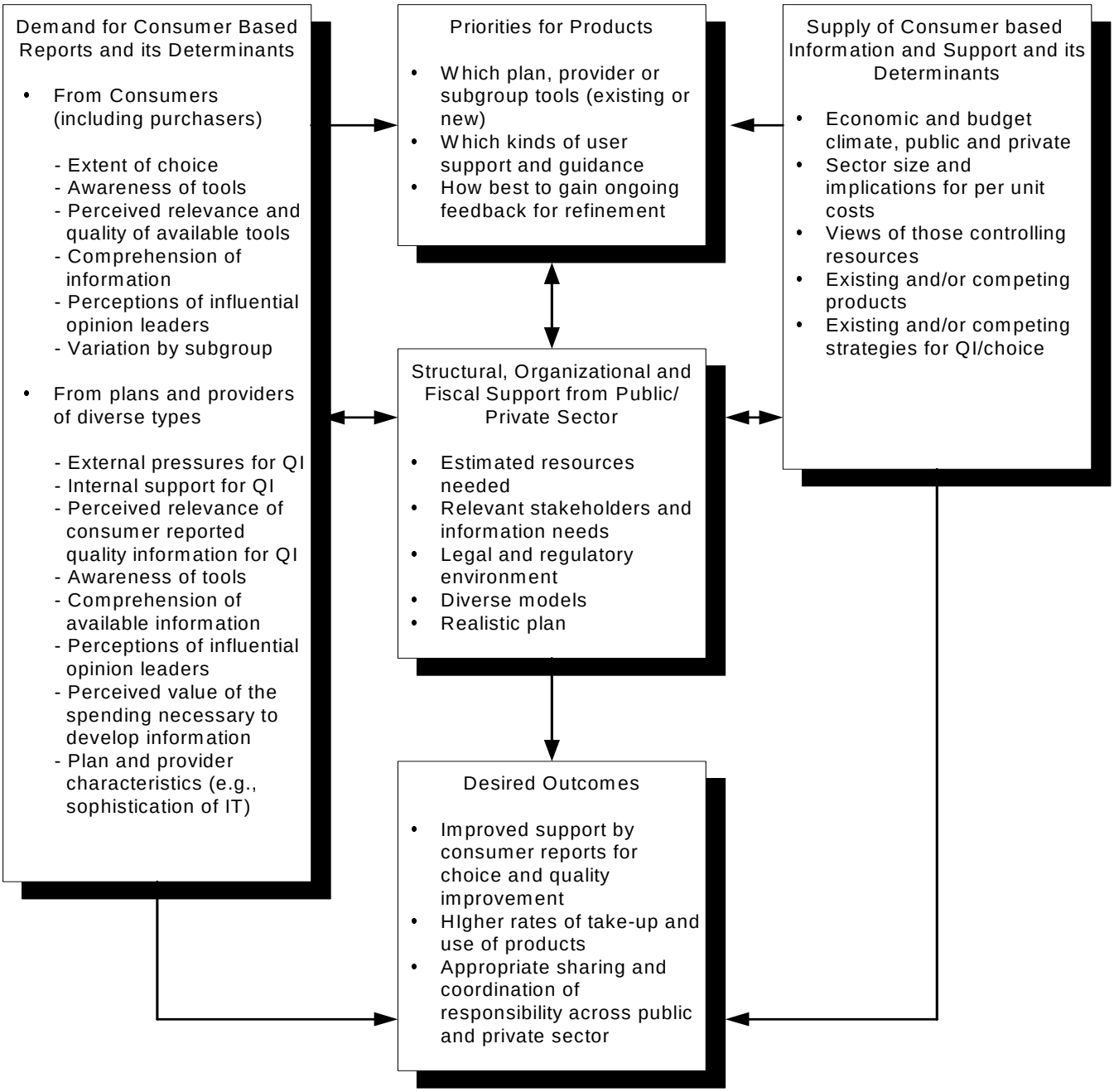
- What are the organizational or environmental factors that encourage or limit the ability or willingness of health plans and providers to use quality information to pursue quality improvement?

- How have CAHPS or other related quality measurement and reporting projects been evaluated? What conclusions, if any, have been drawn about the success of the CAHPS project to date in generating and meeting demand for quality information used in health care decision-making or quality improvement activities?

The study and this literature review are guided by a conceptual framework (see Figure I.1). The framework assumes that the CAHPS strategy needs to take into account (1) current demand for information by consumers/purchasers to support choice of plan and care and (2) the "supply side" characteristics that determine which products are available to meet this demand. An analysis of extent of the match (or mismatch) between supply and demand can be used to identify the priorities for future CAHPS activity and new product development, and the best ways to achieve future CAHPS goals. The ultimate desired outcomes are to (1) improve support for choice and quality improvement based on consumer-reported information, (2) lead to higher rates of CAHPS product take-up and use, and (3) encourage appropriate sharing and coordination of responsibility across the public and private sectors. Ultimately, these outcomes should result in better care.

Figure I.1

FRAMEWORK FOR EVALUATING CAHPS, FUTURE PRIORITIES, AND HOW TO SUPPORT THEM ORGANIZATIONALLY AND FISCALLY



As shown in Table I.1, quality information can be categorized along two major dimensions: (1) the use of quality information and (2) the type of profiled organization or service. Other important dimensions include the population studied (including specific procedures or diagnoses, where relevant), the type of data reporting mechanism or format,

Table I.1. Uses and Users of CAHPS-Type Information

	Consumers	Purchasers	Health Plans	Provider Groups and Facilities	Physicians and other Individual Providers
Health Plan Selection	Which plans to join	Which plans to offer; how to encourage those covered to pay attention to quality	Marketing; demonstrating responsiveness to purchaser or regulatory requirements	Feedback on their choice of affiliations, marketing and performance improvement	Feedback on their choice of affiliations
Provider Selection	Which providers to chose or use	Encourage those covered to pay attention to quality	Network formation, information to encourage enrollees to reward good quality providers	Feedback on performance in the marketplace	Feedback on performance in the marketplace
Continuous quality improvement, feedback on priority areas for improvement		Encourage plans and providers to pay attention to quality	Improve quality of care, identify priority areas for attention	Improve quality of care, identify priority areas for attention	Improve quality of care, identify priority areas for attention

the periodicity or timing of the data collection and specific modes of data collection. When specific studies are discussed in our review, we attempt to describe how the quality information collected and reported in those studies fits within these different dimensions. Nonetheless, nearly all of the quality information collection and reporting efforts described focus on either consumer-reported experiences with health plans such as CAHPS, administrative or clinical data on health plan or hospital processes of care such as HEDIS, or hospital outcomes data (for example, post-discharge re-admission or mortality rates).

In most cases, the literature we review in this report addresses *publicly reported* quality information allowing the general public to compare performance of individual plans or providers, although in a few cases we examine research that is limited to the use of plans' or providers' private or proprietary information collected only for internal purposes. In some cases,

we also examine factors that influence the priority placed on health care quality itself, as a way of gauging potential factors influencing publicly reported quality information.

The literature search and document collection process for this review proceeded along two main paths. First, we searched electronic databases (for example, Medline) for all relevant articles and other documents in health-care related publications that matched search term criteria. We limited our search to publications after 1994. We attempted to find any already published reviews of the literature in this area to help guide our efforts. We reviewed the references of important articles to make sure we did not miss publications that did not appear in our search. Search terms included "CAHPS," "consumer choice," "quality improvement," "quality information," "performance measurement," "quality report," "quality report cards," "quality measurement," "consumer assessment," and "patient satisfaction."

Using Web sites of key organizations involved in quality measurement and reporting, we sought documents that may not have been identified in our formal search. Organizations include AHRQ, CMS, Institute of Medicine, the National Quality Forum, Foundation for Accountability, Leapfrog, and key foundations that have sponsored work on quality measurement and reporting (for example, the California HealthCare Foundation, the Commonwealth Fund, and the Kaiser Family Foundation).

Once we obtained all of the documents that were relevant to the scope of this literature review, we sorted and analyzed them to synthesize what is known about each of the research questions listed above. An important goal of our synthesis was to assess what is not known (or not known well), in addition to what is known; we attempted to gauge the relative strength of the evidence for each question. Once the syntheses were completed, we identified cross-cutting themes to determine the best way to present our findings in this report.

The remainder of the report is organized into three chapters. Chapter II provides a brief overview of the impetus, goals, history, and organization of CAHPS. Chapter III presents the findings from the literature review. Chapter IV discusses the conclusions from the literature review, and preliminary implications for CAHPS strategic planning.

PAGE IS INTENTIONALLY LEFT BLANK TO ALLOW FOR DOUBLE-SIDED COPYING

CHAPTER II

OVERVIEW OF THE CAHPS PROJECT

This chapter provides an overview of the CAHPS project, including its history, basic organization, major products developed, and key partners.

Rationale for Development of CAHPS. CAHPS was preceded by an increasing recognition among consumer advocates, policymakers, business leaders, and providers that a valid, standard instrument was needed to measure quality in health plans from the patient or consumer perspective (Clearly and McNeil 1988; Davies and Ware 1988). Prior to the CAHPS effort, many existing health plan consumer surveys were based on the Group Health Association of America (GHAA) consumer survey instrument, which came out of research in such studies as the Health Insurance Experiment and the Medical Outcomes Study (Gold and Wooldridge 1995). Nonetheless, a diversity of surveys were used in the marketplace, with no single standard for measuring and reporting on consumers' experiences in health plans.

The CAHPS project was initiated by AHRQ (then the Agency for Health Care Policy and Research) in October 1995 to address the lack of a standardized, tested and publicly available quality measurement tool. This effort began amid expectations for continued growth in managed care. While managed care was thought to have the potential to better coordinate services while containing health care costs, there were concerns about adequate consumer protections and access to providers. A standardized tool for measuring consumer assessments was viewed as a critical part of monitoring the performance of managed care plans in the delivery of care.

The CAHPS project set out to develop and promote a standardized survey with measures that consumers consider important for selecting and using health plans. The project also developed methods for collecting and analyzing survey data to allow for a reliable estimate of health plan-level scores. In order for the CAHPS survey to reach a broad consumer audience (and other stakeholders including purchasers, plans, and providers), CAHPS also had to develop recommended dissemination approaches and presentation formats to make results accessible and easily understandable for consumers and purchasers who were making health plan decisions. Products include tool kits and user guides for different CAHPS surveys and reporting efforts.

The work was led through a consortium comprising AHRQ and a team of research organizations including RTI, RAND, and Harvard Medical School, funded through a set of cooperative agreements. AHRQ also funded Westat to develop a Survey Users Network (SUN), and provide technical assistance to users as well as the project. The initial set of cooperative agreements (CAHPS I) existed from 1995-2001. In 2002, a new set of cooperative agreements were established with AIR, RAND, and Harvard Medical School in the consortium, with Westat continuing to support SUN. These were designed to last through 2007. Westat, along with Shaller Consulting, also supports the National CAHPS Benchmarking Database, which provides reporting and feedback mechanisms to a wide range of sponsors of CAHPS data collection activities. Table II.1 lists many of the key activities undertaken during CAHPS' nine-year history.

CAHPS I (1995-2001). CAHPS I focused on the development, testing, and evaluation of Health Plan (HP) CAHPS. In addition, supplemental instruments were also developed and tested, making CAHPS a useful tool for a broader population of consumers, including ECHO (the behavioral health survey), a clinician/group practice survey (GP-CAHPS) and a survey for persons with mobility impairments (PWMI-CAHPS). During this time, AHRQ partnered with CMS, as a collaborator and major funder of development activities. CMS implemented a number of Medicare beneficiary surveys using CAHPS-based instruments. The HP-CAHPS survey instrument was also merged with National Committee for Quality Assurance (NCQA) consumer satisfaction survey instrument in 1998, in order to reduce burden, duplication and competition between the two products. Implementation of CAHPS surveys became part of NCQA accreditation and the HEDIS reporting process for health plans. During the late 1990s, CAHPS was adopted for use by the Department of Defense, U.S. Office of Personnel Management, many state Medicaid programs, and private purchasers who have helped to spread the use of CAHPS and established its position as the standard for consumer-based measures of health plan performance.

Toward the end of CAHPS I, AHRQ began a strategic planning process in preparation for CAHPS II. As part of this process, Mattingly (2000) provided AHRQ with three recommendations: 1) continue to develop a program for consumer assessment of health care, which expands beyond health plans to most other sectors of health care, 2) build on the successful organizational approach taken thus far by AHRQ; that is, AHRQ leading a government/private coalition, but with better role definition for stakeholders, and 3) develop a business plan with clear vision, goals, and strategies for the program that are consistent with AHRQ's mission, users' needs, the requirements of funding sources and private industry organizations, and a recognition of the obstacles that could intervene. The CAHPS team began working on new types of instruments with the anticipation that this work would continue in CAHPS II, along with ongoing strategic planning.

CAHPS II (2002-2007). Under CAHPS II, the project has continued to maintain and refine HP-CAHPS, as well as other existing products and related tools, but the focus has shifted to the development and support of a new instrument to assess care provided across the health care continuum. In fall 2001, AHRQ released a request for applications (RFA) for new cooperative agreements to continue this work in CAHPS II (RFA HS-02-001). The RFA outlined objectives for CAHPS II, including: 1) maintain existing CAHPS products, 2) build upon three existing CAHPS products relating to nursing homes, group practices, and persons with mobility impairment, 3) develop new products, including innovative ways for reporting CAHPS data, 4) assess usefulness of CAHPS for quality improvement purposes, and 5) evaluate the effectiveness of CAHPS in applied settings.

Table II.1. Key CAHPS Project Activities

Activity	Year
Development of Health Plan (HP) CAHPS	
CAHPS I initiated, with development and testing of HP-CAHPS 1.0, and pilot demonstrations.	1995
HP-CAHPS 1.0 released; includes instruments for commercial, Medicare, and Medicaid managed care products.	1997
HP-CAHPS 2.0 released.	1998
HP-CAHPS 3.0 released; NCQA includes HP- CAHPS 3.0H for NCQA accreditation.	2003
Development of Other Survey Instruments, Other Products, and Technical Assistance Activities	
Survey User Group (SUN) established, administered by Westat. SUN Web site initiated.[a]	
National CAHPS Benchmarking Database (NCBD) initiated.	1998
Development and testing of additional survey instruments begins in CAHPS I (1995-2001), with increasing focus in CAHPS II (2002-2007). (See Table II.2 for discussion of development of all CAHPS survey instruments.)	1998-current
Publication and updates of HP-CAHPS survey reporting kits.	1997-current
Publication of the *CAHPS Quality Improvement Guide.*	2003
Use of CAHPS by Key Sponsors	
First Medicare managed care CAHPS survey fielded.	1998
HP-CAHPS is merged with NCQA satisfaction survey. NCQA includes HP-CAHPS 2.0H as part of NCQA accreditation and HEDIS requirements.	1998
State Medicaid programs begin collecting and reporting HP-CAHPS data.	1998
The Federal Employees Health Benefits Program begins collecting and reporting HP-CAHPS data.	1998
HP-CAHPS measures are adopted for use in Department of Defense's TRICARE beneficiary survey.	1999

Sources: CAHPS SUN (www.cahps-sun.org); *Medical Care* (March 1999 Supplement); NCQA; DoD; and CMS.

[a]Nine national SUN User Group Meetings (UGM) have been held, taking place in March 1997, June 1997, February 1998, October 1998, October 1999 (online workshop), October 2000, March 2001, June 2002, and December 2004.

A major focus of these new efforts under CAHPS II has been ongoing development of ambulatory (A) CAHPS and hospital (H) CAHPS instruments. The shift in focus over time was in response to growing demand for standardized survey methods that can be used to compare the performance of different types of health care organizations serving different populations in different settings (beyond commercial, Medicare, and Medicaid health plan products). There is also growing recognition of the need to support quality improvement activities, in addition to consumer decision-making.

As shown in Table II.2, ongoing work on CAHPS instruments includes continued development and refinement of HP-CAHPS, GP-CAHPS, ECHO, and PWMI-CAHPS, and new survey instrument development, including ambulatory (A) CAHPS, hospital (H) CAHPS, nursing home (NH) CAHPS, American Indian (AI) CAHPS, and end-stage renal disease (ESRD) CAHPS. A-CAHPS is a new effort to bring together the HP-CAHPS and GP-CAHPS in a integrated family of instruments to address ambulatory care issues in a comprehensive fashion, while maintaining flexibility to focus on one of several areas.

Under CAHPS II, AHRQ has also continued its strategic planning process, initiating this study as part of this process. Strategic planning in CAHPS II is motivated by demand for an increasing array of products and support services, combined with a finite budget for AHRQ's CAHPS activities. AHRQ funding for CAHPS is at about 70 percent of the budget anticipated when CAHPS II was funded. The tension between the need for new products and limited funding highlight the importance of setting priorities for the future of CAHPS. In particular, AHRQ needs to assess what functions can and/or should be undertaken by AHRQ, and what operational and financing roles should be played by other federal agencies and the private sector in order to sustain CAHPS in the years beyond 2007.

Role of Major Partners. The CAHPS project has benefited from collaboration and financing support from several important partner organizations. CMS has served as a major partner with AHRQ and the CAHPS team in several areas, while providing major funding for instrument and other product development involving HP-CAHPS for Medicare products, H-CAHPS, and ESRD CAHPS. With endorsement by and encouragement from CMS, NCQA has collaborated with AHRQ in bringing about the convergence of the satisfaction survey with CAHPS instrument, and establishing CAHPS as a national standard by incorporating it in its HEDIS reporting requirements. The National Rehabilitation Hospital Center for Health and Disability, the National Institute for Disability and Rehabilitation Research, and Centers for Disease Control and Prevention have been partners in the development of PWMI-CAHPS.

We turn now in Chapter III to our review of the research literature on the uses of quality information for consumer/purchaser decision-making and quality improvement activities, as well as evidence from specific evaluations of uses of CAHPS-related data collection and reporting efforts.

Table II.2. Overview of CAHPS Product Lines

CAHPS product	Status
Ambulatory surveys	
Ambulatory CAHPS --Health plan survey --Clinician & group survey	Version 3.0 of health plan survey available. Version 4.0 of health plan, and clinician & group survey instruments in development.
ECHO—the CAHPS survey of behavioral health services	Version 3.0 available
People with mobility impairment survey	In development.
American Indian survey	In development.
Facility surveys	
Hospital CAHPS	Pending approval.
InCenter hemodialysis survey	Field testing.
Nursing home survey	In development.

Source: CAHPS Survey Users Network web site (www.cahps-sun.org)

PAGE IS INTENTIONALLY LEFT BLANK TO ALLOW FOR DOUBLE-SIDED COPYING

CHAPTER III

LITERATURE REVIEW FINDINGS

In this chapter, we present results from our literature review. The first two sections focus on 1) consumers' and purchasers' use of quality information (including CAHPS or other types of quality measures) for health decision-making, and 2) health plans' and providers' use of quality information for quality improvement (QI) activities. The chapter ends with a specific review of outcomes, methods, and findings from CAHPS-specific evaluations. These evaluations included analysis of CAHPS pilot demonstrations to test the effects of specific CAHPS-based reporting efforts on consumer awareness and use of CAHPS-based measures, as well as several descriptive studies of consumers, purchasers, plans, and/or providers about their perceptions, awareness, and use of CAHPS-based measures.

As discussed in Chapter I, we use a relatively expansive definition of "quality information" in our review. While our focus is on consumer-reported experiences with access and quality, and to a somewhat lesser extent, clinical processes and outcomes of care, we also include information on other attributes of plans and providers, such as cost and benefits. In addition, we address public reporting on how to use quality information for making effective choices or for quality improvement activities.

USE OF QUALITY INFORMATION FOR CONSUMER AND PURCHASER DECISION-MAKING

Over the past decade, a substantial body of research has been developed on consumers' use of quality information for choosing health plans and health care providers. A number of studies have also assessed factors affecting the use of quality information for choice of health plan offerings by purchasers (particularly large employers and purchaser coalitions) and the requirements placed on health plans. The supply of publicly available quality information has been growing over the past decade, and is becoming more targeted and specific. For example, the general public has only recently been exposed to information on the extent of patient safety problems and variation in quality of care (Kohn et al. 1999 and McGlynn et al. 2003).

The context for health care delivery has also changed during this period, from early expectations about growth of managed care, to a backlash against managed care, to, more

recently, a trends toward more patient cost-sharing arrangements in private health plans and interest in consumer-directed health plans. Managed care integrates plans with providers through networks, creates the rules covering access to these networks, and influences the care that is provided; thus, the choice of plan greatly influences access to and quality of care (Gold 1998). Because care is delivered by providers, information on their performance is also very important. Indeed, with the managed care backlash and an emerging emphasis on evidence-based medicine, information on quality of providers has become an increasingly important area for measurement. Providers—as much as or more so than consumers and purchasers—are viewed as a critical target for this information. For these reasons, research over the past ten years must be viewed in the context of changing needs, interests, and priorities.

Consumers

During the past decade there has been considerable interest in managed care and managed competition reforms. As a result, research on consumers' use of information has focused primarily on choice of health plans, although choice of hospitals, physicians, or other providers also received attention. Researchers attempted to learn what consumers want to know about health plans or providers, how well they understand different types of information presented in different ways, and what factors lead to information reaching or being used by consumers.

What Consumers Want to Know in Making Health Plan Choices

When choosing health plans, consumers want information on a variety of areas including access to a preferred or well-known doctor, access to specialists, waiting times for appointments, delivery of preventive services, extent of paperwork and administrative burden, out-of-pocket costs and benefits, providers' courtesy and communication skills, and the quality of care delivered by providers (Lubalin and Harris Kojetin 1999; Edgman-Levitan and Cleary 1996; Gibbs, Sangl, and Burrus 1996; Hibbard and Jewett 1997; Hibbard and Jewett 1996; Cole 1997; Goldstein and Fyock 2001). Consumers also desire comparative information on providers, such as individual physicians, clinics or medical groups, and hospitals. Consumers want information from neutral or trusted sources (rather than the profiled organizations themselves), and also prefer consumer survey-based information to that from administrative or clinical records, because the former appears easier to understand and relate to. Although the research did not address this directly, trusted information may also include information that is perceived to be standardized and scientifically tested.

Consumers generally prefer information about the experiences of "people like me," and tend to place more importance on information that is easy to understand, often dismissing information that is difficult to comprehend. They tend to prefer information about the patient-provider relationships, rather than technical skills or patient safety issues, although the latter is viewed as more salient when these issues are raised explicitly by others (Pillitere et al. 2003).

Some evidence also suggests that consumers prefer to see quality and other information (such as premiums and benefits) presented together, rather than separately or in isolation from one another. For example, Harris-Kojetin et al. (2001) found that Medicare beneficiaries who received both a *Medicare and You* handbook and a document presenting comparative CAHPS

health plan measures thought neither could serve as stand-alone sources of information. Beneficiaries in this study also said that they wanted additional information beyond what was presented in these published documents.

Consumer Awareness, Comprehension, and Use of Quality Information in Choosing Plan or Provider

Studies conducted since the mid-1990s show limited consumer awareness and use of quality information, but awareness and use may be on the rise. National surveys sponsored by the Kaiser Family Foundation and AHRQ and conducted every several years over the past decade found that a modest proportion of Americans (about 35 percent in 2004) said they had seen comparative quality information on plans or providers, while smaller percentages actually used quality information for making choices.1 The percentage using quality information appears to be growing over time (Robinson and Brodie 1997; Kaiser/AHRQ 2000; Kaiser/AHRQ 2004). For example, between 2000 and 2004, the percentage of respondents who saw comparative quality information on health plans grew from 23 to 28 percent. In 1996, 15 percent said they had used any quality information for making health care decisions during the year. In 2004, 19 percent said they saw quality information and used it to make health care decisions.

When consumers do see quality information, the rates of comprehension or understanding of these measures are relatively high, although they vary with the type of measure. Among those who saw quality information but did not use it, 23 percent said the information about hospitals was confusing or difficult to understand, and 10 percent said information about health plans was confusing or difficult to understand (Kaiser/AHRQ 2004).

In controlled or targeted settings—where groups of consumers with a common set of choices are targeted for dissemination of quality information—awareness, comprehension, and rates of use of information are higher. For example, in a study of employees in the Minneapolis-St. Paul area who were given a quality report card with consumer-reported information (e.g., ability to see physicians, waiting times, satisfaction ratings) on selected delivery systems from a purchasing coalition that directly purchases health care services, about half of the employees recalled seeing the report card, and between half to two-thirds of those employees said they found it helpful in making decisions (Schultz et al. 2001). Similarly, 47 percent of employees in a purchasing cooperative in Denver and 55 percent of employees of a large company in St. Louis remembered seeing a report cards on health plans, and 81 (Denver) to 83 percent (St. Louis) of those employees found the report helpful in learning about differences among plans (Fowles et al. 2000).2

However, most of these targeted studies of quality information dissemination found relatively limited, or varied, effects on actual consumer decision-making.3 Variation in effects

[1] For this study, the definition of "quality information" was usually left to respondents, although in separate questions the survey did ask consumers to define what types of quality information about physicians, hospitals, and health plans would be most useful.

[2] The Denver report card included consumer satisfaction ratings of plans, and the St. Louis report card included HEDIS quality measures, consumer satisfaction ratings, and descriptive plan information.

[3] See discussion below on CAHPS-specific evaluations for additional results in this area.

depended on the characteristics of consumers targeted (Chernew and Scanlon 1998; Knutson et al. 1998, Feldman, Christianson, and Schultz 2000; Guadagnoli et al. 2000; Veroff et al. 1998; Scanlon et al. 2002; Harris 2002; Wedig and Tai-Seale 2002). For example, Knutson et al. (1998) found that giving Minnesota state employees health plan report cards containing consumer satisfaction ratings did not have significant effects on employees' health plan choices, rates of switching plans, or willingness to pay higher premiums for higher quality. Beaulieu (2002) concluded that dissemination of report cards containing patient satisfaction ratings and HEDIS scores had "a small, but significant effect" on health plan choices. Based on research in an experimental setting with hypothetical plan choices, Harris (2002) concluded that large differences in quality (based on CAHPS-like measures) must be evident in order for consumers to favor quality performance over provider availability in health plans.

Feldman, Christianson, and Schultz (2000) and Schultz et al. (2001) found that the effects of dissemination of report cards are not uniform among subgroups. Effects can vary significantly based on consumers' characteristics, including their education level and the extent to which they rely on their own health care experiences when making choices.

Key Factors Affecting Awareness and Use of Quality Information

A large body of research has been developed over the past decade that focuses on understanding the barriers to and facilitators of consumers' awareness, comprehension, and use of quality information.

Consumer Information Overload, and Challenges of Reaching Consumers through Dissemination Efforts. In the current electronic age, consumers are often inundated with data and advice, so that specific quality information may get lost in the larger mix of information on health-related or other topics. Given the expense of broad-based public media campaigns, even large philanthropic or government funding sources may find it challenging to sponsor major dissemination efforts that can compete with commercial marketing campaigns. For example, one of the most expansive health-related information campaigns undertaken recently is the National Medicare Education Program, sponsored by the Centers for Medicare & Medicaid Services to inform Medicare beneficiaries about their coverage options. It provides a toll-free hotline and Internet resources. Televisions ads were aired for a limited period, and the campaign also includes annual mailings of a summary of the document *Medicare and You*. Awareness of the campaign among beneficiaries was high, but not universal (Goldstein et al. 2001).

Complexity of the Consumer Decision-Making Process. A considerable amount of research has documented the complexity of the consumer choice process, and the wide range of factors and attributes that bear on these decisions (e.g., Chakraborty, Ettensen, and Gaeth 1994; Tumlinson et al. 1997; Harris 2003). Even when consumers are aware of available quality information, the quality differences documented in published report cards are only one of many factors they consider, or prefer to consider, when making decisions. Other factors include cost and benefits of plans or providers, whether a provider participates in a chosen plan, and whether a trusted provider, friend, or family member recommends another provider or plan. The

cognitive decision-making process is itself complicated, and each consumer brings a unique set of circumstances to his or her decision (Vaina and McGlynn 2002).

Specificity and Salience of Quality Information. To meet the needs of and reach diverse audiences, information presented in quality report cards needs to be broadly applicable to as many groups of people as possible. However, a major factor identified in research on consumers' limited use of information is the lack of specificity and salience (including timing and type) of information for particular individuals in specific circumstances (Gold, Achman, and Brown 2003; Lubalin and Harris-Kojetin 1999; Edgman-Levitan and Cleary 1996; Gibbs Sangl, and Burrus 1996). In focus groups, consumers often state they want information based on experiences of "people like me," and other studies indicate that the timing of presentation can be a key factor. The Kaiser/AHRQ (2004) national survey found that about two-thirds of Americans who did not use quality information in the past year for health plan or hospital choice said they didn't need to make any decisions about their plan or hospital at the time. Fifty-three percent of these respondent also said the information on hospitals was not specific to their personal health conditions or concerns; 40 percent made the same comment about health plan quality information. There is also some evidence suggesting that consumers have a greater need for quality information on providers, but most quality information currently available focuses on health plans (AHRQ 2004).

At the same time, patients with chronic illnesses, as well as their family members (including parents of sick children) tend to be much more well-informed about health care issues, and may be more likely to have personally observed variation in quality of care. Thus, people in these circumstances have the potential to be more interested in published quality information. Nonetheless, the information these types of consumers require is likely to be specific to their circumstances, and they may be more familiar than most with informal sources of information, and more likely to rely on personal experiences when making health care choices (Gibbs et al. 1996; Longo and Everett 2003; Feldman et al. 2000).

Cultural, Language, Age, Gender, and Socioeconomic Issues. Difference in the language used in providing information and that spoken or understood by the intended audience is a relatively straightforward barrier to quality information reaching consumers. However, translation and distribution of reporting materials in multiple languages (beyond Spanish, for example) may be too costly for most dissemination efforts. Other, sometimes more subtle barriers relate to cultural, age, gender, socioeconomic, and educational differences. These characteristics may determine how well consumers understand technical information and the relative importance they place on different types of information. For example, lower-income consumers, including the uninsured and those covered by Medicaid, appear less likely to comprehend the meaning of quality information (Jewett and Hibbard 1996). Women were more likely than men to value quality information that focuses on costs and preventive service delivery (Tumlinson et al. 1997). Race and ethnicity may influence the way quality information is interpreted, and may affect the kinds of sources that are most trusted (Gold and Stevens 2001). Many quality information efforts rely heavily on the Internet for dissemination, but rates of Internet use are lower among those of lower socioeconomic status (U.S. Department of Commerce 2000). The elderly are also less likely to use the Internet, although this may change as younger generations age into retirement (Kaiser Family Foundation 2005).

Cognitive and Health Literacy Issues. Cognitive and health literacy issues have long been a concern in the presentation of quality information to consumers. Quality measures often address relatively complex technical or clinical topics, and presentation in simple, easy-to-understand and accurate formats can be challenging (Vaiana and McGlynn 2002). As indicated earlier, consumers tend to dismiss information they do not readily understand. Many consumers who need quality information also have physical or cognitive deficits limiting their comprehension of materials. For example, older or disabled Medicare beneficiaries are more likely to have cognitive challenges in absorbing information (Stevens 2003). Comprehension of quality indicators is also related to the extent of "health literacy" among consumers, that is, an understanding of how key aspects of the health care delivery system work (Hibbard, Shofaer, and Jewett 1996).

Trusted Sources of Information. Consumers prefer information from a neutral source, rather than the profiled entities themselves—which may limit the marketing potential of quality information. Perhaps more fundamentally, a number of studies have shown that patients prefer to get information from their friends, family, or a trusted physician, as opposed to published sources (Kaiser/AHRQ 2004). A recent study involving focus groups of consumers showed that there may even be stigma attached to using publicly available information. When asked why someone might use published information, some focus group members thought that insufficient social connections might lead someone to rely on published information. One implication noted in this study was that publicly reported information might be best presented in association with trusted local community organizations, such as churches, schools, or local health departments (Carman 2004).

Ongoing Efforts to Design Effective Quality Reporting for Consumers

An emerging body of studies and ongoing reporting activities have attempted to review the research on the types of factors discussed above and translate these findings into actual practice and/or recommendations for reporting information to consumers (Hibbard et al. 2002a; Hibbard et al. 2002b; Hochhauser 2000; Hibbard et al. 2000; Harris-Kojetin et al. 2001; Kanouse, Spranca, and Vaiana 2004). These studies emphasize such principles as improving the simplicity and specificity of reports (including data presentations); incorporating consumer education about the importance of quality into quality reporting activities (explaining why consumers should want to read quality report cards), and helping consumers through the decision-making process, beyond just presenting information.

For example, Harris-Kojetin et al. (2001) identified lessons for developing more effective quality reports to help consumers choose health plans, including: "strive to be short, clear, and easy to use," "address diversity among the target audience," "help consumers understand the key fundamentals of health plan choice," "assist consumers to determine and differentiate among their preferences," "help minimize complexity by breaking the plan choice task into a series of smaller steps," "help consumers understand how and why to use quality information," and "more information is not necessarily better."

Researchers at RAND recently published *Reporting About Health Care Quality: Guide to the Galaxy*, (Kanouse, Spranca, and Vaiana 2004) which outlines seven research-based principles to

abide by when planning and implementing a public reporting effort on quality: 1) know the audience, 2) identify constraints limiting feasibility, 3) consider barriers and facilitators to achieving objectives, 4) define objectives and set priorities regarding behaviors that one wants to change, 5) design a report card reflecting priorities, 6) develop a plan for promotion and dissemination at the outset, and 7) build in ongoing testing and evaluation of the reporting efforts.

Purchasers

Purchasers of health plans—for example, employers or purchasing coalitions—can play an important role in the use of quality information for making health care choices and in improving quality over time. First, if purchasers demand the availability of quality information and choose health plans based on quality, health plans and providers should have an incentive to report quality information and attempt to improve their quality of care. Second, purchasers can serve as agents for their employees, and encourage or support consumers' use of quality information by presenting comparative quality measures on the health plans they offer to their employees. Research conducted since the mid-1990s consistently suggests that although it is increasing, purchasers' use of quality information has been limited.

What Purchasers Want to Know

The literature concerning what purchasers want to know is limited in comparison to consumer-oriented studies, and has focused primarily on large employers and purchasing coalitions—presumably because these organizations are viewed as the main types of purchasers who have the interest and the resources to devote to this topic. There has been some research on what types of quality information large employers find most useful, but we did not identify studies focusing on what preferences, if any, small employers have for quality information.

As purchasers of health benefit coverage for their employees, large employers tend to define "quality" in relatively broad terms, reaching beyond clinical outcome or process indicators (such as those in HEDIS) to include benefit information, customer service, number of providers, consumer satisfaction measures, and speed of claims payment (Gabel et al. 1998, Fraser and McNamara 2000). Accreditation can also be an important factor—or requirement—in the decision-making process (Ginsberg and Sheridan 2001).

In 1997, the Washington Business Group on Health (now the National Business Group on Health) found that HEDIS data were ranked behind cost and consumer satisfaction with access and member services in selecting health plans, a Deloitte and Touche survey of employers ranked HEDIS data 6th and accreditation 10th in importance, and national KPMG study found that only 6 percent of employers used HEDIS data when selecting health plans (Shauffler and Mordavsky 2001). In 1998, Gabel et al., using the KPMG survey, found that accreditation and HEDIS ranked last behind number and quality of physicians, employee satisfaction, cost of service, and the accuracy and speed of claims payment. Of employers who offered an HMO and were familiar with NCQA, only 11 percent considered accreditation "very important", and only 5 percent considered HEDIS very important in health plan selection (Gabel et al. 1998; Marshall et al. 2000).

Research on why employers do or do not care about health care quality as a whole (as opposed to quality measurement or reporting efforts) is also informative. Research is mixed about the extent to which employers care about quality (Fraser and McNamara 2000). Employers tend to view health benefits as just one part of the employee compensation package and overall labor costs. Most researchers conclude that a "business case" for quality must be made in order for employers to focus on quality issues—collecting and publishing information on quality of care differences among plans or providers is one potential approach. In particular, quality of care must be shown to improve rates of absenteeism and "presenteeism" (that is, decreased productivity while at work) to show a return on investment in quality or quality measurement and reporting. Whether this case has or can been made is an ongoing subject of debate and research (Leatherman et al. 2003).

Purchaser Use of Quality Information

A review by Ginsberg and Sheridan (2001) notes that many major purchasers collect and analyze quality information, but there is limited evidence that such information is actually used for selecting health plans or demanding quality improvements. Studies of large employers find that these purchasers report that they prefer higher-rated quality plans, but the studies do not establish a direct relationship between choice of plans and performance on quality measures (Chernew et al. 2004, Gabel et al. 1998). A study by Longo (2004) indicates that purchasers consider consumer reports to be useful sources of information, and good to have, but such reports do not really make a difference in purchaser actions.

Using data drawn from the 1997 Robert Wood Johnson Foundation Employer Health Insurance Survey, nearly 60 percent of respondents reported using quality information when choosing health plans for their employees. (Marquis and Long 2001). This study did not investigate how the quality information was used, or how it was considered relative to other important factors. There is some evidence that purchaser awareness of quality information is growing. For example, between 1996 and 1997, familiarity with NCQA accreditation among surveyed employers increased from 29 to 35 percent. The body of evidence concerning purchasers' use of quality information is growing, but more research must be done.

Key Factors Affecting Purchasers' Use of Quality Information

Size of employer (e.g., number of employees) appears to be an important factor in particular purchasers' awareness and use of quality information. Although there is very little research concerning small employers, they clearly have fewer resources to devote to the process of choosing health care providers, and place a greater emphasis on cost than quality (Fronstin et al. 2003; Ginsberg and Sheridan 2001). Gabel et al. (1998) found that even in a survey of employers with 200 or more employees, size was relevant (larger firms were more likely to consider the data important). Most of the prominent purchaser-sponsored quality reporting efforts have been sponsored by large public purchasers or purchasing coalitions, such as the federal and government purchasers, or coalitions of private purchasers, such as the Pacific Business Group on Health and the Buyers Health Care Action Group (see, for example, CMS 2004; BCHAG 2002; CCHRI 2004).

Another important factor may be too much information on many different dimensions of health plan choice (e.g., service quality, consumer satisfaction, access to care, and clinical performance), so that no clear picture emerges for purchasers about which plans are of higher quality than others (Hibbard et al. 1997; Ginsberg and Sheridan 2001). As a result, employers tend to fall back on consideration of cost and benefits when making choices.

Consistent with this finding, research indicates that the limited use of quality information does not necessarily stem from the lack of availability. A survey of 33 large employers across the country found that 78 percent had HEDIS data available to them. Reported unavailability may reflect differences in awareness as well as the actual availability of data (Hibbard et al. 1997). Purchaser ignorance of (or lack of interest in) quality information, rather than unavailability of information, appears to be responsible for its limited use by purchasers. Much of this ignorance may come from the fact that some purchasers are interested in maintaining established relationships with plans rather than constantly shopping for the highest-quality plan (Schauffler and Mordavsky 2001). Surveys of purchasers across different regions of the country found that between 25 to 71 percent of purchasers were aware of hospital outcome data, even though hospital outcome data was available for 100 percent of those surveyed (Ginsberg and Sheridan 2001) However, other research indicates that additional, more detailed or more specific quality information would enhance employers' efforts to encourage quality improvement or make quality-based decisions in local markets (Hargraves and Trude 2002).

Gingberg and Sheridan (2001) also note that employers view most available information as not specific enough to meet their needs. For example, employers want information about their employees or specific providers, but often can only get scores at the health plan level. They are also often skeptical about the accuracy of available data. They criticize process-based measures such as HEDIS as not focusing on outcomes, while at the same time noting concerns about the validity of hospital-based outcomes data. Interviews with several major purchasers across the country identified some advantages and shortcomings of two of the most widely available quality measures: HEDIS and CAHPS surveys (Zema and Rogers 2001). CAHPS does not provide comprehensive information about all aspects of health care; HEDIS and CAHPS do not measure many of the outcomes many purchasers deem essential in determining quality; HEDIS and CAHPS currently do not produce results at the provider level, which many purchasers consider a better measure of health care quality; and many health plans do not produce employer-specific results, which purchasers could use to monitor health plan performance, and improve the health of their employees.

USE OF QUALITY INFORMATION FOR QUALITY IMPROVEMENT ACTIVITIES

In addition to supporting consumer and purchaser decision-making, published quality information can play an important role in health plans' or providers' quality improvement activities. Most available research published during the past decade has covered the use of quality information by health plans and hospitals, with little focus on other types of providers.

Recent studies have concluded that quality measurement and reporting can be successful in inducing or supporting health plans and providers to pursue QI activities, although further

research is required to be able to generalize these findings to the full range of plans and providers, and the populations they cover or treat.

Health Plans

Extent of Use of Quality Information for QI Activities

Over the past decade—especially as managed care has emerged as prominent mode of coverage and care delivery—health plans have become increasingly active in QI activities. Pressures of accreditation requirements set forth by NCQA, URAC, and to a lesser extent JCAHO, appear to be the strongest of several drivers motivating plans' collection and use of quality information for QI efforts. Responding to purchaser demands or requirements is another important factor in the plans' use of quality information, especially among plans with Medicare and Medicaid products, which are required to conform to Quality Improvement System for Managed Care (QISMC) standards (Scanlon et al. 2000).

Health plans may use quality information for a variety of purposes including: meeting accreditation standards and/or demands for quality standards or reporting; setting goals for pursuing clinical quality improvement goals in particular areas; selecting (or sometimes removing) providers in networks; provider profiling; paying providers based on quality performance; evaluating performance of different products or product lines by conducting marketing and customer satisfaction research; and developing marketing strategies. Publicly reported information is viewed as especially useful for benchmarking performance against competitors (Lake et al. 2000; Scanlon et al. 2001; Quiqley et al. 2003; Strunk and Hurley 2004).

Internal collection and use of quality information for QI activities is widespread among current health plans, particularly HMOs. However, evidence of the extent of the use of *publicly reported* quality information or its effect on plans' different quality improvement activities is limited. We identified a study in New York state indicating that only two-thirds of plans reviewed an available report on cardiac surgery outcomes of hospitals and physicians, and fewer than half of the plans would be willing to pay to get such a report (Mukamel et al. 2000).

Key Factors Affecting Use of Quality Information

Ongoing challenges or barriers to the use of quality information by health plans include the lack of: timeliness of the data released, specificity of health plan-level measures of the information to assess the root source of any problems (to "drill down"), sophistication of data collection and analysis, and benchmarks and standardized measures to enable comparisons among competitors and over time (Quigley 2003; Scanlon et al. 2000; Scanlon et al. 2001).4

[4] See discussion of CAHPS-specific evaluations below for additional findings in this area.

Hospitals

Extent of Use of Quality Information for QI Activities

Hospitals appear to be more responsive to the publication of quality information than health plans in terms of implementing QI activities (Marshal et al. 2000), perhaps because of the specificity of available information, hospital's tighter organizational structure, and their more exclusive focus on clinical service delivery. A potentially related factor is the relatively widespread practice of public disclosure of quality information on hospitals, which dates back to at least the late 1980s when the Medicare program released hospital-specific mortality statistics. This effort was discontinued a few years later, but Medicare is once again publishing hospital-specific processes of care measures, and similar efforts are being undertaken by JCAHO and selected states (CMS 2004; JCAHO 2004; Maryland Health Care Commission 2005; Rhode Island Department of Health 2003). Numerous other private sector efforts also publish quality information on hospitals, and hospital accreditation standards require hospitals to collect their own internal data (U.S. News and World Report 2005; Health Grades 2005; Consumer's Checkbook 2005).

Nonetheless, we did not find any research on the nationwide or local prevalence of hospitals' use of published quality information for the purposes of quality improvement. It seems reasonable to assume that senior leadership in most hospitals would be aware of most or all publicly available information profiling their hospitals; however little is known about how that information is used for QI. There is some evidence that public release of comparative information on hospitals has an effect on enhancing QI activities. A study of 115 hospitals in Wisconsin found that when quality report card information is made public, hospitals with lower scores are more likely to implement QI efforts than those with higher scores and those that did not have their quality report card information released to the public (Hibbard et al. 2003). An examination of behavior among 90 hospitals that were issued consumer reports found that those in communities with more than one facility offering obstetrical services were more than twice as likely to engage in QI than those in less competitive markets. (Longo et al. 1997)

Key Factors Affecting Use of Quality Information

Despite the limited number of studies noted above, the existing research literature does identify factors contributing to hospital QI activities. Most of these studies focus on QI activities in general, rather than use of quality information as part of this process. Romano et al. (1999) concluded hospitals that use report cards for quality improvement are most likely to be larger, for-profit, higher-volume hospitals, and have relatively low mortality rates. Romano argued that larger, higher-volume hospitals may have more resources and want or need to know more about the quality of their specialized services. For-profit hospitals may be more likely to use ratings for marketing purposes. Other research shows that hospitals with a culture of teamwork, support networks, flexibility, and a willingness to take risks are more likely to implement QI programs (Shortell et al. 1995). In 2002, the Institute of Medicine sponsored a roundtable to review health care quality. The roundtable found several barriers to QI efforts, applicable to virtually all health-care delivery settings. These barriers include infrastructure limitations, quality measurement, organizational culture, and resistance to change (Brown 2002).

Another potential disincentive to participation in public reporting and associated QI activities is the potential for adverse risk-selection. Dranove et al. (2003) found evidence that hospitals attempt to improve the severity-of-illness mix of patients following publication of report cards that use outcomes measures. They found that the net result of these selection effects was an overall decrease in quality of care for cardiac patients. In particular, hospitals were less likely to treat sicker patients with a percutaneous transluminal coronary angioplasty (PTCA) and coronary artery bypass graft (CABG), while healthier patients were more likely to receive these procedures following report card publication—leading to worse outcomes overall. The authors note that is difficult to design case-mix adjustment systems that can collect precise enough information that outweighs what providers know about the severity of illness of individual patients (and the likelihood of adverse outcomes measured in the report cards), making case-mix adjustment an inadequate solution to this issue. A similar conclusion was reached in a study of substance abuse providers who were the subject of a performance-based contracting system (Shen 2003).

Devers, Pham, and Liu (2004) conclude that external regulatory forces such as accreditation are more important than market forces in contributing to efforts to improve patient safety. JCAHO accreditation requires a patient satisfaction survey; therefore hospitals are accustomed to collecting and analyzing this data. Many hospitals use outside vendors to conduct the surveys, and these vendors provide aggregated benchmark data from their other hospital clients for use in quality improvement activities.

Other Providers

There have been few studies of the use of quality information by other types of providers, perhaps because quality reporting efforts that focus on other providers are more limited. CMS publishes nursing home and home health care comparison Web sites, both of which include quality measures along with other structural measures. Quality information on medical groups is also made available in some local areas where larger groups are prominent, and where the development of pay-for-performance efforts is underway (see, for example, CCHRI 2004, Rosenthal et al. 2004). HEDIS measures also include delivery of mental health services. Public data on individual physicians are less available and much less comprehensive; typically limited to education, licensing, and malpractice issues.

More limited information on these different types of providers is likely due to a range of factors, including confidentiality issues (in mental health services), ability to generate reliable measures within data collection cost constraints (among physicians or other individual clinicians), controversy about measures or quality standards, and difficulty of assessing patient experiences given cognitive limitations (in nursing homes). One example of research on quality improvement in other types of providers is a study by Shaul et al. (2001), which demonstrated the usefulness of consumer-reported measures of quality in behavioral health insurance plans.

In addition to technical issues related to cost and adequate sample sizes, existing research shows substantial challenges to implementing quality reporting mechanisms for individual physicians. Research indicates that physicians appreciate feedback on quality, and are likely to

incorporate it into their practices, but are skeptical about the validity of many specific measures and resist public release of performance data (Marshall et al. 2000; AHRQ 2004)

FINDINGS FROM EVALUATIONS OF CAHPS MEASUREMENT AND REPORTING EFFORTS

Outcomes and Methods

Since the CAHPS project began in 1995, a large and diverse array of studies have evaluated the ability of CAHPS-related efforts to effectively measure and report on consumers' experiences with health care—for the purposes of consumer or purchaser decision-making and health plan or provider quality improvement (see, for example, Shaller 2004; Farley et al. 2002a; Farley et al. 2002b; Scanlon et al. 2002; Fox et al. 2001; Damiano et al. 2002; Farley Short et al. 2002; Carman et al. 1999; Veroff et al. 1998; Quigley et al. 2003; Guadagnoli et al. 2000; Morales et al. 2004; Zema and Rogers 2001).

Either implicitly or explicitly, CAHPS-specific studies have identified the following outcomes, goals, or standards for success of CAHPS:

- Whether CAHPS instruments and measurement approaches are considered a *valid and scientifically based standard* for consumer assessment-based measures; the default measure to be used in most applicable circumstances

- Whether CAHPS has achieved the goal of *widely disseminating* a standard set of measures and methods for use in consumer-based measurement and benchmarking in relevant areas (e.g., consumer assessments of health plan performance)

- Whether CAHPS-based measures and data are viewed as *useful* for consumer/purchaser decision-making or provider quality improvement, particularly in real-world market contexts

- Whether CAHPS-based measures are *used* by consumers, purchasers, or providers for decision-making or quality improvement activities

The studies we reviewed used both quantitative and/or qualitative methods. For the most part, studies of the effects of CAHPS-based report cards on consumer awareness, understanding, and use in decision-making employed randomization, natural experiments, and/or econometric modeling to compare the attitudes and responses of consumers who received CAHPS-based reports with those who did not. Most of these studies were conducted in the late 1990s and were based on CAHPS demonstrations that focused on commercial, Medicare, or Medicaid populations in states including Kansas, Oregon, Iowa, Washington, Pennsylvania, and New Jersey.5 More recently, several qualitative or descriptive studies (reviewed below) have been conducted to assess the ability of CAHPS to

[5] Demonstrations focusing on the privately insured included Kansas, Oregon, Washington, Pennsylvania. Demonstrations focusing on Medicaid beneficiaries included New Jersey and Kansas. One demonstration in Kansas focused on the Medicare population (Short et al. 2002).

support health plan quality improvement activities (Scanlon et al. 2000; Quiqley et al. 2003; Morales et al. 2004). Study of the effect of CAHPS on purchaser attitudes or behaviors was much more limited. The most notable of this work is a study by Zema and Rogers (2001), although CAHPS measures were not an exclusive focus.

Key Findings

CAHPS Is a Widely Tested, Well-Accepted Measure of Consumer Experiences with Health Care

A large body of research has shown CAHPS survey instruments and methods to be psychometrically tested and validated in a variety of settings among different populations.6 Testing and validation activities included cognitive interviewing, pilot testing, research on uses of the information for health care decision-making and quality improvement (as reviewed in this report) and a wide range of psychometric analysis of both pilot and ongoing survey data. Evidence also suggests that CAHPS has rapidly become the default standard for measuring consumer experiences with their health care in health plans.

For example, CAHPS data collection is required for a majority of commercial health plans nationwide that seek NCQA accreditation, all health plans that contract with Medicare, and many plans that contract with different state Medicaid agencies. CAHPS measures are used to assess the experiences of approximately 123 million people enrolled in different health plans nationwide, and are key measures of patient-centered care in use by CMS, the Federal Employers Health Benefit Program, the Department of Defense, and the National Health Care Quality report (AHRQ 2004).

CAHPS Reporting has Mixed Effects on Consumer Choice

All evaluations of the CAHPS demonstrations concluded that consumers who have been exposed to CAHPS reports and who actively read them found them useful, and valued the information that was provided. For example, Hibbard, Berkman, and Jael (2002) found that employees of a large employer in Portland, Oregon who received CAHPS report cards had more information about health plans and felt more informed in their health care decision-making, compared to those who did not receive those reports.

However, studies designed to quantitatively test the effect of dissemination of CAHPS information on health plan choices failed to find such an effect (Farley et al. 2002a; Farley et al. 2002b). Consumers who were targeted to receive the reports were no more likely than those were not a target to switch plans or choose plans with higher CAHPS ratings. Authors of these and other studies typically conclude that a major factor in the lack of overall effects is that many consumers simply do not read the reports. Short et al. (2002) conducted a cross-cutting examination of eight CAHPS demonstrations and found that the percentage of consumers who said they looked at and remembered receiving the CAHPS report cards ranged from 24 to 77 percent. In all but one site, the majority of enrollees spent less than 30 minutes reading the

6This literature is beyond the scope of this review, but see, for example, the March 1999 supplement to *Medical Care* and several articles in the July 2001 issue of *Health Services Research*.

reports. In further support of this conclusion, the subset of Medicaid beneficiaries in New Jersey who said they read the report card were more likely than consumers who were not given a report to choose higher-rated health plans over a dominant market-share plan with lower scores (Farley et al. 2002a). Similarly, only the subset of Medicaid beneficiaries in Iowa who read the distributed report card were more likely to choose highly rated plans, and even then only when differences in ratings were substantial, the ratings contradicted prior beliefs, and the reports were perceived as easy to understand (Farley 2002b).

Research on CAHPS' Effects on Quality Improvement Efforts is Limited but Ongoing

CAHPS surveys provide health plans with a standard measurement methodology and reporting mechanisms, allowing health plans to establish meaningful baselines and benchmarks for monitoring the impact of improvements and comparing performance to competitors (Scanlon et al. 2000). To enhance the usefulness of CAHPS for quality improvement activities, CMS published the *CAHPS Improvement Guide: Practical Strategies for Improving the Patient Care Experience* in 2003.

Health plans generally recognize the usefulness of CAHPS surveys, and are using them in their quality improvement efforts. In interviews with a sample of 27 HMOs, Quiqley et al. (2003) found that CAHPS tools positively affect their quality improvement efforts in several areas: targeting quality improvement activities, evaluating current performance, guiding goal-setting, identifying root causes of problems, and monitoring progress towards goals. NCQA accreditation is also a major reason for widespread use of CAHPS. Quiqley et al. (2003) also identified several areas of potential improvement for CAHPS surveys (and related reporting feedback mechanisms) for the purposes of health plan quality improvement, including:

- Development of ambulatory care (at the group, provider or visit level) or hospital-based instruments to allow for provider-specific profiling
- Better ability to look at regions or enrollee subgroups
- Greater specificity of certain survey items, particularly in areas that could be targeted for quality improvement.
- Improved timeliness of reported results after completion of surveys

HMOs in this study also indicated that survey items on customer service, access to care, and paperwork were most useful for their quality improvement efforts. Items of provider communication were least useful—perhaps due to the relative degree of control plans have in these areas.

CAHPS health plan surveys have been used almost exclusively by HMOs to date, but they also have the potential to be used by PPOs. Through interviews with representatives of 11 health plans offering PPOs and other stakeholders, Morales et al. (2004) identified several potential modifications to CAHPS surveys to effectively apply them to PPOs. These included methods for distinguishing between plans given the extent of overlap between PPO networks in

local areas, and measuring or including out-of-network services. Additional survey items were also suggested to address issues such as after-hours care, choice of types of specialists, and disease management.

Ongoing Research on Uses of CAHPS Tools

The most recent CAHPS users group meeting (UGM) presented information on a wide range of new and ongoing research and pilot testing of CAHPS-based measurement and reporting approaches. They include the following:

- Planned or ongoing efforts using A-CAHPS or similar surveys in Massachusetts and California to measure and publish medical group or physician-level performance data (Darby et al. 2004)

- Additional testing of H-CAHPS including Kaiser sites in California, Massachusetts General Hospital, California Institute for Health System Performance, Premier, Inc., and the Calgary Health Region in Alberta, Canada (Farquhar et al. 2004)

- Development and testing of a CAHPS instrument for end-stage renal disease (ICH-CAHPS) (Goldstein et al. 2004)

- Development of nursing home CAHPS instruments and methods (Sangl and Kosiak 2004)

- Ongoing research on how to use CAHPS and other quality information for QI, including research on how to identify "critical incidents" leading to lower quality ratings (Kosiak et al. 2004), and efforts by medical groups in Minnesota and Massachusetts to use CAHPS or similar surveys for quality improvement (Shaller, Gelb Safran, and Edgman-Levitan 2004)

- Ongoing research on the most effective ways to help consumers make decisions using quality information (Crofton, Sofaer, and Spranca 2004); produce understandable and easy-to-use quality reports (Carman and Hibbard (2004); and improve ability to reach consumers—including low-literacy populations—through dissemination efforts (Sofaer 2004; Hoy 2004)

SUMMARY OF KEY FINDINGS

In summary, our review of the recent literature indicates that increases in the availability of comparative quality information on health plans and providers have the potential to support and improve decision making and QI activities. However, additional work is necessary to address the factors that may limit these effects on consumer/purchaser decision-making and quality improvement activities.

Consumer and Purchaser Decision-Making

While most consumers remain unaware of publicly available quality information, their awareness appears to be growing—and when made aware of published quality information, consumers generally react positively to it. Still, they continue to prefer information from other trusted sources, such as family members, friends, or a physician, indicating a lower level of acceptance of published quality information. We also found that presentation, format, and availability of appropriate contextual information are important given the cognitive challenges of comprehending what is often highly technical information—particularly when the information involves quality measures based on clinical or administrative data, as opposed to consumer-reported experiences.

Findings are mixed on the effects disseminating quality information has on actual consumer decision-making. Some studies show small but statistically significant effects of targeted dissemination efforts on consumer decisions, including plan-switching or selection of higher-rated plans or providers; others show no effects. Some studies also show that more educated or informed consumers and those actively making decisions are most likely to use quality information to choose plans or providers.

Large employer or purchasing coalitions are more likely than small employers to demand and collect quality information. However, the extent to which quality is actively considered (versus other features, such as costs) appears to be limited, but a conclusive answer about this is impossible without further research. Nonetheless, research appears to indicate that the business case for quality must be made more explicit in order for major purchasers to become more active users of quality information.

Key gaps in the literature that may be addressed in future research include:

- What is causing an apparent growing awareness and use of quality information among consumers? Hypotheses could include the increasing public attention paid to variation in quality and patient safety issues, or the sheer growth in the supply of quality information. What is necessary to sustain this trend in growing awareness and use?

- How, if at all, do purchasers analyze and consider quality information (when balanced against other information such as costs) in their purchasing decisions?

- What effect would specific quality information dissemination efforts, similar to those targeted to consumers in existing research, have on large and small employers' purchasing behavior?

Quality Improvement Activities

A few notable studies indicate that publication of quality information leads to enhanced quality improvement activities by providers, although this research has been conducted primarily on hospitals. Health plans report using quality information for a wide range of quality

improvement activities, including establishing baselines of performance, setting goals, targeting interventions, and measuring progress. Publicly reported quality information is most useful to health plans for establishing benchmarks to facilitate comparisons with competitors.

To be most effective for quality improvement, published quality information needs to "actionable" and enable an ability to "drill down" with specific measures to find root causes. Also important are: timeliness of data feedback, availability of scientifically tested and standardized measures, and availability of useful national, regional, or local benchmarks with adequate risk adjustment. Organizational factors affecting the extent of quality improvement activities among plans and providers include a strong culture of innovation and teamwork, and high level of employee satisfaction. Regulation and accreditation appear to be more important environmental factors than market competition in predicting the degree of quality improvement efforts in the current market environment.

Current gaps in knowledge include:

- Given research findings for hospitals, does publication of comparative quality information spur quality improvement efforts by health plans or other providers, and if so, in what areas?

- How will (or would) other providers, such as medical groups, individual physician practices, nursing homes, or home health providers use published comparative quality information in their quality improvement efforts? What types of information is most valuable for these providers? What are the constraints in making this information available?

CAHPS Evaluations

The CAHPS project has been successful in making available a set of scientifically valid and practically useful products, including survey instruments, data reporting mechanisms, and technical assistance. CAHPS products are widely used in the health care industry and are now viewed as the standard for measuring consumers' experiences with care in health plans, including commercial products, Medicare, and Medicaid. Consumers, purchasers, and health plans report that CAHPS-based reporting products are both understandable and useful for decision-making and quality improvement activities.

However, targeted dissemination of CAHPS-based reports did not have significant effects on consumers' decisions in several pilot demonstrations, which is consistent with other research. This appears to have resulted from limits on the ability to reach consumers, including getting consumers to read the reports in detail. Consumers who said they had read CAHPS reports, or who were actively considering their choices, were more likely be affected by differences in CAHPS ratings.

As discussed for other public reporting efforts, it is possible that public release of CAHPS data may induce quality improvement activities even if consumer behavior does not change in response to public disclosure. This is likely to be an important area of future research on CAHPS.

PAGE IS INTENTIONALLY LEFT BLANK TO ALLOW FOR DOUBLE-SIDED COPYING

CHAPTER IV

CONCLUSIONS

In this literature review, we found that CAHPS—primarily through its development and support of a health plan CAHPS instrument in CAHPS I—has achieved an important goal of making publicly available a standardized and tested survey instrument for use in assessing consumers' experiences with health care. There is also considerable evidence suggesting that consumers, purchasers, and health plans exposed to HP-CAHPS-related information react positively to it and find it useful for their diverse purposes. Presumably, these are also fundamental goals for other CAHPS instruments currently under development in CAHPS II.

We also found a considerable amount of research addressing key questions about the factors that affect consumers' and purchasers' awareness, comprehension, and use of quality information. The studies cover key dimensions proposed in our conceptual framework in Figure I.1, including issues of extent of choice, awareness, perceived relevance, and comprehension, as well as variation by subgroups of consumers or purchasers. Overall, we found that although use of quality information is on the rise, the level of awareness and perceived relevance continue to be important factors hindering consumers' use of quality information.

Although not as extensive as consumer-focused studies, research on purchasers shows that large employers and purchasing coalitions have been major drivers (and funders) of quality measurement and reporting activities—as indicated by several prominent efforts undertaken by public purchasers and, in selected areas of the country, private purchasers. It is important to note that purchaser interest also depends on whether a business case can be made for using these measures.

Emerging research appears to indicate the potential of quality information to support quality improvement activities. Although more limited than research on consumers and purchasers—and focused primarily on health plans and hospitals—a number of studies show that public disclosure of quality information can increase the extent of quality improvement activities. Consistent with the conceptual framework, factors affecting the extent to plans' and providers' use of quality information include both external pressures (such as accreditation) and

internal support (for example, a culture of teamwork and collaboration). Several studies identified a need for more "actionable" information among plans and providers to pursue their quality improvement goals, including more timely and specific data to find the root causes of performance problems.

In conclusion, this literature review provides a base of information in support of AHRQ's ongoing strategic planning process, which will involve (1) interviews with key CAHPS stakeholders and users, (2) a consensus process focusing future priorities, and (3) further research to identify potentially applicable private-public partnership models for sustaining CAHPS in the future.

REFERENCES

Agency for Healthcare Research and Quality (AHRQ). "Market Research for Ambulatory CAHPS." Rockville, MD: AHRQ, 2004.

Beaulieu, N.D. "Quality Information and Consumer Health Plan Choices." *Journal of Health Economics*, vol. 21, no. 1, January 2002, pp. 43-63.

Brown, R.W. "Why is Quality Assurance So Difficult? A Review of Issues in Quality Assurance over the Last Decade." *Internal Medicine Journal*, vol. 32, no. 7, July 2002, pp. 331-7.

BHCAG. "New Hospital Patient Safety Information Unveiled to Help Minnesota Consumers Make Better Health Care Choices." Press Release, January 2002, Minneapolis, MN: Buyers Health Care Action Group.

California Cooperative Healthcare Reporting Initiative. "CCHRI Report on Quality." San Francisco, CA: CCHRI, 2004.

Carman, K.L. "Public Reporting of Data on Quality: Why and How." Presented at the CAHPS 9th National User Group Meeting, Baltimore, MD, December 2-3, 2004.

Carman, K.L., J. Hibbard. "Report Testing and Evaluation: Producing Reports That People Understand and Use." Presented at the CAHPS 9th National User Group Meeting, Baltimore, MD, December 2-3, 2004.

Carman, K.L., P.F. Short, D.O. Farley, J.A. Schnaier, D.B. Elliott, and P.M. Gallagher. "Epilogue: Early Lessons from CAHPS Demonstrations and Evaluations. Consumer Assessment of Health Plans Study." *Medical Care,* vol. 37, no. 3 (Supplement), March 1999, pp. MS97-105.

Centers for Medicare & Medicaid Services. "Hospital CAHPS Fact Sheet." Baltimore, MD: CMS, 2004.

Chakraborty, G., R. Ettenson, and G. Gaeth. "How Consumers Choose Health Insurance." *Journal of Health Care Marketing,* vol. 14, no. 1, 1994, pp. 21-33.

Chernew, M., G. Gowrisankaran, C. McLaughlin, and T. Gibson. "Quality and Employers' Choice of Health Plans." *Journal of Health Economics,* vol. 23, no. 3, May 2004, pp. 471-92.

Chernew, M. and D. P. Scanlon. "Health Plan Report Cards and Insurance Choice." *Inquiry,* vol. 35, no. 1, 1998, pp. 9-22.

Cleary, P. and B. McNeil. "Patient Satisfaction as an Indicator of Quality of Care." *Inquiry*, spring 1988, pp. 25-36.

Cole, D.L. "Managed Care and Information Needs for Consumers." *Med Interface,* vol. 10, no. 2, February 1997, pp. 54-5.

Consumer's Checkbook. "Why Consumers' CHECKBOOK *Guide to Hospitals?*" Available at [http://www.checkbook.org/hospital/default.cfm]. 2005.

Crofton, C., S. Sofaer, and M. Spranca. "So Much Information, So Little Time: Giving Consumers What They Need to Make Decisions." Presented at the CAHPS 9th National User Group Meeting, Baltimore, MD, December 2-3, 2004.

Damiano, P.C., J.C. Willard, M.C. Tyler, E.T. Momany, R.D. Hays, D.E. Kanouse, and D.O. Farley. "CAHPS in Practice: the Iowa Demonstration." *Journal of Ambulatory Care Management,* vol. 25, no. 2, April 2002, pp. 32-42.

Darby, C., P. Cleary, E. Goldstein, S. Scholle, S. Miller, C. Damberg, and M. Karp. "Implementing the New Ambulatory Care Surveys: Implications for Survey Users." Presented at the CAHPS 9th National User Group Meeting, Baltimore, MD, December 2-3, 2004.

Davies, A. and J. Ware. "Involving Consumers in Quality of Care Assessment." *Health Affairs*, spring 1988, pp. 33-48.

Devers, K.J., H.H. Pham, and G. Liu. "What is Driving Hospitals' Patient-Safety Efforts?" *Health Affairs (Millwood),* vol. 23, no. 2, 2004.

Dranove, D., D. Kessler, M. McClellan, and M. Satterthwaite. "Is More Information Better? The Effects of 'Report Cards' on Health Care Providers." *Journal of Political Economy,* vol. 111, no. 3, 2003, pp. 555-88.

Edgman-Levitan, D. Shaller, K. McInnes, R. Joyce, K. Coltin, and P. Cleary. *The CAHPS Improvement Guide: Practical Strategies for Improving the Patient Care Experience.* Boston, MA. Harvard Medical School. October 2003.

Edgman-Levitan, S. and P.D. Cleary. "What Information Do Consumers Want and Need?" *Health Affairs (Millwood),* vol. 15, no. 4, winter 1996, pp. 42-56.

Farley, D.O., M.N. Elliott, P.F. Short, P. Damiano, D.E. Kanouse, and R.D. Hays. "Effect of CAHPS Performance Information on Health Plan Choices by Iowa Medicaid Beneficiaries." *Medical Care Research and Review,* vol. 59, no. 3, September 2002a, pp. 319-36.

Farley, D.O., P.F. Short, M.N. Elliott, D.E. Kanouse, J.A. Brown, and R.D. Hays. "Effects of CAHPS Health Plan Performance Information on Plan Choices by New Jersey Medicaid Beneficiaries." *Health Services Research*, vol. 37, no. 4, August 2002b, pp. 985-1007.

Farquhar, M., E. Goldstein, T. Cooke, M. Nelson, and C. Serrato. "Update on the CAHPS Hospital Survey: The Development Process." Presented at the CAHPS 9th National User Group Meeting, Baltimore, MD, December 2-3, 2004.

Feldman, R., J. Christianson, and J. Schultz. "Do Consumers Use Information to Choose a Health-Care Provider System?" *Milbank Quarterly*, vol. 78, no. 1, 2000, pp. 47-77.

Fowles, J. B., E.A. Kind, B.L. Braun, and D.J. Knutson. "Consumer Responses to Health Plan Report Cards in Two Markets." *Medical Care*, vol. 38, no. 5, May 2000, pp. 469-81.

Fox, M.H., J. Moore, M. Zimmerman, S. Hill, and C.H. Foster. "The Effectiveness of CAHPS Among Women Enrolling in Medicaid Managed Care." *Journal of Ambulatory Care Management*, vol. 24, no. 4, October 2001, pp. 76-91.

Fraser, I. and P. McNamara. "Employers: Quality Takers or Quality Makers?" *Medical Care Research and Review*, vol. 57, no. 2 (Supplement), 2000, pp. 33-52.

Fronstin, P., EBRI, R. Helman, and M. Greenwald & Associates. "Small Employers and Health Benefits: Findings From the 2002 Small Employer Health Benefits Survey." EBRI Issue Brief Number 253, January 2003. pp. 3-21.

Gabel, J.R., K.A. Hunt, and K. Hurst. "When Employers Choose Health Plans: Do NCQA Accreditation and HEDIS Data Count?" New York: The Commonwealth Fund, 1998.

Gibbs, D.A., J.A. Sangl, and B. Burrus. "Consumer Perspectives on Information Needs for Health Plan Choice." *Health Care Finance Review*, vol. 18, no. 1, fall 1996, pp. 55-73.

Ginsberg, C. and S. Sheridan. "Limitations of and Barriers to Using Performance Measurement: Purchasers' Perspectives." *Health Care Finance Review*, spring 2001.

Gold, M.. "Beyond Coverage and Supply: Measuring Access to Health Care in Today's Market." *Health Services Research,* vol. 33, no. 3, Part II, 1998, pp. 625-652.

Gold, M. and B. Stevens. "Informed Health Plan Choice for Vulnerable Subgroups of Medicare Beneficiaries." Washington, DC: Mathematica Policy Research, Inc., September 2001.

Gold M. and J. Wooldridge. "Surveying Consumer Satisfaction to Assess Managed Care Quality. Current Practices." *Health Care Financing Review*, vol. 16, no. 4, pp. 155-173.

Gold, M., L. Achman, and R. Brown. "The Salience of Choice for Medicare Beneficiaries." *Managed Care Quarterly*, vol. 11, no. 1, pp. 24-33, winter 2003.

Goldstein, E., P.D. Cleary, A. Zaslavsky, K.M. Langwell, and A. Heller. "Medicare Managed Care CAHPS ® A Tool for Performance Improvement." *Health Care Finance Review*, vol. 22, no. 3, spring 2001, pp. 101-7.

Goldstein, E. and J. Fyock. "Reporting of CAHPS Quality Information to Medicare Beneficiaries." *Health Services Research*, vol. 36, no. 3, July 2001, pp. 477-88.

Goldstein, E., E. Zerhusen, and B. Kosiak. "The CAHPS Dialysis Center Survey: A Tool for Assessing the Quality of In-Center Hemodialysis." Presented at the CAHPS 9th National User Group Meeting, Baltimore, MD, December 2-3, 2004.

Guadagnoli E., A. Epstein, A. Zaslavsky, J. Shaul, D. Veroff, F. Fowler, and P. Cleary. "Providing Consumers with Information about the Quality of Health Plans: The Consumer Assessments of Health Plans Demonstration in Washington State." *Joint Commission Journal on Quality Improvement,* vol. 26, no. 7, 2000 pp. 410-420.

Hargraves, J.L. and S. Trude. "Obstacles to Employers' Pursuit of Health Care Quality." *Health Affairs (Millwood)*, vol. 21, no. 5, September 2002, pp. 194-200.

Harris, K.M. "Can High Quality Overcome Consumer Resistance to Restricted Provider Access? Evidence from a Health Plan Choice Experiment." *Health Services Research*, vol. 37, no. 3, June 2002, pp. 551-71.

Harris, K.M. "How Do Patients Choose Physicians? Evidence from a National Survey of Enrollees in Employment-Related Health Plans." *Health Services Research*, vol. 38, no. 2, April 2003, pp. 711-32.

Harris-Kojetin, L.D., L.A. McCormack, E.F. Jael, J.A. Sangl, and S.A. Garfinkel. "Creating More Effective Health Plan Quality Reports for Consumers: Lessons from a Synthesis of Qualitative Testing." *Health Services Research*, vol. 36, no. 3, July 2001, pp. 447-76.

Health Grades. "Health Care Quality Reports for Consumers." Available at [http://www.healthgrades.com/consumer/index.cfm?TV_Eng=homepage]. 2005.

Hibbard, J.H., N. Berkman, L.A. McCormack, and E. Jael. "The Impact of a CAHPS Report on Employee Knowledge, Beliefs, and Decisions." *Medical Care Research and Review*, vol. 59, no. 1, March 2002a, pp. 104-16.

Hibbard, J.H., L. Harris-Kojetin, P. Mullin, J. Lubalin, and S. Garfinkel. "Increasing the Impact of Health Plan Report Cards by Addressing Consumers' Concerns." *Health Affairs (Millwood),* vol. 19, no. 5, September 2000, pp. 138-43.

Hibbard, J.H. and J.J. Jewett. "What Type of Quality Information Do Consumers Want in a Health Care Report Card?" *Medical Care Research and Review*, vol. 53, no. 1, March 1996, pp. 28-47.

Hibbard, J.H. and J.J. Jewett. "Will Quality Report Cards Help Consumers?" *Health Affairs (Millwood)*, vol. 16, no. 3, May 1997-June 1997, pp. 218-28.

Hibbard, J.H., P. Slovic, E. Peters, and M.L. Finucane. "Strategies for Reporting Health Plan Performance Information to Consumers: Evidence from Controlled Studies." *Health Services Research*, vol. 37, no. 2, April 2002b, pp. 291-313.

Hibbard, J.H., S. Sofaer, and J.J. Jewett. "Condition-Specific Performance Information: Assessing Salience, Comprehension, and Approaches for Communicating Quality." *Health Care Finance Review*, vol. 18, no. 1, fall 1996, pp. 95-109.

Hibbard, J.H., J. Stockard, and M. Tusler. "Does Publicizing Hospital Performance Stimulate Quality Improvement Efforts?" *Health Affairs (Millwood)*, vol. 22, no. 2, March 2003, pp. 84-94.

Hochhauser, M. "Grading the Graders. How to Make HMO Report Cards More Useful to Consumers." *Healthplan*, vol. 41, no. 2, March 2000, pp. 51-5.

Hoy, E.W. "Designing Health Materials for Low Literacy Populations." Presented at the CAHPS 9th National User Group Meeting, Baltimore, MD, December 2-3, 2004.

Jewett, J.J. and J.H. Hibbard. "Comprehension of Quality Care Indicators: Differences Among Privately Insured, Publicly Insured, and Uninsured." *Health Care Finance Review*, vol. 18, no. 1, fall 1996, pp. 75-94.

Joint Commission on Accreditation of Healthcare Organizations. "Specifications Manual for National Implementation of Hospital Core Measures." Chicago, IL: JCAHO, 2004.

Kaiser Family Foundation. "E-Health and the Elderly: How the Elderly Use the Internet for Health Information." Washington DC: January 2005.

Kaiser Family Foundation and the Agency for Healthcare Research and Quality. "National Survey on Americans as Health Care Consumers: An Update on the Role of Quality Information." Rockville, MD: AHRQ, December 2000.

Kaiser Family Foundation and the Agency for Healthcare Research and Quality. "National Survey on Consumers' Experiences With Patient Safety and Quality Information." Rockville, MD: AHRQ, November 2004.

Kanouse, D., M. Spranca, and M. Vaiana. "Reporting About Health Care Quality: A Guide to the Galaxy." *Health Promotion Practice*, vol. 5, no. 3, 2004, pp. 222-31.

Knutson, D.J., E.A. Kind, J.B. Fowles, and S. Adlis. "Impact of Report Cards on Employees: a Natural Experiment." *Health Care Finance Review,* vol. 20, no. 1, fall 1998, pp. 5-27.

Kohn, L.T., J.M. Corrigan, and M.S. Donaldson. "To Err is Human: Building A Safer Health System." Washington, DC: National Academy Press, 1999.

Kosiak, B., J.A. Sangl, D.E.B. Potter, and W. Spector. "CAHPS Instruments for Long Term Care." Presented at the CAHPS 9th National User Group Meeting, Baltimore, MD, December 2-3, 2004.

Lake, Tim, Marsha Gold, Robert Hurley, Michael Sinclair, and Sally Waltman. "Health Plans' Selection and Payment of Health Care Providers." Washington, DC: Mathematica Policy Research, Inc., May 2000.

Leatherman, S., D. Berwick, D. Iles, L. S. Lewin, F. Davidoff, T. Nolan, and M. Bisognano. "The Business Case for Quality: Case Studies and an Analysis." *Health Affairs (Millwood),* vol. 22, no. 2, March 2003, pp. 17-30.

Longo, D.R. "Health Care Consumer Reports: An Evaluation of Employer Perspectives." *Journal of Health Care Finance,* vol. 30, no. 3, spring 2004, pp. 85-92.

Longo, D.R. and K.D. Everett. "Health Care Consumer Reports: An Evaluation of Consumer Perspectives." *Journal of Health Care Finance*, vol. 30, no. 1. fall 2003, pp. 65-71.

Longo, D.R., G. Land, W. Schramm, J. Fraas, B. Hoskins, and V. Howell. "Consumer Reports in Health Care. Do They Make a Difference in Patient Care?" *JAMA,* vol. 278, no. 19, November 1997, pp. 1579-84.

Lubalin, J.S. and L.D. Harris-Kojetin. "What Do Consumers Want and Need to Know in Making Health Care Choices?" *Medical Care Research and Review,* vol. 56, No. 1 (Supplement), 1999, pp. 67-102 .

Marquis, M.S. and S.H. Long. "Prevalence of Selected Employer Health Insurance Purchasing Strategies in 1997." *Health Affairs (Millwood),* vol. 20, no. 4, July 2001-August 2001, pp. 220-30.

Marshall, M.N., P.G. Shekelle, S. Leatherman, and R.H. Brook. "The Public Release of Performance Data: What Do We Expect to Gain? A Review of the Evidence." *JAMA,* vol. 283, no. 14, April 2000, pp. 1866-74.

Maryland Health Care Commission. "Maryland Hospital Performance Evaluation Guide". Available at [http://hospitalguide.mhcc.state.md.us]. 2005.

Mattingly. "CAHPS Beyond 2000: Recommendations" Unpublished paper submitted to AHRQ in preparation for CAHPS II. 2000.

McGlynn, E.A., S.A. Asch, and J. Adams. "The Quality of Health Care Delivered to Adults in the United States." *New England Journal of Medicine,* vol. 348, June 2003, pp. 2635-45.

Mehrotra, A., T. Bodenheimer, and R.A. Dudley. "Employers' Efforts to Measure and Improve Hospital Quality: Determinants of Success." *Health Affairs (Millwood),* vol. 22, no. 2, March 2003, pp. 60-71.

Morales, L.S., M. Elliott, J. Brown, C. Rahn, and R.D. Hays. "The Applicability of the Consumer Assessments of Health Plans Survey (CAHPS) to Preferred Provider Organizations in the United States: A Discussion of Industry Concerns." *International Journal of Quality Health Care,* vol. 16, no. 3, July 2004, pp. 219-27.

Mukamel, D.B., A.I. Mushlin, D. Weimer, J. Zwanziger, T. Parker, and I. Indridason. "Do Quality Report Cards Play a Role in HMOs' Contracting Practices? Evidence from New York State." *Health Services Research,* vol. 35, no. 1, April 2000, pp. 319-32.

Pillittere, D., M.B. Bigley, J. Hibbard, and G. Pawlson. "Exploring Consumer Perspectives on Good Physician Care: A Summary of Focus Group Results." New York, NY: The Commonwealth Fund, January 2003.

Quigley, D.D., D.P. Scanlon, D.O. Farley, and H. de Vries. "The Utility of CAHPS for Health Plans." Santa Monica, CA: RAND, December 2003.

Rhode Island Department of Health. "Hospital Performance in Rhode Island." Available at [http://www.health.ri.gov/chic/performance/quality/quality17.pdf]. 2003.

Robinson, S. and M. Brodie. "Understanding the Quality Challenge for Health Consumers: the Kaiser/AHCPR Survey." *Joint Commission Journal of Quality Improvement,* vol. 23, no. 5, May 1997, pp. 239-44.

Romano, P.S., J.A. Rainwater, and D. Antonius. "Grading the Graders: How Hospitals in California and New York Perceive and Interpret Their Report Cards." *Medical Care,* vol. 37, no. 3, March 1999, pp. 295-305.

Rosenthal, M.B., R. Fernandopulle, H. Ryu Song, and B. Landon. "Paying For Quality: Providers' Incentives For Quality Improvement." *Health Affairs,* vol. 23, no. 2, 2004, pp. 127-141.

Scanlon, D.P., M. Chernew, C. Mclaughlin, and G. Solon. "The Impact of Health Plan Report Cards on Managed Care Enrollment." *Journal of Health Economics,* vol. 21, no. 1, January 2002, pp. 19-41.

Scanlon, D.P., Chernew, M., and McLaughlin, C. G. "Employee Response to Health Plan Performance Ratings." Presented at the Association for Health Services Research Annual Conference, Chicago, IL, 1999.

Scanlon, D.P., C. Darby, E. Rolph, and H.E. Doty. "The Role of Performance Measures for Improving Quality in Managed Care Organizations." *Health Services Research,* vol. 36, no. 3, July 2001, pp. 619-41.

Scanlon, D.P., E. Rolph, C. Darby, and H.E. Doty. "Are Managed Care Plans Organizing for Quality?" *Medical Care Research and Review,* vol. 57 Suppl. 2, 2000, pp. 9-32.

Schauffler, H.H. and J.K. Mordavsky. "Consumer Reports in Health Care: Do They Make a Difference?" *Annual Review of Public Health,* vol. 22, 2001, pp. 69-89.

Schultz, J., K. Thiede Call, R. Feldman, and J. Christianson. "Do Employees Use Report Cards to Assess Health Care Provider Systems?" *Health Services Research,* vol. 36, no. 3, July 2001, pp. 509-30.

Shaller, D. "Implementing and Using Quality Measures for Children's Health Care: Perspectives on the State of the Practice." *Pediatrics,* vol. 113, no. 1, January 2004, pp. 217-27.

Shaller, D., D. Gelb Safran, and S. Edgman-Levitan. "Using CAHPS Surveys to Improve Patient Care Experiences in Medical Practices." Presented at the CAHPS 9th National User Group Meeting, Baltimore, MD, December 2-3, 2004.

Shaul, J.A., S.V. Eisen, V.L. Stringfellow, B.R. Clarridge, R.C. Hermann, D. Nelson, E. Anderson, A.I. Kubrin, H.S. Leff, and P.D. Cleary. "Use of Consumer Ratings for Quality Improvement in Behavioral Health Insurance Plans." *Joint Commission Journal of Quality Improvement,* vol. 27, no. 4, April 2001, pp. 216-29.

Shen, Y. "Selection Incentives in a Performance-Based Contracting System." *Health Services Research,* vol. 38, no. 2, April 2003, pp. 535-52.

Short, P., L. McCormack, J. Hibbard, J.A. Shaul, L. Harris-Kojetin, M.H. Fox, P. Damiano, J.D. Uhrig, and P.D. Cleary. "Similarities and Differences in Choosing Health Plans." *Medical Care*, vol. 40, no. 4, April 2002, pp. 289-302.

Shortell, S.M., J.L. O'Brien, J.M. Carman, R.W. Foster, E.F. Hughes, H. Boerstler, and E.J. O'Connor. "Assessing the Impact of Continuous Quality Improvement/Total Quality Management: Concept Versus Implementation." *Health Services Research,* vol. 30, no. 2, June 1995, pp. 377-401.

Sofaer, S. "Quality Information: Reaching the Right People at the Right Time." Presented at the CAHPS 9th National User Group Meeting, Baltimore, MD, December 2-3, 2004.

Stevens, B. "How Seniors Learn." *Center for Medicare Education Issue Brief,* vol. 4, no. 9, 2003, pp. 1-8.

Strunk, B. and Hurley, R. "Paying for Quality: Health Plans Try Carrots Instead of Sticks." Washington, DC: Center for Studying Health Systems Change, no. 82, May 2004, pp. 1-4.

Tumlinson, A., H. Bottigheimer, P. Mahoney, E.M. Stone, and A. Hendricks. "Choosing a Health Plan: What Information Will Consumers Use?" *Health Affairs (Millwood),* vol. 16, no. 3, May 1997, pp. 229-38.

US Department of Commerce. "Falling Through the Net: Toward Digital Inclusion – A Report on American's Access to Technology Tools" October 2000, pp. 36.

US News and World Report. "Health." Available at [http://www.usnews.com/usnews/health/hehome.htm]. 2005.

Vaiana, M.E. and E.A. McGlynn. "What Cognitive Science Tells us About the Design of Reports for Consumers." *Medical Care Research and Review,* vol. 59, no. 1, March 2002, pp. 3-35.

Veroff, D.R., P.M. Gallagher, V. Wilson, M. Uyeda, J. Merselis, E. Guadagnoli, S. Edgman-Levitan, A. Zaslavsky, S. Kleimann, and P.D. Cleary. "Effective Reports for Health Care Quality Data: Lessons from a CAHPS Demonstration in Washington State." *International Journal of Quality Health Care,* vol. 10, no. 6, December 1998, pp. 555-60.

Wedig, G.J. and M. Tai-Seale. "The Effect of Report Cards on Consumer Choice in the Health Insurance Market." *Journal of Health Economics,* vol. 21, no. 6, November 2002, pp. 1031-48.

Zema, C.L. and L. Rogers. "Evidence of Innovation Uses of Performance Measures Among Purchasers." *Health Care Financing Review*, vol. 22, no. 3, spring 2001, pp. 35-47.