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# Costs and Benefits of HCAHPS

## *Final Report*

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# Summary

## Background

One of the goals of the Administration and HHS' Hospital Quality Initiative, launched in 2002, is to improve quality through accountability and public disclosure and to "empower consumers with quality of care information to make more informed decisions about their health care, and encourage providers and clinicians to improve the quality of health care..."<sup>1</sup> As part of this initiative, the Centers for Medicare & Medicaid Services (CMS) developed the Hospital CAHPS (HCAHPS) survey, which collects uniform measures of patient perspectives on various aspects of their inpatient care, using a standardized survey instrument and data collection methodology. Information collected through HCAHPS will be publicly reported, with voluntary participation in HCAHPS guided by the Hospital Quality Alliance. The first national implementation of HCAHPS is planned for 2006. Results will be publicly reported on the CMS Hospital Compare website. Public reporting of HCAHPS is intended to support consumer choice, encourage provider accountability, and create patient perspective-driven hospital performance incentives.

To develop HCAHPS, CMS partnered with the Agency for Healthcare Research and Quality (AHRQ) through a comprehensive process to ensure that the survey would produce credible, useful information. Multiple methods were used in the design, development and refinement process, including: literature reviews, cognitive interviews, consumer focus groups, consumer testing, stakeholder input, input from public comments, a three-state pilot test, and small-scale field tests. In May 2005, the National Quality Forum (NQF) endorsed a 27-item HCAHPS survey. An NQF press release indicated that this endorsement represents the consensus of healthcare providers, consumer groups, professional associations, purchasers, federal agencies, and research and quality organizations.<sup>2</sup>

CMS contracted with Abt Associates Inc. to conduct a quick turnaround study that would examine potential benefits and estimate the costs to hospitals of the existing 27-item version of HCAHPS in contrast to the costs of a shorter version of the survey instrument that some patient satisfaction vendors and hospitals have recommended. This was in response to an NQF recommendation for further analysis of the costs and benefits of HCAHPS. To examine this issue, Abt conducted a limited review of available literature, websites, and other relevant documents. We focused on articles related to the direct impact on consumers of public reporting of consumer perspectives on hospital care, the impact on consumers of public reporting of any type of hospital performance information, and the impact of public reporting on hospital quality. Within the timeframe of this study we also talked with internal experts and key stakeholders (including two hospitals that had participated in the HCAHPS pilot, two purchasing organizations, and four of the major hospital survey vendors) and we collected cost information from several survey firms.

While some data have been published about the impact of public reporting of patient reports of satisfaction with care, that evidence is a combination of qualitative and anecdotal research. There are no previous studies that generate quantifiable measures of the benefits associated with HCAHPS, information that would require a public reporting demonstration project and evaluation.

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<sup>1</sup> Hospital Quality Initiative Overview Centers For Medicare & Medicaid Services, March 2005  
<http://www.cms.hhs.gov/quality/hospital/overview.pdf>

<sup>2</sup> <http://www.qualityforum.org/news/prHCAHPS5-13-05FINAL.pdf>

HCAHPS fits into the larger context of performance reporting for quality improvement developed by the Strategic Framework Board of the NQF.<sup>3</sup> This framework is a market or “value-based” health care purchasing approach which, while in its infancy in the health care context, is based on the assumption that consumers take value (both cost and quality) into account in any major purchasing decision. This framework<sup>4</sup> consists of two pathways, each of which represents actions facilitated by the availability of performance information:

- One pathway illustrates *consumer choice* of providers based on their obtaining knowledge of the performance of those providers. Knowledge of performance by consumers, patients, purchasers, regulators, contractors, and referring clinicians contributes to the ability of these stakeholders to make value-based choices using knowledge of the market.
- The other pathway illustrates change (quality improvement) by *providers* (organizations, care delivery teams, and practitioners) motivated by knowledge of provider performance. Knowledge and benchmarking of processes and results creates incentives for health care organizations, care delivery teams, and practitioners to improve their performance (quality).

In summary, along with public reporting of clinical performance, public reporting of the information on patient perspectives on care contained in HCAHPS is key to CMS’ value-based healthcare purchasing approach.

In this report we provide an analysis of potential benefits and costs resulting from public reporting of the information that will result from general, voluntary use of the HCAHPS instrument. Use of HCAHPS has been endorsed by the NQF; this analysis is intended to help decide the ultimate length of the instrument. The 27-item version of HCAHPS contains items (questions) covering seven domains of patient perspectives on care: nurse communication, responsiveness of staff, doctor communication, cleanliness and quiet of the physical environment, pain control, communication about medicines, and discharge information. It also asks respondents to rate the overall quality of the hospital’s care, and whether they would recommend the hospital to others.

## Potential Benefits of HCAHPS

The analysis of public reporting is a field where it is difficult or impossible to test impacts using randomized designs, and there are relatively few studies that permit inferences about the impact of HCAHPS on consumers or hospitals. Given the data that are available, the evidence with respect to the impact of public performance reporting (either clinical performance or patient reports on care) is mixed with regard to consumer impact. Based on focus group evidence, there is an indication that consumers want patient perspectives on care ratings, but researchers are only in the early stages of understanding whether and how consumers will use these ratings. There is evidence that how results are presented can determine whether they are understood and used, and the fact that public reporting is in its very early stages suggests that more research in this area may be beneficial.

There is more consistent evidence that the impact of public reporting of performance data on hospitals is greater. There are multiple reports of hospitals being motivated by these data and using them for improvement. Not only is there more consistent evidence regarding hospital impact, but there are also some well-designed studies that have found at least some impact on clinical performance. Additionally, one study reported an impact on patient satisfaction. Evidence regarding impact on

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<sup>3</sup> The National Quality Forum, “A National Framework for Healthcare Quality Measurement and Reporting: A Consensus Report.”

<sup>4</sup> Conceptual Framework for a National Quality Measurement and Reporting System, the Strategic Framework Board, October 3, 2001. <http://www.iom.edu/Object.File/Master/11/405/0.ppt>

physicians is less supportive, although again, time and credibility of the data may lead to more impact.

With regard to length of the questionnaire, while CMS and AHRQ have used a systematic approach to assess the optimal length of the survey instrument, questions have been raised about why it could not be further shortened. The resolution of this issue relates to the objectives that are envisioned for HCAHPS, which were systematically and rigorously specified during the design process. There are, however, stakeholders (primarily some survey vendors) who envision a different set of objectives. This difference in visions has led to differing views about how long the instrument should be and about what items it should contain, and can be resolved only when consensus on the objectives of HCAHPS is achieved among all key stakeholders. As an example of the differing viewpoints, empirical analysis that has supported a shorter instrument assumes that a single outcome (willingness of patients to recommend a hospital) is the only outcome of interest, in contrast to the stated objectives for HCAHPS, which are far broader than simply influencing this single outcome. One of the major hospital satisfaction survey vendors and four of the other organizations with whom we spoke felt that HCAHPS should remain a 27-item survey; consumer research provides reasonable indication that item-specific information is valuable for choosing hospitals, and this is a key objective of HCAHPS. In contrast, three of the four major survey vendors and one of the other organizations felt that HCAHPS should include no more than 6-10 items.

## **Stakeholder Perceptions of Benefits and Limitations**

Within the parameters of our study, we spoke with a small number of stakeholders representing hospitals, purchasing organizations, and leading vendors of hospital patient surveys. There were a variety of comments from these stakeholders. With regard to overall benefits of HCAHPS, several of the respondents with whom we spoke, including the major vendors, emphasized that they were in favor of public reporting of standardized measures and mentioned a number of potential benefits for consumers, purchasers and hospitals. Benefits to consumers centered on the support of consumer choice, and benefits to hospitals focused on quality improvement and uniform comparisons. With regard to overall limitations of HCAHPS, concerns about limitations were most often voiced by some (but not all) of the survey vendors with whom we spoke, and included such concerns as disrupting time series data and concern about impact on incentive structures. Regarding a longer vs. shorter survey, current vendor surveys have a variety of lengths, some from 35 to 90+ items. As noted above, one of the major hospital satisfaction survey vendors and four of the other organizations with whom we spoke felt that HCAHPS should remain a 27-item survey. In contrast, three of the four major survey vendors and one of the other organizations felt that HCAHPS should include no more than 6-10 items. With respect to integrating HCAHPS into existing vendor surveys, most vendors interviewed use a base questionnaire to which clients can add items. They tend to view HCAHPS as another set of items that could be added onto existing surveys, if the number of additional items were small enough. They are concerned about the ease of incorporating a longer HCAHPS instrument, however. Several of the vendors who objected to HCAHPS did not raise the topic of potential impacts on the survey vendor market. One, however, did raise this topic and felt that HCAHPS would result in a higher level of competition among vendors, but also an expansion in services around quality improvement.

## **Costs of HCAHPS**

Our methodology for developing HCAHPS cost estimates included reviewing the small number of existing cost studies, conducting interviews with several of the major hospital patient satisfaction vendors to discuss cost-related issues, and collecting cost estimates from other survey companies that may be able to collect HCAHPS data for hospitals. We also reviewed Federal Register comments related to HCAHPS costs, information available on the web sites of the major survey vendors, used information from a Medicare Payment Advisory Commission (MedPAC) report, and analyzed

Medicare Cost Report data. The cost estimates from survey companies that do not currently conduct hospital patient satisfaction surveys are important because they provide an external estimate of HCAHPS costs from organizations with no interest in the version of HCAHPS that is implemented by CMS.

The costs of collecting HCAHPS will vary across hospitals depending on the method that hospitals currently use to collect patient survey data, the number of patients surveyed, and whether it is possible to incorporate HCAHPS into their existing survey. While some hospitals may choose to administer HCAHPS as a separate stand-alone instrument, there are significant cost savings associated with combining HCAHPS with existing surveys, and hospitals will have a financial incentive to administer a single survey that includes both HCAHPS and information necessary to support quality improvement activities. Based on information from current hospital vendors and cost estimates received from a sample of survey companies who do not conduct patient satisfaction surveys, we estimate the costs of HCAHPS to be as follows<sup>5</sup>:

#### *Costs of HCAHPS administered as a separate survey*

Based on information from several major hospital survey vendors and other survey companies, we estimate that the costs of HCAHPS administered as a separate survey are as follows:

- Mail survey: \$10-\$15 per complete (\$3,000 - \$4,500 per hospital, assuming 300 completes)
- Phone survey: \$16.67 - \$20 per complete (\$5,000 - \$6,000 per hospital)
- Active interactive voice response (IVR): \$10 per complete (\$3,000 per hospital)

Given that most hospitals collect patient survey data using mail surveys, the average weighted costs of HCAHPS collected as a separate survey are estimated to be between \$11.00 and \$15.25 per complete (\$3,300 - \$4,575 per hospital), assuming that 80 percent of hospitals collect HCAHPS by mail and the remainder by phone or active interactive voice response (active IVR). Costs of a shorter (7-item) version of HCAHPS administered as a separate survey are estimated to be \$7.02 for a mail survey and \$11.25 for a phone survey, with a weighted average cost of \$7.87 per complete (\$2,361 per hospital).

#### *Costs of HCAHPS incorporated into existing surveys*

It would be considerably less expensive to combine HCAHPS with existing surveys. We estimate that it would cost only \$3.26 per complete (or \$978 per hospital) to incorporate the 27-item version of HCAHPS into existing surveys. This is based on the difference in costs for a 27 and 60 item survey. The estimated marginal cost of incorporating a shorter version of HCAHPS into existing surveys is between \$0 and \$2.03 per survey, or up to \$609 per hospital. This lower bound estimate is based on information from several major vendors that they could incorporate a shorter version of HCAHPS at no additional cost to hospitals. The upper bound estimate is based on the difference in costs for a 15 and 27 item survey, which allows us to estimate the marginal costs associated with adding 12 items to an existing survey.

#### *Annual costs of HCAHPS*

Depending on the proportion of hospitals that incorporate the 27-item version of HCAHPS into existing surveys, we estimate the costs of HCAHPS to be between \$4.1 and \$19.1 million per year. The annual costs of a shorter version of HCAHPS are estimated to be between \$2.5 and \$4.7 million if 75 percent of hospitals combine the shorter version with existing surveys, and between \$1.0 and \$3.6 million if 90 percent of hospitals combine it with existing surveys. In the context of overall hospital

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<sup>5</sup> Note that the cost estimates from other survey companies include data collection and submission costs.

expenditures, HCAHPS represents a small expenditure, but concerns about the financial impact of HCAHPS may be valid, given the negative Medicare margins currently being experienced by hospitals.

There appear to be significant savings associated with combining HCAHPS with existing surveys, and hospitals will have a financial incentive to combine HCAHPS with their existing surveys. Since some vendors have indicated that they are able to integrate HCAHPS with their patient satisfaction surveys, this may place competitive pressure on other companies to also offer integrated surveys to their clients. Potentially offsetting the cost efficiencies associated with combining HCAHPS with existing surveys are several statistical issues that have led to concerns about whether it is appropriate to combine HCAHPS with existing surveys. These include concerns about the impact of a longer survey on response rates, the impact of different response options used in HCAHPS and patient satisfaction surveys, and the impact of adding HCAHPS to the flow of patient surveys.

## **Should CMS Implement a Shorter Version of HCAHPS?**

Our analysis suggests that there are potential cost savings associated with reducing the length of HCAHPS, but the upper bound estimate of these potential savings is \$19.1 million per year (this upper bound estimate assumes that the shorter version of HCAHPS would be incorporated at zero cost). The actual savings are likely to be less, given that many hospitals are likely to incorporate HCAHPS into their existing surveys and some hospitals would likely incur data collection costs even with a shorter version. Our analysis suggests that cost concerns are not a sufficient reason for switching from the current version of HCAHPS to a shorter version.

This does not, however, mean that the 27-item version of HCAHPS is necessarily the most appropriate. This decision depends on a comparison of the marginal benefits and costs associated with the longer survey. We are not able to quantify the marginal benefits associated with the 27-item version of HCAHPS, and, as a result, it is not possible to reach a definitive conclusion about what version of HCAHPS CMS should adopt. There is insufficient information to know either that HCAHPS will lead to better choices and contribute to improved hospital quality of care or that it will not lead to improvements in these outcomes. What we can conclude with some level of confidence is that the marginal costs associated with a longer version of HCAHPS are likely to be relatively small, so if there is a reasonable basis for believing that the 27-item version of HCAHPS offers better information to consumers than a shorter alternative, there are good reasons for implementing the current 27-item version of HCAHPS.



# 1.0 Background

One of the goals of the Administration and HHS' Hospital Quality Initiative, launched in 2002, is to improve quality through accountability and public disclosure and to "empower consumers with quality of care information to make more informed decisions about their health care, and encourage providers and clinicians to improve the quality of health care...."<sup>6</sup> As part of this initiative, the Centers for Medicare & Medicaid Services (CMS) has developed the Hospital CAHPS (HCAHPS) survey, which collects uniform measures of patient perspectives on various aspects of their inpatient care, using a standardized survey instrument and data collection methodology. Information collected through HCAHPS will be publicly reported, with voluntary participation in HCAHPS guided by the Hospital Quality Alliance. The first national implementation of HCAHPS is planned for 2006. Results will be publicly reported on the CMS Hospital Compare website. In summary, the key objectives of public reporting of HCAHPS are to support consumer choice, encourage provider accountability, and create patient perspective-driven performance incentives.

CMS has indicated that the intent of HCAHPS is to provide a standardized survey instrument and data collection methodology for measuring patients' perspectives on hospital care. Currently, there is no source of comparable information of this type. While many hospitals collect such information there is no standard approach that enables valid comparisons. CMS has noted that "HCAHPS is meant to complement the data hospitals currently collect to support improvements in internal customer services and quality related activities."<sup>7</sup> To develop HCAHPS, CMS partnered with the Agency for Healthcare Research and Quality (AHRQ) through a comprehensive process to ensure that the survey would produce credible and useful information. Multiple methods were used in the design, development and refinement process, including: literature reviews, cognitive interviews, consumer focus groups, consumer testing, stakeholder input, input from public comments, a three-state pilot test, and small-scale field tests. In May 2005, the National Quality Forum (NQF) endorsed a 27-item HCAHPS survey.<sup>8</sup> An NQF press release indicated that this endorsement represents the consensus of healthcare providers, consumer groups, professional associations, purchasers, federal agencies, and research and quality organizations.<sup>9</sup>

The HCAHPS initiative parallels the trend in both the federal and some state governments to make hospital performance information (generally clinical processes or outcomes of care) publicly available.<sup>10</sup> Several goals have driven the HCAHPS survey. First, the survey is designed to produce comparable data on the patient's perspective on care to allow objective and meaningful comparisons between hospitals on domains that are important to consumer decision-making. The survey results are to be publicly reported to create incentives for hospitals to improve their quality of care. The intent of this public reporting is to enhance public accountability by providers by increasing the transparency of the quality of hospital care provided in return for the public investment.<sup>11</sup> To date, reports of

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<sup>6</sup> Hospital Quality Initiative Overview Centers For Medicare & Medicaid Services, March 2005.  
<http://www.cms.hhs.gov/quality/hospital/overview.pdf>

<sup>7</sup> <http://www.cms.hhs.gov/quality/hospital/HCAHPSFactSheet.pdf>

<sup>8</sup> A copy of the 27-item HCAHPS survey is located at <http://www.cms.hhs.gov/quality/hospital/Survey2.pdf>

<sup>9</sup> <http://www.qualityforum.org/news/prHCAHPS5-13-05FINAL.pdf>

<sup>10</sup> Quality Indicators for Consumers' Use in Selecting Hospitals, January 2004, Miami Center for Patient Safety, University of Miami,  
<http://anesthesiology.med.miami.edu/Library/MPSC%20docs/MPSC%20docs/Reports.html> (referred to below as 'Florida study cited above')

<sup>11</sup> Hospital CAHPS (HCAHPS) Centers For Medicare & Medicaid Services and Agency For Healthcare Research And Quality Fact Sheet, June 22, 2005  
<http://www.cms.hhs.gov/quality/hospital/HCAHPSFactSheet.pdf>

patient perspectives on care (or any type of patient satisfaction) have been disseminated to the public less frequently than reports on other aspects of care, such as clinical processes of care or clinical outcomes. This is an important CMS priority, as indicated by the agency's support for programs related to the Institute of Medicine's (IOM) call for public reporting, the Hospital Quality Initiative (HQI) and the Hospital Quality Alliance (HQA), a public-private hospital measurement and reporting collaborative<sup>12</sup>.

HCAHPS fits into the larger context of performance reporting for quality improvement developed by the Strategic Framework Board of the NQF.<sup>13</sup> This framework is a market or "value-based" health care purchasing approach which, while in its infancy in the health care context, is based on the assumption that consumers take value (both cost and quality) into account in any major purchasing decision. This framework<sup>14</sup> consists of two pathways, each of which represents actions facilitated by the availability of performance information:

- One pathway illustrates *consumer choice* of providers based on their obtaining knowledge of the performance of those providers. Knowledge of performance by consumers, patients, purchasers, regulators, contractors, and referring clinicians contributes to the ability of these stakeholders to make value-based choices using knowledge of the market.
- The other pathway illustrates change (quality improvement) by *providers* (organizations, care delivery teams, and practitioners) motivated by knowledge of provider performance. Knowledge and benchmarking of processes and results create incentives for health care organizations, care delivery teams, and practitioners to improve their performance (quality).

In summary, along with public reporting of clinical performance, public reporting of the information on patient perspectives on care contained in HCAHPS is key to CMS' value-based healthcare purchasing approach.

In this report we provide an analysis of potential benefits resulting from public reporting of the information that will result from general, voluntary use of the HCAHPS instrument.

Public reporting of healthcare information potentially can impact a variety of stakeholders. The NQF model includes stakeholders such as consumers/patients, healthcare providers, purchasers (including government), regulators (e.g., government), contractors, and referring clinicians. Not surprisingly, large individual corporate purchasers and purchasing groups have taken great interest in public reporting of performance information (e.g., HEDIS<sup>®</sup>), since the use of such reports has the potential to affect the cost of their employees' health insurance. Similarly, referring clinicians and any entities contracting with hospitals are potential report users. Public reports could also be used by managed care organizations, which have already begun to offer web-based reports to website visitors. Medicare has, through its Hospital Compare<sup>15</sup> website, been reporting comparative information for consumers, as have various states<sup>16</sup>. Finally, the popular media are also stakeholders in the reporting process in that they are vehicles for conveying the information.

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<sup>12</sup> Hospital Quality Initiative Overview, Centers For Medicare & Medicaid Services, March 2005

<sup>13</sup> The National Quality Forum, "A National Framework for Healthcare Quality Measurement and Reporting: A Consensus Report."

<sup>14</sup> Conceptual Framework for a National Quality Measurement and Reporting System, the Strategic Framework Board, October 3, 2001. <http://www.iom.edu/Object.File/Master/11/405/0.ppt>

<sup>15</sup> Hospital Compare, <http://www.hospitalcompare.hhs.gov/>

<sup>16</sup> Review of Hospital Quality Reports for Health Care Consumers, Purchasers and Providers, IPRO, [http://company.ipro.org/dox/legFINAL10\\_14\\_03R.pdf](http://company.ipro.org/dox/legFINAL10_14_03R.pdf)

HCAHPS has been endorsed by the NQF; this analysis is intended to help decide the ultimate length of the instrument. The 27-item version of HCAHPS contains items (questions) covering seven domains of patient perspectives on care: nurse communication, responsiveness of staff, doctor communication, cleanliness and quiet of the physical environment, pain control, communication about medicines, and discharge information. It also asks respondents to rate the overall quality of the hospital's care, and whether they would recommend the hospital to others.

CMS contracted with Abt Associates Inc. to conduct a quick turnaround study that would examine potential benefits and estimate the costs to hospitals of the existing 27-item version of HCAHPS in contrast to the costs of a shorter version of the survey instrument that some patient satisfaction vendors and hospitals have recommended. To conduct this analysis, Abt implemented a limited review of available literature, websites, and other relevant documents, talked with internal experts and some stakeholders (including two hospitals that had participated in the HCAHPS pilot, two purchasing organizations, and four of the major hospital survey vendors), and collected cost estimates from several survey firms.

## 2.0 Benefits

The goal of this section of this report is to detail the potential benefits of HCAHPS. There are many more published and other studies of the impact of clinical performance reporting than there are studies that address reporting patients' perspectives on care. It is important to note the distinction between publicly reported clinical measures (such as mortality rates for angioplasty at certain hospitals) and non-clinical measures (such as whether a patient reported receiving adequate nursing care). Not only is public reporting of clinical measures more widespread than reporting of non-clinical measures such as HCAHPS, but the differences between the two types of measures means that conclusions about the use and effect of publicly reported patient perspectives measures cannot be directly inferred from studies about the use and effect of publicly reported clinical measures. At the same time, the best proxies we currently have are such studies of publicly reported clinical performance, so we include both types of studies in this analysis. It should also be noted that the literature review on which much of the following was based was not exhaustive, but rather was designed to rapidly identify the most relevant publications.

### 2.1 Objectives

In order to enumerate the potential benefits of HCAHPS, it is important to define an analytic framework to guide our considerations. In this section we define “benefit” and clarify the objectives of our analysis.

A *benefit* “... aids or promotes well-being...”<sup>17</sup> Our focus in this report is on benefits—in terms of improved service quality and financial performance—that will hypothetically accrue from public reporting of patients' perspectives on care. The following is an overview of the methodology for the benefits portion of this study. To conduct this analysis, we conducted a limited review of material related to patient satisfaction surveys, and to public reporting of clinical and non-clinical measures. We also: conducted interviews with key stakeholders such as hospitals, hospital-satisfaction survey vendors, and purchasers; spoke with researchers of two HCAHPS-related studies; and performed Internet research to identify relevant legislative documents. Finally, we drew from a relevant previous study “Potential for Implementation of Hospital Quality Indicators for Florida,” a report jointly written by the University of Miami Center for Patient Safety and Abt Associates Inc.<sup>18</sup> That work involved focus groups and research about patient perspectives and expectations for clinical performance reports on hospital care.

### 2.2 An Analytic Framework for Conceptualizing Benefits

As described above, HCAHPS fits into the larger context of market-based, value-driven performance-reporting for quality improvement developed by the NQF. Both “pathways” described by that framework provide potential benefits to consumers and to providers through the availability of performance information. Consumers and other stakeholders benefit by obtaining increased value, while providers benefit by using performance information to improve quality.

CMS selected the domains for inclusion in HCAHPS through a systematic and rigorous process. The domains emerged from empirical analysis of the pilot study data. To maximize the benefits that HCAHPS would provide, ten focus groups were convened in an AHRQ study to provide feedback on whether information in a particular domain was something participants must have in making a choice between hospitals. All focus group participants had recently been hospitalized or had a close loved

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<sup>17</sup> WordNet: a lexical database for the English language, <http://wordnet.princeton.edu/>

<sup>18</sup> University of Miami, 2004.

one hospitalized. The domains were: communication with doctors, communication with nurses, communication about medicines, pain control, discharge information, cleanliness and quiet of environment, and responsiveness of hospital staff. These domains were designed to provide information to consumers and to create incentives through public reporting for hospitals to improve performance (quality of care). Five of these HCAHPS domains correspond to NQF priority areas. Domains regarding communication with doctors, communication with nurses, and communication about medicines correspond to the NQF priority area “care coordination and communication”. The domain of pain control corresponds to the NQF priority area “pain management”, and the domain of discharge information corresponds to the NQF priority area of “self management/health literacy”.

Analysis of the resulting data found that “with the exception of the domain ‘discharge information,’ at least 80 percent of participants indicated that they must have information about each of the original domains. This suggests that consumers find information on each domain important.”<sup>19</sup>

In the same focus group study, participants were asked to choose their *two* most important topics. While no two topics were clearly most important, following was the ordering (and percent of focus group members) saying the domains were among the top two domains about which they want information: communication with doctors (39%); responsiveness of hospital staff (35%); cleanliness and quiet of the physical environment (34%); communication with nurses (32%); pain control (7%); communication about medications (7%); discharge information (7%).

The typical cost-benefit analysis collects quantitative information about costs and weighs that information against quantitative information about benefits. Our approach to assessing benefits is necessarily different. It is possible to review individual items from the HCAHPS instrument and speculate about their potential to generate quantifiable benefits (see below). It is difficult to find research on actual benefits of *public reporting*, however. There are several reasons for this dilemma. First, public reporting of any type of healthcare process and outcomes data is at a relatively early stage. It is challenging to implement rigorous research designs that directly address the question of how public reporting of patient perspectives on care affects consumers or providers. A 2001 review article concluded that the field has many research gaps, with relatively few sophisticated research designs.<sup>20</sup> Some articles suggest that patient experiences are related to treatment adherence, malpractice claims, and to health and functional status.<sup>21</sup> While related and quite important, these types of quantitative studies do not address the objective of this report, namely, the impact of public reporting on provider performance (from the perspectives of patients) and consumer behavior. The report by Hibbard et al. discussed below would be a good model study for this topic if it focused on patient perspectives on care rather than on clinical performance.<sup>22</sup>

In many settings, benefits are quantifiable. For example, use of safety belts in cars can be translated into lives saved and injuries avoided. A value can be placed on these quantifiable benefits, and this

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<sup>19</sup> Sofaer, S, Crofton, C, Hoy, et al. What Do Consumers Want to Know About the Quality of Care Delivered in Hospitals? A Report On Sixteen Focus Groups, Report to CMS, October 15, 2004.

<sup>20</sup> Schauffler, HH and JK Mordavsky. 2001. Consumer Reports in Health Care: Do They Make a Difference? *Annual review of public health* 22: 69-89.

<sup>21</sup> e.g. Guldvog B.; Can Patient Satisfaction Improve Health Among Patients with Angina Pectoris? *Int J Qual Health Care*. 1999 Jun;11(3):233-40; Marshall, Hays, Mazel; Health Status and Satisfaction with Health Care: Results from the Medical Outcomes Study. 1996.; Brown, 2001; Maly RC, Bourque LB, Engelhardt RF. A Randomized Controlled Trial of Facilitating Information Giving to Patients with Chronic Medical Conditions: Effects on Outcomes of Care; *J Consult Clin Psychol*. 1996 Apr;64(2):380-90; Stewart M, Brown JB, Donner A, et al., The Impact of Patient-Centered Care on Outcomes. *J Fam Pract*. Sep;49(9):796-804.) 2000.

<sup>22</sup> Hibbard, JH, J Stockard and M Tusler. 2005. Hospital Performance Reports: Impact on Quality, Market Share, and Reputation, *Health Affairs* 24(4) 1150-1160.

value weighed against the cost of implementing this feature. Quantifying the benefits of publicly reporting HCAHPS-type data, while theoretically possible, would require data that are largely unavailable. While some data have been published about the impact of public reporting of patient reports of satisfaction with care, such evidence is a combination of qualitative and anecdotal research. The quantitative benefits of HCAHPS could be calculated accurately only by means of a public reporting demonstration project and evaluation that directly estimated the benefits of HCAHPS. A *qualitative* description of the benefits is possible, however.

In what follows, we begin with a hypothetical consideration of the potential benefits resulting from the use and reporting of HCAHPS. We then examine the research on the potential impact of public reporting of patient perspectives on care. This is followed by an examination of research on the impact of public reporting of patient perspectives and clinical performance on several stakeholder groups including consumers, hospitals, and physicians. Interviews with representative stakeholders are also included.

## 2.3 Hypothetical Benefits Resulting From Use of HCAHPS

Some potential benefits of publicly reporting patient perspectives/satisfaction have been described in the literature. Those receiving these benefits include consumers, providers, and purchasers. Aside from anecdotal accounts, few studies have rigorously demonstrated such benefits; likewise, no studies have rigorously demonstrated that benefits do *not* accrue from such reporting. Here we describe examples of *potential* benefits that *could* accrue to various stakeholders.

In May 2005, Abt Associates convened an internal expert panel of researchers in order to brainstorm potential benefits of HCAHPS. Possible hypothetical benefits of HCAHPS included:

Consumers could:

- Incorporate HCAHPS information into their decision-making about hospital choices.
- Find that the information increased hospitals' accountability.
- Benefit from better care resulting from the questions asked by HCAHPS, such as questions about communication with providers (fewer medical errors due to patient feedback about medication effect) and discharge planning (fewer re-admissions due to better patient awareness about what to expect when discharged).

Providers could:

- Be motivated, because consumers are using HCAHPS in the ways outlined above, to improve the quality of care they provide, resulting in more effective and efficient hospital operation. (If HCAHPS were used to create a national benchmark of patients' perspectives on hospitals' quality of care, then hospitals could use that benchmark to gauge their standing. Furthermore, the identification of top-performing hospitals in key domains of quality of care could lead to sharing of "best practices" for all hospitals to emulate.)
- Use the information internally to improve communication and therefore improve performance.
- Use the information to justify the need to increase staffing ratios.
- Use the measures in choices about practitioner practice locales.
- Compete with one another in the area of improving accreditation results.

- Be motivated to improve their relative and absolute ratings on patient perspectives on care, to avoid unflattering public comparisons with their competitors.
- Use the information to choose hospitals on the basis of quality of care for their patients.

Purchasers could benefit from:

- Shorter lengths of stay.
- Availability of benchmarks.
- Spillover effects (residency choice, tying compensation to performance).
- Availability of information to support purchasing decisions.

HCAHPS is a public good from which consumers, potential hospital patients, hospitals, and healthcare systems could all benefit. Other stakeholders include:

- Organizations that interact with hospitals and on whom hospitals depend. These organizations could monitor HCAHPS reports and show preference for hospitals that were more highly rated, or showed signs of improving.
- Geographic areas could benefit from the improved reputations of local hospitals.
- In providing comparative data and national benchmarks, HCAHPS could provide the impetus for the healthcare quality improvement industry to produce new and better tools for assessing, comparing, and improving hospital quality of care. The industry could also see the hospital marketplace transformed.

Next, we focus specifically on the HCAHPS instrument itself and consider *quantifiable* benefits that might uniquely accrue from its use. Here, we discuss items on the HCAHPS instrument that may have a *plausible* link to measurable health outcomes benefits. Several HCAHPS questions do, in theory, directly lend themselves to quantitative analysis of benefits. For example, improvements in patient-physician or patient-nurse communication (motivated by public reporting of relevant items) could result in shorter hospital stays. Consider the following HCAHPS item (#16):

- *Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?*

Consider the following causal chain: Better communication between hospital staff and patients may decrease the frequency of medication errors. A better-informed patient may be more apt to report an unexpected response to a new medication. A hospital with a higher proportion of patients reporting that staff had told them what a new medication was for might, in theory, have a lower proportion of those types of medical errors that are mitigated by patient feedback than a hospital with a lower proportion. Increased admissions to this hospital could result in a smaller proportion of such medical errors at that hospital, because larger numbers of patients would be exposed to improved communication practices among hospital staff and patients. In addition to better quality of life, a decrease in the number of medication errors could result in several measurable benefits, such as reduced morbidity and mortality, and the corresponding financial benefits associated with these improved health outcomes.

More attention to and preparation for patient discharge (motivated by public reporting of relevant items) could result in better discharge preparation, more appropriate post-hospital care, quicker recovery time, and fewer re-admissions to hospitals. Consider another HCAHPS item (#20):

- *During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?*

Providing patients with information in writing about what to watch for after discharge could decrease the frequency of readmissions, with patients empowered to seek outpatient treatment proactively. A hospital with a higher proportion of patients reporting that staff have provided adequate discharge information could result in a smaller proportion of patients likely to be re-admitted (to the same or another hospital) than a hospital that had not provided adequate discharge information. Public reporting of this information could lead to a higher market share for this hospital, and possibly a higher volume of patients. Ultimately, if more patients receive care at a facility that provides good discharge instructions, the number of avoidable re-admissions associated with inadequate discharge information may decrease. Finally, as with the previous example, fewer avoidable readmissions would result in the measurable financial and other benefits associated with less inpatient care.

These two scenarios illustrate how public reporting of HCAHPS results could plausibly lead to quantifiable benefits. The following list, while not exhaustive, shows other HCAHPS items for which there is a plausible connection between public reporting and a hypothetical quantifiable benefit resulting from that reporting.

- (2)<sup>23</sup> *During this hospital stay, how often did nurses listen carefully to you?* (If physician decision-making is improved by access to accurate patient-provided information, physicians' performance could be enhanced if they were to use the information provided to nurses.)
- (3) *During this hospital stay, how often did nurses explain things in a way you could understand?* (If patient compliance with, for example, medication instructions is correlated with better understanding, and if better compliance affects outcomes, better patient understanding could enhance outcomes.)
- (6) *During this hospital stay, how often did doctors listen carefully to you?* (If physician decision-making is improved by access to accurate patient-provided information, performance could be enhanced if physicians were to use the information the patients provide.)
- (7) *During this hospital stay, how often did doctors explain things in a way you could understand?* (If compliance is correlated with better understanding and if better compliance affects outcomes, better patient understanding could enhance outcomes.)
- (8) *During this hospital stay, how often were your room and bathroom kept clean?* (If there is a connection between room cleanliness and bacteria on surfaces, nosocomial infections could be decreased and patient safety enhanced.)
- Greater attention to patient needs (motivated by public reporting of relevant items) could induce quicker and fuller patient recovery, and speedier discharge from hospital.
- Public reporting of "*Overall Rating of Hospital*" could help steer consumers to higher-rated hospitals and influence organizations that deal directly with hospitals to direct resources to higher-rated hospitals.

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<sup>23</sup> Numbers in parentheses refer to item number on the 27-item HCAHPS questionnaire.



## 2.4 Literature on the Impact of Public Reporting

As described above, the NQF framework implies that public reporting of hospital performance should facilitate decision-making by a variety of stakeholder groups. It is important to recognize that this field is in its infancy. The analysis of public reporting is a field where it is difficult or impossible to test impacts using randomized designs. Thus, there are relatively few studies that permit inferences about the impact of HCAHPS on consumers or hospitals.

Given the data that are available, the evidence with respect to the impact of public performance reporting (either clinical performance or patient reports on care) is mixed with regard to consumer impact. Based on focus group evidence, there is an indication that consumers want patient perspectives on care ratings, but researchers are only in the early stages of understanding whether and how consumers will use these ratings. There is evidence that how results are presented can determine whether they are understood and used, and the fact that public reporting is in its very early stages suggests that more research in this area may be beneficial.

There is more consistent evidence of an impact of public reporting of performance data on hospitals. There are multiple reports of hospitals being motivated by these data and using them for improvement. Not only is there more consistent evidence regarding hospital impact, but there are also some well-designed studies that have found at least some impact on clinical performance. There was one study that reported an impact on patient satisfaction. Evidence regarding impact on physicians is less supportive, although again, time and credibility of the data may lead to more impact.

In the following we examine some published work on the impact of public reporting.

### 2.4.1 Consumer Impact of Public Reporting of Patient Perspectives on Hospital Care

As described above, the NQF framework implies that public reporting of hospital performance should facilitate decision-making by consumers/patients. The assumption is that, as for any purchase, not only cost but also awareness of the quality of the product should influence the purchasing decision. Quality is, of course, multi-dimensional, including clinical performance as well as patient perspectives. Our interest in this section is mostly about public reporting of information about patient perspectives on care. We discuss the relatively sparse literature available on the impact of public reporting in this area.

Based on focus group evidence, there is an indication that consumers want patient perspectives on care ratings. Evidence about how consumers choose hospitals is unclear, however, but some studies have indicated that public reporting has positive indirect effects. As mentioned previously, for reports about both clinical performance and patient perspectives on care, experience with the types of information to include and the format in which to present it is limited. This suggests that time may be needed before the “intervention” (public reporting) may be expected to have substantial impact and lead to value-based purchasing.

A report jointly produced by Abt Associates and the University of Miami Center for Patient Safety described a number of reporting initiatives for federal public hospital performance. It stated that “in recent years, many states have been undertaking efforts to report hospital quality information in an effort to support consumer decision-making and provider improvement.”<sup>24</sup> States that have introduced public reporting of hospital quality indicators include California, Connecticut, Illinois, Maryland, Michigan, Missouri, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island, Texas, and Virginia. The report describes additional initiatives in the private sector by employers and

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<sup>24</sup> University of Miami, 2004.

purchaser groups. Most of the states mentioned above have reported hospital *clinical* quality indicators, in contrast to patient reports of care.

A Voluntary Hospital Association study of consumers with recent experience with the health care system found that if consumers had to choose, they would choose clinical quality over service quality. The study noted that consumer interest in quality indicators and decision making has increased due to the increased interactions of baby boomers with the health care system (either for themselves or to aid aging parents), increased use of information in general, the Internet's expansion of access to information, and the public's increased awareness of medical errors.<sup>25</sup>

There is some evidence that consumers do place importance on patient care aspects of their healthcare experience (in addition to finding clinical issues significant). Focus groups of Rhode Island consumers prioritized the following aspects of their care: they wanted to be attended to with respect; desired easy access to care without inconveniences (long waits, insurance issues, paperwork and communication breakdowns); and preferred to have information conveyed in an understandable and timely manner.<sup>26</sup> Although the Rhode Island study also found that consumers do voice more interest in treatment success rates (38%) than in patient satisfaction (27%), there was still significant interest in the patient experience. In fact, respondents ranked staff experience, credentials, and expertise (23%) and areas of specialization (22%) lower than patient satisfaction as important items they would like to see included in quality reports. These consumers expressed great interest overall in hospital rankings; 84% indicated that they would be interested in having more information on the quality of hospitals in Rhode Island.<sup>27</sup>

A 2004 HealthShare Technology report suggested that survey respondents were primarily concerned with the quality of clinical care offered by hospitals, although patient satisfaction was also highly ranked. Among all survey respondents, patient satisfaction was important for 79% of respondents, nearly the same percentage as those who ranked as important the issue of whether the hospital had high complication rates. Of the 11% of survey respondents who sought hospital quality information, "the two most important factors, selected by 88% of hospital quality seekers, were whether the hospital had a high complication rate and whether its patients were satisfied with the care they received. To provide some perspective on the importance of patient satisfaction, 83% of respondents were concerned about the number of patients treated for a given condition."<sup>28</sup>

Hibbard notes that performance information is critical to how consumers evaluate the information, and that this can specifically apply to patient satisfaction.<sup>29</sup> In the Florida study, consumers indicated that they liked the patient satisfaction measures and they "...might use them to help make decisions about hospital choice, particularly if they were combined with outcomes measures." Some focus group members thought these measures became "... more meaningful to them than outcome measures since they believed that 'deaths may not be the hospital's fault'." In addition, some consumers were

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<sup>25</sup> Voluntary Hospital Association Inc. 2000. *Consumer Demand for Clinical Quality: the Giant Awakens*. Research Series, Volume 3

<sup>26</sup> Rhode Island Department of Health, Health Care Quality Steering Committee. 1999. *Quality Hospital Care: What Does it Mean? The Results of Surveys and Focus Groups With Consumers and Health Professionals in Rhode Island*. Providence, RI.

<sup>27</sup> Rhode Island Department of Health, Health Care Quality Steering Committee. 1999.

<sup>28</sup> *Hospital Quality Comparisons are Beginning to Influence consumer Choice and Behavior*. [http://www.selectqualitycare.com/PDF/HealthShare\\_Annual\\_Consumer\\_Study.pdf](http://www.selectqualitycare.com/PDF/HealthShare_Annual_Consumer_Study.pdf), HealthShare Technology. (2004).

<sup>29</sup> Hibbard JH, P Slovic, E Peters, and ML Finucane. Strategies for Reporting Health Plan Performance Information to Consumers: Evidence from Controlled Studies. *Health Services Research*. 2002: 37; 291-313.

skeptical about the ultimate value of the information they might glean from patient satisfaction surveys. They cited uncertainties about the sources of information, the comparison groups against which the data would be compared, how the data was collected, the motivations of consumers completing the surveys, and the timing of administration of the survey itself.<sup>30</sup> In Florida, patients thought that satisfaction measures could be especially useful for newcomers to an area, who would not have prior experience and might have limited access to word-of-mouth recommendations, which a standardized survey like HCAHPS could address.<sup>31</sup>

The University of Miami/Abt study drew conclusions relevant to how consumers perceive and use information on hospital quality. The important findings highlight how consumers use publicly available data and what aspects of the data they find most valuable. First, “Some consumers tend to perceive hospital quality in terms of process measures. These measures include reasonable waiting times, being treated with respect, and being provided with information and communication.” Patients tend to prioritize aspects of treatment rather than outcomes measures. Second, “consumers use process measures as a proxy for outcome measures, partly because selecting a hospital is a complex process.” Since “Evaluating technical data is difficult, especially when the data are not presented in an informative manner... consumers tend to rely more on non-clinical data when assessing hospital quality.” Most participants felt that quality varied among hospitals. They seemed to consider quality when choosing a hospital, but did not tend to discuss it in clinical terms. Some participants discussed quality “in terms that essentially reflected an overall customer service rating, talking about their previous experience with the hospital, and explaining whether the experience was a positive or negative one (described in terms of customer service—not outcomes) and how that experience would determine whether they used that hospital again. Still other participants mentioned specific customer service attributes such as the responsiveness of nurses, friendliness of staff, and cleanliness.”<sup>32</sup>

The initial California Quality Initiative Patients’ Evaluation of Performance in California (PEP-C) was a large survey of over 21,000 patients about their experiences in 113 hospitals. The survey was repeated in 2003-2004, and the results for 36,000 patients are posted on the group’s website (<http://www.calhospitals.org>). The organization that conducted this survey believes that “... people who are active and healthy are not highly motivated to dig deeply into issues about medical care, but ‘teachable moments’ (a first pregnancy or a serious diagnosis) provoke intense informationseeking behavior. ...”<sup>33</sup>

Finally, Marshall et al. (2000)<sup>34</sup> conducted a systematic review of the literature on public reporting. The authors stated that at that time there was insufficient evidence that consumers or purchasers either “search out, understand, or use” the reports available, although they advised involving consumer advocates and interest groups as targets of public reporting. They also concluded that, while physicians are not likely to be prominent users of the information, hospitals are likely to use it. Note that Marshall et al. identified three reporting initiatives that involved patient perspectives on care; in

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<sup>30</sup> It should be noted that it was just such consumer uncertainties about surveys that HCAHPS was designed to mitigate.

<sup>31</sup> University of Miami, 2004.

<sup>32</sup> University of Miami, 2004.

<sup>33</sup> Monroe, A. (2002). Consumer Involvement—A Vital Piece of the Quality Quilt: the California HealthCare Foundation’s Strategy for Engaging California Consumers. *Quality and Safety in Health Care* 11(2), 181-5.

<sup>34</sup> Marshall, M. N., Shekelle, P. G., Leatherman, S., and Brook, R. H. The Public Release of Performance Data, *JAMA*, 283(14) 1866-1874, 2000.

one of these (Missouri Department of Public Health<sup>35</sup>), the authors reported that patient satisfaction improved after publication.

#### **2.4.2 Consumer Impact of Public Reporting of Any Type of Hospital Performance Information**

Again, the NQF framework implies that public reporting of hospital performance should facilitate value-based decision-making. In this section we expand our focus beyond just public reporting of patient perspectives on care to include report cards in general --- including those highlighting clinical performance.

Research indicates that patients have expressed interest in information about hospital quality. Two surveys conducted in 1996<sup>36</sup> and 2000<sup>37</sup> provide some indication that the proportion of consumers interested in obtaining information on hospital quality is growing. The later survey found an increase in the percentage of people who felt that there were large differences in the quality of health care among hospitals (47%, compared to 38% of respondents to the 1996 survey), and a decrease in the proportion of people who are likely to choose hospitals based mainly on familiarity rather than on high ratings. A majority (62%), though, indicated that they would choose a hospital that was familiar over one that had been highly rated. A majority of respondents (85%) felt that information comparing quality would be useful to someone making a decision about hospitals. While a majority (73%) felt they had enough information to make the right hospital choice, few (4%) had used quality information for selecting a hospital and only about 15% had seen comparative quality information about hospitals.

An IPRO 2003 review of all types of hospital quality report cards was dismissive of public reporting of hospital quality data, stating, “There is no evidence in the peer-reviewed literature that hospital report cards alone drive market share. Even in areas with long-standing reporting programs...reports have had little effect on where patients receive inpatient care.”<sup>38</sup> Similarly, the previously cited Rhode Island study found that consumers tend to choose a hospital based on word of mouth or the recommendation of a physician. When Rhode Island study participants were asked to pretend that they had a scheduled a trip to a hospital where there had been recent “treatment mishaps,” 53% of the respondents said that they would not change their hospital plans, while only 21% reported that they would switch. When given a scenario in which they were told that the hospital had a reputation for poor personal care, 51% of the respondents said that they would not change their hospital plans and 30% said that they would.<sup>39</sup>

When the Health Care Financing Administration (HCFA; currently CMS) released mortality rates for community hospitals from 1986 through 1992, the reports included actual and expected mortality rates for each hospital, which generated media attention such as newspaper articles that contained a list of the hospitals that were far above the expected mortality rate. Despite the public attention, a study of the impacts of the published mortality data showed no large effects on consumer use of

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<sup>35</sup> Longo DR, G Land and W Schramm. Consumer Reports in Health Care: Do they Make a Difference in Patient Care? 1997;287: 1579-1584

<sup>36</sup> Kaiser Family Foundation and Agency for Health Care Policy and Research. Americans as Health Care Consumers: The Role of Quality Information. Conducted by Princeton Survey Research Associates, October 1996.

<sup>37</sup> “National Survey on Americans as Health Care Consumers: An Update on the Role of Quality Information – Highlights and Chartpack” December 2000 Kaiser Family Foundation website.

<sup>38</sup> 2003 Review of Hospital Quality Reports for Health Care Consumers, Purchasers and Providers, page vii, <http://www.ipro.org/>

<sup>39</sup> Rhode Island Department of Health, Health Care Quality Steering Committee, 1999.

hospitals. The study found that release of mortality data had only a small statistical effect on the number of discharges: a hospital with an actual mortality rate that was twice as high as the expected rate only averaged one fewer discharge a year after the ratings had been published. The study did, however, find large and statistically significant effects of press reports of untoward deaths in hospitals (e.g., an article about a patient fall leading to death). Media coverage of such errors did appear to cause a large (9%) decrease in discharges.<sup>40</sup>

Marshall et al., too, have concluded that when hospital quality information is made available to consumers through public reporting, the presence of increased data in the public sphere so far has a limited impact on ultimate consumer decision-making, and that public disclosure has only a small, although possibly increasing, effect on purchasing behavior. In a literature review of seven reporting systems, Marshall et al. concluded that there is growing evidence that consumers want information and are able to identify the content and format of information that is of greatest use to them (although, as mentioned above, the use of this information for decision-making is limited).<sup>41</sup> In the University of Miami/Abt study, a majority of the focus group participants favored public reporting and made analogies to report card-type information in other industries.<sup>42</sup>

Marshall et al. suggest that consumers may lack interest in empirical evidence because they have difficulty understanding, are uninterested in the nature of the presented information, lack trust in data, do not have timely access to information, or perceive that they have a lack of choice.<sup>43</sup> Work by Monroe suggested that consumers are interested in information about treatment guidelines, expert ratings, and consumer surveys, and would most likely use this information in addition to information from trusted sources.<sup>44</sup> A Kaiser/AHRQ survey suggested that, when choosing a physician, consumers regard family, friends, and physicians as very believable sources about quality of care and that they place less trust in independent evaluating organizations, employers, and government agencies. They report that data collected and reported by an unbiased third party are preferred to data reported by HMOs.<sup>45</sup> This is supported by the finding that over half of consumers would choose a hospital that had been highly recommended by family and friends over one that had a higher rating.<sup>46</sup>

Although there is some evidence that consumers may want hospital performance information, current use of hospital performance measures appears low. Hibbard has suggested “people aren’t used to having this information so they don’t think to use it.”<sup>47</sup> Schneider and Lieberman suggest that “efforts to measure and report information about quality should remain public, but may be most effective if they are targeted to the needs of institutional and individual providers of care [rather than to the needs of consumers],” which is in agreement with Marshall’s findings cited above.<sup>48</sup>

It is possible that publicly reported healthcare data could benefit consumers in multiple ways, for example, by improving hospital quality. Even consumers indicated that the primary purpose of

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<sup>40</sup> Mennemeyer ST, MA Morrisey and LZ Howard. Death and Reputation: How Consumers Acted Upon HCFA Mortality Information. *Inquiry*. 1997; 34: 117-128.

<sup>41</sup> Marshall, M. N., Shekelle, P. G., Leatherman, S., and Brook, R. H., 2000.

<sup>42</sup> University of Miami, 2004.

<sup>43</sup> Marshall, M. N., Shekelle, P. G., Leatherman, S., and Brook, R. H., 2000.

<sup>44</sup> Monroe, A., 2002.

<sup>45</sup> Kaiser Family Foundation and Agency for Health Care Policy and Research, 1996.

<sup>46</sup> Kaiser Family Foundation, 2000.

<sup>47</sup> Hibbard as quoted in Consumer Reports January 2003 “Hospitals: Your Right to Know”.

<sup>48</sup> Schneider E.C. Lieberman T. Publicly Disclosed Information about the Quality of Health Care: Response of the US Public *Quality in Health Care* 2001;10:96-103

publicly reported quality indicator data might not be to inform consumer decision-making. According to focus group findings in Florida, consumers reported favorable views of public reporting not necessarily for making health care choices but as a tool for hospital monitoring and quality improvement.<sup>49</sup>

Marshall et al. theorize that consumers claim to want information because they are “fed up” with professional protectionism and secrecy in health care --- not because they want to use publicly reported results to make health care decisions.<sup>50</sup> Monroe stresses the importance of consumers’ ability to find quality information, and the collaboration and creativity of trusted community organizations that are required to adequately disseminate information.<sup>51</sup> However, the task of accessing and processing all available information is so complex that consumers may tend not to use quality-related data when it is available, even though they increasingly say they want more provider information.<sup>52</sup> A summary of a National Forum on Public Reporting of Hospital Performance Data concurred, concluding, “There is little evidence that consumers are using public reports to choose a provider.”<sup>53</sup> Hibbard and Peters have suggested that contradictory information about hospitals (e.g., good performance in one area but poor performance in an area where one would expect positive correlation) challenges the consumer.<sup>54</sup> Hibbard et al. suggest that patients frequently are unaware of, misunderstand, or mistrust report cards, and that the intended uses of report cards —consumers using them to select providers—has not yet been realized.<sup>55</sup> In order to use the information, “report cards must exist, patients must know about ... and have access to them, patients must be able to understand the quality rankings and believe them and patients must act on the report card information.”<sup>56</sup> In a more recent study, these authors investigated the impact of public reporting on hospital performance and on consumer perceptions of the hospitals’ relative quality. Consumers who had been exposed to the reports were more likely to have accurate perceptions of hospital quality.<sup>57</sup>

Schneider and Lieberman, while skeptical about the benefits of public reporting, express optimism that the consumer choice market was still in a growth stage in 2001. In an article about Americans’ responses to publicly reported data on quality, they suggest that quality reporting has improved care “in limited ways in some settings.”<sup>58</sup> They argue, however, that the consumer choice market has not

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<sup>49</sup> University of Miami, 2004.

<sup>50</sup> Marshall, M. N. (2001). Accountability and Quality Improvement: The Role of Report Cards. *Quality in Health Care* 10(2), 67-68.

<sup>51</sup> Monroe, A., 2002.

<sup>52</sup> Fernandopulle R, T Ferris, A Epstein, B McNeil, J Newhouse, G Pisano and D Blumenthal. 2003. A Research Agenda for Bridging the “Quality Chasm.” *Health Affairs* 22(2): 178-90.

<sup>53</sup> “National Forum on Public Reporting of Hospital Performance Data”, Nov. 15, 2002 Proceedings available at [www.dfmc.org](http://www.dfmc.org), by the Delmarva Foundation and JCAHO, under a grant from AHRQ, cited in University of Miami, 2004.

<sup>54</sup> Hibbard JH and Peters E “Supporting Informed Consumer Health Care Decisions: Data Presentation Approaches that Facilitate the Use of Information in Choice” *Annual Review of Public Health* 2003 24:413-33

<sup>55</sup> Hibbard J, Pawlson LG. Why Not Give Consumers a Framework for Understanding Quality? *Jt Comm J Qual Saf.* 2004 Jun;30(6):347-51.

<sup>56</sup> Werner R and Asch D. The Unintended Consequences of Publicly Reporting Quality Information, *JAMA* March 9, 2005, #10.

<sup>57</sup> Hibbard, JH, J Stockard and M Tusler. 2005.

<sup>58</sup> Schneider E.C. Lieberman T. 2001.

reached its potential, for a variety of reasons, and that “public disclosure may motivate quality managers and providers to undertake changes that improve the delivery of care.”<sup>59</sup>

There is mixed evidence on how consumers use publicly reported information of any type. A summary of a National Forum on Public Reporting of Hospital Performance Data concluded, “There is little evidence that consumers are using public reports to choose a provider.” It also noted, however, that “it is the public reporting of performance measures that stimulates quality improvement by providers, as opposed to the measures themselves.”<sup>60</sup> While multiple theories suggest how to maximize the impact of public reporting, such as changing the culture of provider organizations, minimizing unintended consequences, and providing incentives for behavior change,<sup>61</sup> these approaches have not been thoroughly tested.

Given the data that are available, the evidence with respect to the impact of public performance reporting (either clinical performance or patient reports on care) is mixed with regard to consumer impact. There is evidence that how results are presented can have a major impact on whether consumers will pay attention to and act upon the reports. Public reporting for consumers seems to be in its infancy for consumers, which may limit the diffusion and adoption of this type of information for some time to come. In light of Marshall’s suggestion that data contained in report cards has to be accurate enough to engage the attention of those whose responsibility it is to take action, but does not have to be perfect,<sup>62</sup> and the previously cited finding that consumers tend to value word of mouth over all other factors, the need for further, more rigorous, research on consumer behavior in this area is evident.

#### **2.4.3 Impact on Physicians of Public Reporting of Hospital Quality**

In this section we focus on the literature about how physicians may be affected by public reporting. As mentioned earlier, practitioners are key components of the NQF framework.

Physicians are potentially affected by public reporting in more than one way. They may be motivated to change (improve the quality of care they deliver) by the availability of performance information. Primary care physicians are also potential consumers of this information during the referral process. There is some evidence that report cards affect how physicians practice, and there may be consequences to reporting quality information that need to be carefully studied and understood.<sup>63</sup>

There is some evidence that the public reporting of hospital quality indicators may spur internal hospital quality improvement, thus leading to changes in physician behavior. From interviews with thirty-one California hospital stakeholders, Davies (2001) concluded that public release of comparative data may help ensure greater attention by healthcare providers to a quality agenda, but greater efforts are needed to develop internal systems of quality improvement. Interviewees reported that linkages between external data and internal quality improvement activities were “generally weak.”<sup>64</sup> Bradley et al. conducted interviews with staff members at eight hospitals in 2000 to study

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<sup>59</sup> Schneider E.C. Lieberman T. 2001.

<sup>60</sup> “National Forum on Public Reporting of Hospital Performance Data,” 2002, proceedings available at [www.dfmc.org](http://www.dfmc.org).

<sup>61</sup> Marshall MN, Romano PS, Davies HT: How do we Maximize the Impact of the Public Reporting of Quality of Care? *Int J Qual Health Care*. 2004 Apr;16 Suppl 1:i57-63.

<sup>62</sup> Marshall, M. N., 2001.

<sup>63</sup> Narins, C. R., Dozier, A. M., Ling, F. S., and Zareba, W. (2005). The Influence of Public Reporting of Outcome Data on medical Decision Making by physicians. *Archives of Internal Medicine* 165(1), 83-7.

<sup>64</sup> Davies, H. T. (2001). Public Release of Performance Data and Quality Improvement: Internal Responses to External Data by US Health Care Providers. *Quality and Safety in Health Care* 10(2), 104-110.

the utility of data feedback in supporting performance improvement. Physicians reported that for data feedback to be effective it must be of high quality, timely, and supported by organization leadership to be integrated into hospital improvement efforts. Some themes that emerged from the interviews were that data must be perceived by physicians as being valid to motivate change, and that it takes time to develop credibility of data within a hospital.<sup>65</sup>

Werner and Asch detailed several ways that providers respond to report cards and that healthcare quality may improve through the use of report cards if providers are pressured by the market to improve outcomes. For example, negative impacts on a poorly performing physician's practice could cause that physician to leave the market.<sup>66</sup> Marshall et al. indicate that mortality rates for cardiologists decreased in New York and Ohio following publication of mortality statistics and cited papers that suggested that this may be due to an exodus of doctors with high mortality ratings and improved performance by others.<sup>67</sup>

There is some evidence that physicians use publicly reported information to influence referral patterns to specialists. Marshall et al. report that 40% of doctors in New York and Pennsylvania used publicly reported coronary artery bypass graft (CABG) data in considering referrals to cardiologists.<sup>68</sup> An article by Werner and Asch provide some evidence that public reporting of outcomes data influenced physician referral patterns, thus indirectly benefiting patients, as primary care physicians made referral choices based on publicly reported data 13% of the time in one survey.<sup>69</sup> In contrast, Davies found that physicians do not use comparative performance data when making referral decisions.<sup>70</sup>

There has been some research on whether hospital quality indicators such as mortality statistics are perceived by practitioners as a valid measure of quality. A large majority of New York physicians surveyed disagreed that mortality statistics were an accurate measure of physician quality, or were useful in selecting hospitals and physicians or in improving the quality of care.<sup>71</sup> Physician ambivalence about the utility of publicly reported hospital quality indicators is reflected in one study of the use of clinical performance data in Scotland, where 71% of general practitioners reported awareness of indicators, but only 25% reported using them in assessing hospital quality, and all reported rarely or never discussing them with patients.<sup>72</sup>

Some have hypothesized that report cards could have a negative effect on the healthcare system, for example, by creating pressure on physicians to avoid the sickest patients. A recent analysis of Medicare claims data suggested that the introduction of report cards on CABG for hospitals in New York and Pennsylvania was associated with reduction in rates of surgery for high-risk patients, which was accompanied by higher net costs and worse outcomes.<sup>73</sup> Narins et al. surveyed physicians in

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<sup>65</sup> Bradley, E. H., Holmboe, E. S., Mattera, J. A., Roumanis, S. A., Radford, M. J., and Krumholz, H. M. (2004). Data Feedback Efforts in Quality Improvement: Lessons Learned from US Hospitals. *Quality and Safety in Health Care* 13(1), 26-31.

<sup>66</sup> Werner R and Asch D. , 2005.

<sup>67</sup> Marshall, M. N., Shekelle, P. G., Leatherman, S., and Brook, R. H., 2000.

<sup>68</sup> Marshall, M. N., Shekelle, P. G., Leatherman, S., and Brook, R. H., 2000.

<sup>69</sup> Werner R. and Asch D., 2005.

<sup>70</sup> Davies, H. T., 2001.

<sup>71</sup> Marshall, M. N., Shekelle, P. G., Leatherman, S., and Brook, R. H., 2000.

<sup>72</sup> Mannion, R., and Goddard, M. (2003). Public Disclosure of Comparative Clinical Performance Data: Lessons from the Scottish Experience. *Journal of Evaluation in Clinical Practice* 9(2), 277-86.

<sup>73</sup> Lee, Thomas H., Meyer, Gregg S., and Troyen A. Brennan. A Middle Ground on Public Accountability. *New England Journal of Medicine*: June 2, 2004. (23)350:2409-2412.



New York State and found that 79% of respondents reported that publicly available mortality statistics influenced their decision whether to take a high-risk patient. The authors cited a study that reported sicker patients are less likely to receive surgery in New York and Pennsylvania, and studies that show most referral patterns have not changed.<sup>74</sup> Mannion and Goddard cited a 2002 study that found mortality rates in New York have increased since mortality statistics have been published, especially for sicker patients.<sup>75</sup>

In a related study Dranove et al., using data about the mandatory report cards in the states of New York and Pennsylvania, developed an empirical framework for evaluating claims regarding public reporting. They reported that the report cards they studied improved matching of patients to hospitals with respect to admission health status, increased the number of CABG surgeries, and modified the incidence of this procedure toward less sick patients. The authors concluded that overall this led to higher costs and poorer outcomes. These authors summarized the field of research on report cards:

*“One arm of the literature uses surveys of patients and clinicians to assess the consequences of report cards. Although some surveys suggest that report cards have little effect on decision making ... other surveys reach the opposite conclusion ... another arm of the literature uses analysis of clinical and administrative data, almost entirely from New York’s report card, to reach a very different conclusion: it finds that report cards led to dramatic improvements in the quality of care...”<sup>76</sup>*

Another recent study examined whether public reporting might lead to denial of care for patients needing percutaneous coronary intervention (PCI) in New York (public reporting) in comparison to Michigan (no public reporting). The authors reported that PCI was more frequent in Michigan for acute myocardial infarction and cardiogenic shock than in New York and concluded that public reporting of high mortality rates may be a possible explanation for a tendency in New York toward not intervening on higher-risk patients.<sup>77</sup>

#### **2.4.4 Impact on Hospitals of Public Reporting of Hospital Quality**

Health care organizations, like care delivery teams and practitioners, are an essential part of the NQF-defined framework. HCAHPS may improve quality of care by directly stimulating initiatives for hospital quality improvement. Hospitals could potentially use publicly reported performance information to inform their quality management practices by benchmarking their performance against other institutions. Public availability of performance data could further motivate hospital quality improvement initiatives. In addition, public reporting may encourage consumers to seek care in hospitals that are publicly shown to perform well. In this section we focus on the literature on the effects of public reporting on hospitals.

There have been suggestions that healthcare quality indicators may currently be more beneficial as “monitoring and quality improvement” tools than for supporting consumer decision-making. Studies in Rhode Island, Wisconsin, Missouri, and New York have found evidence of provider behavior changes after public reporting has been instituted.<sup>78</sup> The National Forum on Public Reporting of

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<sup>74</sup> Narins, C. R., Dozier, A. M., Ling, F. S., and Zareba, W., 2005.

<sup>75</sup> Mannion, R., and Goddard, M., 2003.

<sup>76</sup> 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.

<sup>77</sup> Moscucci, M, Eagle K, Share, D., et al. Public Reporting and Case Selection for Percutaneous Coronary Interventions: An Analysis from Two Large Multicenter Percutaneous Coronary Intervention Databases, *J Am Coll Cardiol* 2005 45: 1759-1765.

<sup>78</sup> University of Miami, 2004.

Hospital Performance Data, noted “it is the public reporting of performance measures that stimulates quality improvement by providers, as opposed to the measures themselves.”<sup>79</sup>

A recent report focused on the impact of public reporting on hospital patient satisfaction mandated by the Rhode Island Legislature. This study commissioned by the Rhode Island Department of Public Health used interviews and focus groups with hospital staff and concluded that public reporting of hospital patient satisfaction had a “...considerable impact on quality improvement activities in both general and specialty hospitals in Rhode Island.”<sup>80</sup> Another recent study found that performance data increased hospital quality improvement activities in areas where performance was reported to be low. The authors concluded that “since quality improvement efforts among the public-report hospitals appear to be significantly greater than in hospitals given only private reports, there is added value to making performance information public.” The authors attributed their findings to the fact that public-reporting hospitals were concerned about their images and that “an important role for consumers in stimulating quality improvement may simply be increased attention to hospital quality...”<sup>81</sup> In a more recent study described above, these researchers found that hospitals with publicly reported data had improved performance in obstetrics (although not in cardiac care).<sup>82</sup>

When the Missouri Department of Health released the results of an obstetrics consumer report detailing the availability of programs and procedures at different hospitals, a study found that the report appeared to have a significant impact on hospitals. Patient satisfaction was among those outcomes that improved after publication. One year after release of the report, 50% of the hospitals that did not have the programs that were monitored in the report card either had started or planned to initiate such programs. Hospitals that had been ranked lower than average or average were more inclined to implement new programs than those with higher rankings. The study also found that hospitals with competition were more likely to change their programs in response to the report card than hospitals in single-facility communities.<sup>83</sup>

Evans et al. examined the responses of Pennsylvania hospitals to public dissemination of financial and non-financial performance information in 1990. The authors noted the positive effects of public reporting, stating “hospitals that performed poorly on patient quality of care, as measured by mortality outcomes, reacted by making significant improvements in this measure by 1992.” These researchers also found that competitive markets may induce change, as “improvements in mortality outcomes were more marked for DRGs in more competitive environments and for hospitals that ranked higher on financial condition in the year of disclosure.” Improving ratings can even benefit the hospital, as the “rationale for costly quality improvements in the period following the disclosure appears to be related to market share, that is, poorly performing hospitals lost, whereas better performing hospitals gained, market share.”<sup>84</sup>

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<sup>79</sup> “National Forum on Public Reporting of Hospital Performance Data,” 2002, proceedings available at [www.dfmc.org](http://www.dfmc.org).

<sup>80</sup> J. Barr, Tierney Sherwin, S Sofaer et al., Evaluation of Public Reporting on Hospital Patient Satisfaction in Rhode Island, Rhode Island Department of Public Health by Qualidigm. Oct., 2003

<sup>81</sup> Hibbard, JH, J Stockard and M Tusler. 2003. Does Publicizing Hospital Performance Stimulate Quality Improvement Efforts? *Health Affairs* 22(2): 84-94.

<sup>82</sup> Hibbard, J.H., Stockard, J., and Tusler, M. 2005.

<sup>83</sup> Longo D.R., Land G., and Schramm W., 1997.

<sup>84</sup> Evans, J. H., Hwang, Y., Nagarajan, N., and Shasstri, K. (1997). Involuntary Benchmarking and Quality Improvement: The Effect of Mandated Public Disclosure on Hospitals. *Journal of Accounting, Auditing and Finance* 12(3), 315-346.

A survey of hospitals in Pennsylvania (where there is public reporting) and New Jersey (as a non-reporting comparison) compared practices and policies of the hospitals in these two states to examine the impact of the Pennsylvania Health Care Cost Containment Commission's public reports. The report concluded that "...public release of performance information ... encouraged hospitals in Pennsylvania to make changes in the areas of marketing, governance, and clinical care and that the impact of the release of public data on performance was greater in Pennsylvania hospitals than New Jersey hospitals..."<sup>85</sup> Marshall et al. (2000) suggest that there is an "intrinsic professional competitiveness," and that provider organizations respond to public reporting as a competitive opportunity or risk management imperative.<sup>86</sup> Competition could work to the consumer's advantage, because "disseminated consumer reports may indeed accelerate the change process in such a way that early innovators are quickly joined by others in changing practice..."<sup>87</sup>

A study of acute myocardial infarction and heart failure in Rhode Island reported no significant changes in care for these conditions after public reporting began, but noted improvement in care for patients with pneumonia.<sup>88</sup> A study of New York's CABG surgery mortality reporting and quality improvement program concluded that risk-adjusted mortality dropped 41% statewide in New York between 1989 and 1992.<sup>89</sup> A study of the effects of the Cleveland Clinic's reporting system found that for the six major medical conditions that were reported, the death rate went down by approximately 30%.<sup>90</sup>

#### 2.4.5 Other Types of Reporting Impacts

In addition to the impacts on healthcare providers of public reporting of healthcare information, these reports can potentially affect other stakeholders. The NQF model includes the following stakeholders, in addition to care delivery teams and consumers/patients: purchasers (including government), regulators (e.g., government), contractors, and referring clinicians. Not surprisingly, large individual corporate purchasers and purchasing groups have taken great interest in public reporting of performance information (e.g., HEDIS<sup>®</sup>), since the use of such reports has the potential to affect the cost of their employees' health insurance. Similarly, referring clinicians (see above) and any entities contracting with hospitals are potential report users. Public reports could also be used by HMOs, which have already begun to offer web-based reports to website visitors. Medicare has, through its Hospital Compare<sup>91</sup> website, been reporting comparative information for consumers, as have various states.<sup>92</sup> Finally, the popular media are also stakeholders in the reporting process in that they are vehicles for conveying the information.

Marshall et al., while not specifically addressing patient perspectives on care, suggest that there are "implications for society, such as benefits arising from public discussion, damage to professional

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<sup>85</sup> Bentley, J.M., and D.B. Nash. How Pennsylvania Hospitals Have Responded to Publicly Released Reports on Coronary Artery Bypass Graft Surgery. Joint Commission on Quality Improvement 24(1), 1998

<sup>86</sup> Marshall, M. N., Shekelle, P. G., Leatherman, S., and Brook, R. H., 2000.

<sup>87</sup> Evans, J. H., Hwang, Y., Nagarajan, N., and Shasstri, K., 1997.

<sup>88</sup> University of Miami, 2004.

<sup>89</sup> Chassin, M.R. Achieving and Sustaining Quality: Lessons from New York State and Cardiac Surgery. *Health Affairs* 21(4), 2002.

<sup>90</sup> Cleveland Clinic, Related Hospitals Pull Out of Report-Card Project. *Patient Satisfaction and Management Outcomes*. April 1999. Available: [http://www.ahcpub.com/ahc\\_root\\_html/hot/archive/psom0499.html](http://www.ahcpub.com/ahc_root_html/hot/archive/psom0499.html)

<sup>91</sup> Hospital Compare, <http://www.hospitalcompare.hhs.gov/>

<sup>92</sup> Review of Hospital Quality Reports for Health Care Consumers, Purchasers and Providers, IPRO, [http://company.ipro.org/dox/legFINAL10\\_14\\_03R.pdf](http://company.ipro.org/dox/legFINAL10_14_03R.pdf)

reputations and resource implications resulting from demands to see the ‘best’ provider.’<sup>93</sup> In a 2001 review article, Schaffler and Modavsky examined the effect of report cards on consumers, providers and purchasers. These authors concluded that consumers need provider-specific information, such as rates of errors and adverse outcomes, and that information directed toward purchasers may be most appropriate.<sup>94</sup>

The University of Miami/Abt study reported that, in addition to themselves (for personal decision making), consumers envisioned the following potential users for the performance indicators: the State of Florida (for monitoring and improving hospital care), hospitals (to better compete), insurers (to assess and select hospitals), and doctors (support decisions about affiliation and share information with patients).<sup>95</sup>

## 2.5 Scope of the HCAHPS Instrument

We also examined benefits of reporting individual items vs. summaries and the length of a shorter vs. longer instrument.

### 2.5.1 The Public Reporting of Individual vs. Summary HCAHPS Items

Hibbard and Peters’ research suggests that the form of presentation of publicly reported data “may affect what decisions are made as much or more than the information itself...”<sup>96</sup> As discussed previously, this and other work by Hibbard suggests that this field is in its early stages, and that basic issues such as presentation format require much further study. A key issue in the presentation of patient perspectives on care is how information about individual data elements (or HCAHPS domains of care such as communication with doctors or communication with nurses), summary ratings (e.g., patient’s willingness to recommend the hospital), or combinations of these types of information should be reported to consumers.

A recent study specifically investigated consumer preference for HCAHPS’ seven-domain-specific detail vs. three overall ratings (nurses, doctor, hospital). Approximately 66% of focus group participants

*“...preferred a high level of detail in reports about hospital quality... [and] ... many who preferred the [overall] ratings said they would want to use that information to narrow the number of hospitals they would consider, and then look at more detailed information only about those two or three hospitals...when asked if they would prefer both types of information if both were available, almost all participants said ‘yes.’”<sup>97</sup>*

AHRQ’s testing has suggested that a consumer information strategy designed to meet the varied needs of consumers should include information on overall ratings of the hospital and information on several key substantive domains. As described above, in 10 focus groups of people who had had a recent hospitalization or had a close loved one hospitalized, participants were asked which domains are necessary when deciding between hospitals. The finding that, for all but one domain, at least 80% of participants indicated that they “...must have information about each of the original domains...”

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<sup>93</sup> Marshall, M. N., Shekelle, P. G., Leatherman, S., and Brook, R. H., 2000.

<sup>94</sup> Schaffler, HH and JK Mordavsky. 2001.

<sup>95</sup> University of Miami, 2004.

<sup>96</sup> Hibbard JH and Peters E, 2003.

<sup>97</sup> Sofaer, S, Crofton, C, Hoy E, et al. 2004.

suggests that consumers find information on each domain important.”<sup>98</sup> In summary, this supports the idea that consumers value information about specific domains in addition to overall hospital ratings, and that domain-level information is needed to support consumer choice. Also as mentioned above, the top items named when participants were asked to choose their *two* most important topics were: communication with doctors, responsiveness of hospital staff, cleanliness and quiet of the physical environment, and communication with nurses.

In contrast, Brady and Kessler<sup>99</sup> used vendor and HCAHPS pilot data to statistically compare the predictive power with respect to “willingness to recommend the hospital” using more vs. fewer data items. One model contained, along with overall quality, only composites: *composite experiences in hospital* and *composite when left hospital* for the pilot data, and *composite doctors*, *composite hospital room*, and *composite personal issues* for the proprietary data. The other model, along with overall quality, used individual items: *experiences in hospital/describe side effects, when left hospital/health problems to look out for* with the pilot data, and *time spent by doctors, skill of doctors, hospital room décor/temperature, noise, how well things work, tests/skill of person starting IV (test), discharge/felt ready to leave* in the proprietary data. Given their finding that hospital ranks based on overall quality were highly correlated with ranks based on detailed quality questions, the authors concluded “...several detailed questions in a specific topic area provide no more useful information ... than a single measure based on an overall question...” A problematic aspect of the Brady and Kessler analysis, however, is that it assumes that an overall rating—willingness to recommend—is in itself of critical importance. A key CMS objective of the public reporting of HCAHPS will be to create incentives for health care organizations, care delivery teams, and practitioners to improve the quality of care, and it is unclear how overall ratings alone could effectively and efficiently achieve this objective.

The issue of reporting individual items vs. summary measures also surfaced in a Connecticut Department of Public Health reporting project mandated by the state legislature. The project report stated that summary measures have conceptual (easier to comprehend) and statistical (larger sample size) advantages, but if not combined appropriately, may be misleading. In contrast, individual measures provide more specific information to consumers. The Connecticut initiative therefore recommended that both types of measures should be reported.<sup>100</sup> A study by JCAHO and the Delmarva Foundation identified and assessed 47 websites that publicly report hospital performance data. Thirteen of the sixteen sites that reported information about satisfaction provided an overall rating.<sup>101</sup>

A recently published study of the nationally available Hospital Quality Alliance clinical performance data reports “performance varies among hospitals and across indicators. Given this variation and small differences based on hospitals' characteristics, performance reporting will probably need to include numerous clinical conditions from a broad range of hospitals...” While this study examined clinical data, its finding about the need to include numerous clinical conditions could have implications for the analogous situation of needing many domains on HCAHPS.<sup>102</sup> In addition, the

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<sup>98</sup> The Centers for Medicare & Medicaid Services based on research conducted by: The Agency for Healthcare Research and Quality

<sup>99</sup> Brady D and Kessler, D. Efficient Design of Patient Surveys for Purposes of Comparing Hospitals' Quality, 2005

<sup>100</sup> Report to the General Assembly, Public Act 02-125 An Act Creating A Program For Quality in Health Care, State of Connecticut, June 2003.  
[http://www.dph.state.ct.us/Agency\\_News/PA02125%20Quality%20Health%20Report.pdf](http://www.dph.state.ct.us/Agency_News/PA02125%20Quality%20Health%20Report.pdf)

<sup>101</sup> State of the Art of Online Hospital Public Reporting, Sept 2004,  
[http://www.delmarvafoundation.org/html/public\\_reporting\\_summit\\_052604/WebSummariesFinal9.2.04.pdf](http://www.delmarvafoundation.org/html/public_reporting_summit_052604/WebSummariesFinal9.2.04.pdf)

<sup>102</sup> Jha, A, Li, Z, Orav, J., et al. Care in U.S. Hospitals — The Hospital Quality Alliance Program *N Engl J Med* 2005;353:265-74.

NQF recommended that the HCAHPS survey report on at least as many domains as in the current 27-item survey.

### 2.5.2 Length of the HCAHPS Instrument

Related to the issue of summary vs. detailed reporting is the issue of the length of the HCAHPS instrument. In general, reports and published articles do not provide a strong indication of the benefits of a longer vs. a shorter version of an instrument like HCAHPS (of course, since HCAHPS itself has not been routinely implemented, only pilot research is available). If individual items and/or domains were viewed as preferred by consumers, by implication a longer version would provide more options. More items could also help identify specific areas that are highly rated or of concern, thus potentially providing more actionable feedback.

CMS and AHRQ have conducted research to provide an empirical basis for all aspects of HCAHPS. A three-state (Maryland, New York, Arizona) pilot study was conducted between December 2002 and January 2003 to field-test the instrument. A variety of statistical criteria were used to identify only the most useful items to include. Because of some stakeholders' desires for a short instrument, other items that might have been considered for inclusion (as indicated by open-ended question responses) were not considered further. The pilot survey of originally 66 items was reduced by more than 50% to a 32-item survey.<sup>103</sup> The authors concluded "the results of the analyses indicated that the current HCAHPS questionnaire seems to tap into most aspects of care that patients care about."

Among the many issues the National Quality Forum addressed during HCAHPS development<sup>104</sup> was the length and scope of the HCAHPS questionnaire. The Committee recommended reinstating two items regarding courtesy and respect that had been eliminated after pilot testing; this resulted in the current 27-item instrument. There was some disagreement regarding length. The minority opinion was that a shorter instrument (as few as six items) was preferable, with a longer survey not worth the "incremental benefits... if the same information could be obtained with a shorter version...and that a shorter version could be imbedded in hospitals' existing internal quality improvement surveys more readily..." The majority of the Committee supported a *longer* survey, and were concerned that the questionnaire omitted critical domains such as "transition of care throughout the hospital experience" and the "need for more elaborate discharge information." This view was ratified by the Committee's research recommendation to examine four additional domains of care.

The study by Brady and Kessler<sup>105</sup> cited above also statistically compared the predictive power with respect to "willingness to recommend the hospital" using more vs. fewer data items. Based on relatively small increments in predictive power, the authors concluded that the "incremental benefits" of a longer vs. shorter questionnaire were very small.<sup>106</sup> As mentioned above, however, the purpose of

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<sup>103</sup> HCAHPS Three-State Pilot Study Analysis Results, The CAHPS® II Investigators and The Agency for Healthcare Research and Quality (AHRQ), 540 Gaither Road Rockville, Maryland 20850, December 22, 2003. [http://www.cms.hhs.gov/quality/hospital/3State\\_Pilot\\_Analysis\\_Final.pdf](http://www.cms.hhs.gov/quality/hospital/3State_Pilot_Analysis_Final.pdf)

<sup>104</sup> NQF Memorandum: Pre-voting review for "Standardizing a Measure of Patients' Perspectives of Their Hospital Care Experience" February 15, 2005. [www.qualityforum.org](http://www.qualityforum.org)

<sup>105</sup> Brady D and Kessler, D, 2005.

<sup>106</sup> Brady D and Kessler D, Efficient Design of Patient Surveys for Purposes of Comparing Hospitals' Quality: Supplementary Analysis, 2005. In a supplementary analysis of the same survey data, Brady and Kessler exclude 'overall rating' as an explanatory variable and conclude that many detailed ratings explain "...at most slightly more variance in willingness to recommend than a small number of overall and composite ratings." These researchers infer from their analysis that the relative effects of individual domains on willingness to recommend are similar, and the effects of detailed questions on willingness to recommend are statistically insignificant in all domains except hospital environment.

HCAHPS as envisioned by CMS is broader than that assumed by Brady and Kessler, and a shorter questionnaire would not address all of CMS's objectives.

In its experience with HCAHPS the state of California found that length of the survey did not impact response rate.<sup>107</sup> The Abt expert group mentioned above, during its discussion of general benefits, also suggested some of the benefits of a 27-item instrument vs. a shorter one:

- Since consumers' information preferences vary, a larger number of questions could increase the likelihood of consumers finding an area of interest.
- More items enable examination of a larger number of quality domains of potential interest.
- To understand and be able to act on the results of a performance report, more items provide more granularity and therefore more actionability.

Finally, another issue mentioned by the Abt group was that a larger number of items on the instrument could lead to composites with higher reliability. The original instrument began with 66 items. Through a systematic process involving psychometric analysis, the length of the instrument was reduced to 27 items in the present HCAHPS instrument. All other things being equal, more items within a domain can lead to higher reliability.

## 2.6 Stakeholder Perceptions of Benefits and Limitations

In addition to the literature review described above, we also conducted a limited number of telephone interviews with key HCAHPS stakeholders such as hospital representatives, major hospital survey vendors<sup>108</sup>, purchasers, and researchers. In this section we summarize stakeholder perspectives about benefits and limitations. Stakeholder feedback on specific elements of costs is discussed in the next chapter.

### *Overall Benefits of HCAHPS*

Several of the respondents with whom we spoke, including the major vendors, made a point of emphasizing that they were in favor of public reporting of standardized measures. They mentioned several types of potential benefits for consumers, purchasers and hospitals.

Benefits to consumers centered on the support of consumer choice:

- Several mentioned that HCAHPS' patient experience elements might resonate more with consumers than some of the currently published quality indicators. As such, HCAHPS may be more likely to draw consumers into the quality arena. For example, one of the respondents who felt that HCAHPS might be a good way to "hook" consumers into the quality debate, pointed out the years of experiments in trying to report quality, and commented, "It's been a very humbling experience. People said 'It's [the quality information] a nice idea but I don't know how it applies to me...'" The respondent felt

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<sup>107</sup> Nelson, M, California Experience with HCAHPS (PEP -C III) California Health Care Foundation, [http://www.cahps-sun.org/Events/archive/UGM9/D01\\_P04\\_Farquhar.pdf](http://www.cahps-sun.org/Events/archive/UGM9/D01_P04_Farquhar.pdf)

<sup>108</sup> CMS contacted seven major vendors and invited them to participate in the study: Avatar International, the Gallup Organization, the Jackson Organization, the Jackson Group, National Research Corporation/Picker (NRC-Picker), Press Ganey, and Professional Research Consultants (PRC). We were able to talk with four of them.

that consumers may more easily relate to HCAHPS: It “is one of the most promising experiments in trying to educate people about using the information.”

- HCAHPS also represents an opportunity to support consumer use of measures and change consumer behavior in the current climate where employees are increasingly being asked to pay more for their healthcare: they will demand more and will need more information on which to base their choices.
- HCAHPS may facilitate consumer-physician discussions of quality with their physicians. One respondent noted that HCAHPS is more accessible to consumers than the clinical data. “It at least gives them information about dimensions of care that’s relevant to them and helps level the playing field...It’s an accessible kind of data.”
- One respondent noted that the current climate presumes that more choices will lead to reduced costs. Public reporting would help support more informed choice. If they are educated enough and have decent reports on quality, consumers can act on their own.
- The standardized nature of HCAHPS means that use of a single comparison tool across hospitals will facilitate comparisons.
- Additionally, HCAHPS can assist purchasers in determining which plans or providers to purchase from, and this will also benefit consumers.

Stakeholders also mentioned benefits to hospitals, such as:

- The consistency between internal and publicly reported items would be well received by hospitals. A single set of measures would avoid confusing staff as to where to prioritize improvement efforts – they would “get the same marks” if one set of measures were being used.
- By its very existence, HCAHPS could create an incentive for hospitals to switch to a standard instrument. One respondent noted that a previous patient satisfaction project encountered difficulties in getting hospitals to agree to use a common survey, even when participants had agreed in theory that a common platform would be advantageous. HCAHPS would facilitate a shift to a common platform, because it would be “recognized as the gold standard.” It was noted, for example, that the Wisconsin Hospital Association plans to integrate HCAHPS into their public reporting standards project, if HCAHPS goes forward.
- Several mentioned that HCAHPS could serve as a catalyst for quality improvement (QI), and some mentioned studies that found that public reporting causes “a significant amount of activity” by hospitals. One respondent cited the studies conducted by Judith Hibbard (which found that hospitals had seven times the number of QI initiatives after public reporting) and studies of California’s Patient’s Evaluation of Performance (PEP-C) which showed that public reporting results in hospitals or nursing homes that are more engaged in QI activities. Another noted that because HCAHPS “gets to the Board level” where trustees and board members are cognizant of the hospital’s reputation, there will likely be much time and attention devoted to improving results.
- One of the pilot hospitals with whom we spoke felt that HCAHPS could provide a uniform national standard, and enable comparisons to hospitals anywhere – not just those in proprietary databases. Both of the pilot hospitals with whom we spoke planned to replace their existing survey with HCAHPS and add approximately 8-10 additional items. One of them pointed out that they anticipate that they could conduct the same QI activities with HCAHPS as with their previous survey.



### ***Overall Limitations of HCAHPS***

Concerns about limitations were most often voiced by the survey vendors, and included:

- HCAHPS would have a negative impact on hospitals' time series data – it would disrupt the collection of similar items over time, making it more difficult for hospitals to track progress towards improvements.
- One vendor voiced concern that the sampling does not allow for condition- or department-specific ratings which would be most useful for consumers. It noted that hospitals are already being compared by specific illnesses -- for example, US News and World Report ranks hospitals by specialties.
- Two of the vendors mentioned HCAHPS in the context of hospital incentive structures: hospitals have elements of recognition or bonuses based on their current feedback measures and HCAHPS would possibly change this. (For example, about 50% of the clients of one vendor use patient satisfaction scores as a factor in compensation decisions such as bonuses for CEOs and nurse managers.) The two vendors differed on the potential impact of HCAHPS in this context, however: one felt that there would be high costs to collect, implement and retrain on the new HCAHPS-based measures, while the other felt that hospitals would not have a problem migrating to HCAHPS for these incentive measures, pointing out that DOD has already migrated to HCAHPS and the VA is planning to pilot HCAHPS. We asked one of the pilot hospitals about this issue, and they indicated that it would be fairly easy to change the compensation factors.
- It was also pointed out that HCAHPS would have a negative impact on vendor proprietary databases, potentially making them less valuable.

### ***Benefits and Limitations of a Longer vs. Shorter Survey***

Vendor surveys have a variety of lengths, some from 35 to 90+ items. Three of the four vendors and one of the other organizations felt that HCAHPS should include no more than 6-10 items. The other vendor, and the other four organizations felt that HCAHPS should remain a longer survey.

Comments in favor of a shorter survey related to potential benefits and concerns such as the following:

- There would be more benefit in collecting a smaller number of HCAHPS items on all surveys conducted by the hospital. This would enable reporting of condition-specific ratings (e.g., knee replacements, pneumonia, open heart surgery). These condition-specific ratings would be more appropriate, since hospitals differentiate themselves on particular specialties/dimensions. As one vendor noted, "Asking a smaller number of items might yield more powerful data." Beliefs that consumers would prefer single condition-specific ratings about the hospital were voiced by some of the vendors.
- A small number of items (6-10) could be embedded into existing surveys without much additional cost to hospitals. A 27-item version would be harder to embed and may need to be standalone; costs would get expensive.
- One vendor objected to the composite ratings, noting that short, straightforward reporting would draw consumers in and resonate more with them, rather than having to understand the key composite measures. They believe that saying "here are the questions and here are the answers" would be a more direct way to present information to consumers, where "the questions asked are the questions reported on."

- A smaller number of items -- roughly six items -- would be sufficient, not only in terms of costs and burden but also regarding concerns about not distorting time series data for benchmarked hospitals.
- A smaller number of items would avoid the need for the hospital/vendor industry to retool; they could continue their ongoing quality improvement efforts. Costs such as increased data collection costs and startup and retraining costs could be avoided.
- A larger number of items could eventually be misinterpreted as implying that they are the key dimensions of care. One vendor commented that “The worst thing we could do is say ‘if you do these things the patient will be happy’...Hospitals will be dictated by a recipe.” The vendor was also skeptical that HCAHPS could help hospitals improve, and felt that hospitals would “eventually treat HCAHPS like JCAHO...get it done and move on.”
- Another vendor favored a few overall ratings rather than the detailed items of the currently proposed version of HCAHPS, saying: “I don’t have much confidence that a small group of people [NQF Committee] can decide what customer service is. Customer service is in the eyes of the beholder.”

Those in favor of keeping the longer version of the survey cited reasons such as the following:

- Several mentioned that they are confident in deferring to NQF’s guidance on the scope and size of the survey, that they trust the NQF process, which concluded that 27 items would be needed. One purchaser noted that a benefit of the current proposed HCAHPS is that it is the result of a very long process. “This process has taken an inordinate amount of time, let’s just get on with it.”
- Typical references mentioned, “given the extensive testing and exhaustive research...”
- Likewise, it was also noted that the reasons for a shorter version “don’t seem particularly compelling or consumer friendly.” A small number of items, such as 6-12, would be insufficient to get at all the dimensions.
- It was also noted that current patient experience surveys usually include many more items, with some as high as 90+ items. Previous CAHPS research was mentioned, which found that adding 20 or 30 items to CAHPS did not affect response rates.
- One stakeholder emphasized that reducing the survey to 6-10 items would have more of a significant effect – a negative effect – than considerations about increasing it from 6-10 to 27 items.
- A 27-item version (or even longer) is more inclusive/comprehensive.
- One of the vendors felt that response rates would not be adversely impacted with a longer survey. The vendor had tested mail surveys of three different lengths ranging from 32 to 71 items, and found that the three surveys tended to achieve very similar response rates within each of the hospitals that piloted the three versions.
- A few felt that consumers prefer more information. The longer version would provide more “texture” for consumers; in a shorter version “what you trade off is a fair amount of texture that’s different things to different people.” Another noted that while a shorter number of items may be statistically efficient in predicting willingness to recommend, the issue is not about one item accounting for much of the variance, “it’s about giving

consumers the pieces of information that they want...It's never been about 1 or 8 items, it's about what are the information needs of consumers and let's give it to them."

- One respondent favored a 27 – 35 item survey, voicing concern that HCAHPS not be "neutered to the point where it's down to only four to five questions..." The respondent felt that most people would not find the survey length burdensome to respond to.
- "...The range of performance scores is quite wider than what you get from a traditional patient satisfaction survey where many achieve high scores and there's less variation... will provide a large database for comparison ... HCAHPS makes it harder to "manage to the survey" more difficult to game the ratings... the distribution of ratings resulting from HCAHPS items is wider than those from current vendor surveys; "Not everyone will be in the 98<sup>th</sup> percentile...HCAHPS will definitely change behavior in hospitals."
- Finally, one respondent voiced concerns that vendors are simply trying to protect their benchmark databases – a shorter HCAHPS would be to their advantage because the more items that are not in the public domain, the more revenue a vendor can generate from its proprietary data.

### ***Integrating HCAHPS into Existing Vendor Surveys***

Most vendors use a base questionnaire to which clients can add items. They tend to view HCAHPS as another set of items that could be added onto existing surveys, if the number of additional items were small enough. They are concerned about the ease of incorporating a longer HCAHPS, however:

- One vendor felt that the majority of hospitals want one integrated system, not separate systems. Most would integrate HCAHPS and add their own items. (In fact, both hospitals that we spoke with intend to do this.)
- One vendor indicated that 90 percent of its clients add between 10-80 items to the vendor's standard survey, and 6-10 more HCAHPS items could be added to all their surveys. The vendor estimates, however, that a 27 item HCAHPS would need to be fielded separately because it may take 15 minutes on the phone, which would be too long to add to existing surveys.
- One vendor anticipates that hospitals will have to field both HCAHPS and a separate questionnaire, which will increase costs. The separate questionnaire would be needed to collect more detailed information about the experience and to avoid causing shifts in responses to data items that are already being collected.

### ***Market Impact***

Several of the vendors who objected to HCAHPS did not raise the topic of potential impacts on the survey vendor market. One, however, did raise this topic and felt that HCAHPS would result in "a significant reduction and higher level of competition [among vendors], but expansion in a host of services around quality improvement." They felt that HCAHPS might eventually replace the existing surveys but would open up new revenue streams, especially for consulting. From the perspective of the hospital survey market, the vendor felt that once HCAHPS is in the public domain it would foster competition and provide opportunities for research organizations that do not currently have an instrument. They cited CAHPS as an indicator of what will likely happen with HCAHPS: as the CAHPS market evolved, new vendor entrants into the market caused price pressure for CAHPS.

### *Perspectives on the Context of HCAHPS*

Vendors tended to view HCAHPS as a more permanent change than did the other stakeholders with whom we spoke. The latter group viewed HCAHPS as a point along the developmental continuum of quality measures, with more likelihood of being modified in the future. Other perspectives included:

- One mentioned that HCAHPS reflects the current climate around performance measurement and reporting, and because of efforts such as those by the Leapfrog Group, PEP-C and others, “[hospitals] know it’s inevitable.” They noted that hospitals are already doing this type of measurement internally – what’s new is publicly reporting results to consumers.
- Another felt that HCAHPS might also likely be embedded in tiers of health plans – another incentive for hospitals to pay attention to it.
- A vendor voiced concern that the concept of report cards has grown towards a quality improvement tool in contrast to AHRQ’s previous indications that HCAHPS was not intended to replace existing surveys. This “scope creep” occurred without an adequate accounting of the cost to hospitals and without sufficient attention to how a public reporting tool could help hospitals in their quality improvement without hindering current ongoing efforts.

Several commented on the nature of HCAHPS:

- One echoed support of use of patient perspectives on care measures, feeling that they are a truer representation of results because they provide more variation than patient satisfaction ratings, which tend to show uniform and high ratings.
- HCAHPS may be a cost effective way of obtaining proxies for other more costly measures. One respondent mentioned a study (no citation available) that had found a strong correlation between measures of patient perceptions at discharge, and readmission rates. The respondent envisioned that someday HCAHPS might be a cost effective way to proxy quality by avoiding the need to directly measure readmission rates (which are costly to derive). This may also then make HCAHPS eligible to be used for performance-based reimbursement.

### *Feedback about the Survey Instrument*

While our discussions focused on the costs and benefits of HCAHPS, several suggestions were made regarding the instrument itself. While CMS has already obtained similar feedback from its Federal Register requests for comments, we summarize below the instrument-specific feedback that was raised during our discussions. Respondents expressed hope that CMS would reconsider these issues, either now or at some point in the future.

- Overall satisfaction. It was noted, “This is an important question because that’s the one everybody’s going to put on their billboards.” Suggestions for improvement were:
  - The wording covers two different concepts: “your recent experience” and “compared to all hospitals”. It needs to be clarified, because responses may reflect different interpretations of the question.
  - The scale of 1-10 is different than those of other questions and is confusing to respondents.
- Additional items to consider:

- Re-instate a food-related item. It was noted that the literature and experience indicate that satisfaction with food correlates with overall satisfaction. This is an important dimension for patients.
- Re-instate cleanliness– there should be more than the question about bathroom cleanliness, since patients pay attention to other dimensions of cleanliness as well.
- Items to consider dropping:
  - One stakeholder felt that HCAHPS should eliminate most items except for the following: how the patient felt about the quality of care, about the nursing staff, about the doctors and would they recommend the hospital to friends and relatives.
  - Several suggested removing the skip/gatekeeper questions. (An answer category of “does not apply to me” or “did not happen to me” could be added as part of the main question. This would eliminate three of the skip/gatekeeper questions.)

## 3.0 Costs of HCAHPS

### 3.1 Introduction

The primary purpose of this chapter is to estimate the monetary costs to hospitals of the current 27-item version of HCAHPS and also the costs of the shorter version of HCAHPS that several patient satisfaction vendors and hospitals have recommended. In examining the costs of HCAHPS, we sought to address the following research questions:

- What are the costs of HCAHPS administered as a stand-alone instrument? What would the costs be of a shorter version of HCAHPS (e.g., 15 items)?
- How do the costs of HCAHPS vary based on the mode used to administer the survey (phone, mail, mixed mail and phone, active interactive voice response (active IVR))?
- Would it be feasible to integrate the 27-item version of HCAHPS into existing patient satisfaction surveys? Would it be easier to incorporate a shorter version of HCAHPS into existing surveys?
- What are the incremental costs associated with HCAHPS if it is integrated with existing surveys? How do these incremental costs vary based on the length of HCAHPS?
- How many hospitals have enough discharges to collect HCAHPS for 300 patients? How many hospitals have enough discharges to be able to collect HCAHPS for between 100 and 300 patients?
- What proportion of hospitals would collect HCAHPS via each of the possible survey modes (mail, phone, mixed mail and phone, active IVR)?
- What proportion of hospitals would collect HCAHPS via an integrated survey instrument? Note that this may vary based on the length of HCAHPS, with hospitals more likely to incorporate a shorter version into existing patient surveys.
- How do the costs of HCAHPS vary based on the level of follow-up with non-respondents?
- How do HCAHPS costs fit into the larger cost structure of hospitals? Does HCAHPS appear to represent an undue financial burden on hospitals, especially small hospitals?

Analyses of HCAHPS costs can be combined with information on the potential benefits of HCAHPS to evaluate the appropriateness of reducing HCAHPS from its current length of 27 items. This decision depends on a comparison of the marginal benefits associated with the longer survey compared to the marginal costs associated with the longer survey.

Our cost estimates offer new information that improves on the existing cost estimates in several ways:

- Larger sample of vendors on which to develop per-survey costs: the analysis is based on discussions with 4 of the leading patient satisfaction vendors, and estimates from 16 other survey companies.
- More accurate information on the costs and distribution of HCAHPS data collection by mode.

- More accurate information on the percent of hospitals that would collect 100 vs. 300 surveys.<sup>109</sup>
- Estimates of the marginal costs associated with incorporating HCAHPS into existing surveys (as opposed to collecting it separately) and for different levels of non-respondent follow-up.
- Recognizing uncertainty in the proportion of hospitals that would combine HCAHPS with existing surveys vs. administer it separately, we provide a range of cost estimates based on different assumptions about this parameter.

## 3.2 Methods

Our methodology for developing HCAHPS cost estimates included reviewing the small number of existing cost studies, conducting interviews with several of the major hospital patient satisfaction vendors to discuss cost-related issues, and collecting cost estimates from other survey companies that may be able to collect HCAHPS data for hospitals. We also reviewed Federal Register comments related to HCAHPS costs, information available on the web sites of the major survey vendors, used information from a Medicare Payment Advisory Commission (MedPAC) report, and analyzed Medicare Cost Report data.

- *Review of existing cost studies:* We conducted an extensive literature search for information on the costs of HCAHPS, but the literature on this topic is very limited. We also reviewed public comments made in response to Federal Register notices to understand hospital and survey vendor perspectives on cost-related issues.
- *Discussions with hospital patient satisfaction vendors:* Seven hospital patient satisfaction vendors were contacted by CMS and invited to participate in the study.<sup>110</sup> We received cost estimates and/or conducted telephone interviews with four of these companies. The focus of these interviews was to understand survey vendor perspectives on HCAHPS and to obtain any available information about the costs of HCAHPS and how these costs vary based on mode of data collection, survey length, and other factors. Note that, when we use the term “vendors” in this section of the report, we are referring to the current hospital patient satisfaction vendors.
- *Cost estimates from other survey companies:* We contacted 100 survey companies and invited them to submit cost estimates for alternative versions of HCAHPS that varied with respect to survey mode, questionnaire length, and level of non-respondent follow-up (see Appendix A for the cost specifications worksheet that was sent to these companies). Using the MRA (Marketing Research Association) 2005 Bluebook, vendors were randomly selected from among all vendors listed with a capacity of at least 20 CATI stations. When we refer to “survey companies” in this report, we are referring to survey companies that are not one of the major hospital patient satisfaction vendors.

So that we could examine how economies of scale might impact costs, we asked them to provide a cost estimate assuming that they were collecting survey data for 10 hospitals (3,000 surveys annually) and 100 hospitals (30,000 surveys annually). The companies

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<sup>109</sup> This was based on analysis of Medicare Cost Reports, which contain information on annual discharges for hospitals.

<sup>110</sup> The seven major vendors that CMS contacted were Avatar International, the Gallup Organization, the Jackson Organization, the Jackson Group, National Research Corporation/Picker (NRC-Picker), Press Ganey, and Professional Research Consultants (PRC).

were informed that the cost estimates were solely for purposes of this study, and would not be used for any quotes or bidding purposes. Organizations were asked to use their experience and best judgment as guidance for their cost estimates. We received cost estimates from 16 companies.

While these companies were informed that this was not an actual procurement, these cost estimates are important because they provide an external estimate of HCAHPS costs from organizations with no interest in the outcome of the study or in the version of HCAHPS that is implemented by CMS. Depending on the process that CMS uses to approve vendors to collect HCAHPS, these companies may be able to market their services to hospitals, particularly if HCAHPS is administered as a stand-alone survey.

- *Analysis of Medicare Cost Reports:* We analyzed the most recent Cost Report data available for short-term, acute care hospitals.<sup>111</sup> Hospital Cost Reports include information on hospital size (number of beds), annual discharges, revenue, and costs. These analyses were used to estimate the proportion of hospitals for which the required HCAHPS sample size would be 100 rather than 300.
- *Other sources:* We used a report from MedPAC to obtain financial information for analyzing how HCAHPS fits into the context of overall hospital costs.

### 3.3 Model

The basic model structure is relatively straightforward, and is a function of the number of surveys, the cost of each survey completed, and the number of hospitals that collect HCAHPS data. The cost per survey completed varies based on mode of data collection,<sup>112</sup> level of non-respondent follow-up, and with respect to whether HCAHPS is collected separately or combined with an existing survey.

Costs can be calculated using the two equations below:

$$\text{Cost per complete} = [(P_{\text{mail}} * \text{Cost}_{\text{mail}}) + (P_{\text{Phone}} * \text{Cost}_{\text{Phone}}) + (P_{\text{Mixed}} * \text{Cost}_{\text{Mixed}}) + (P_{\text{IVR}} * \text{Cost}_{\text{IVR}})]$$

$$\text{Total cost} = \text{Cost Per Complete} * [(N_{\text{Small}} * 100) + (N_{\text{Non-Small}} * 300)]$$

where:

$P_{\text{mail}}$  is the proportion of hospitals that collect HCAHPS by mail

$P_{\text{phone}}$  is the proportion of hospitals that collect HCAHPS by phone

$P_{\text{mixed}}$  is the proportion of hospitals that collect HCAHPS by mixed mail and phone

$P_{\text{IVR}}$  is the proportion of hospitals that collect HCAHPS by active interactive voice response (IVR)

$C_{\text{mail}}$  is the cost per complete for a mail survey (if HCAHPS is combined with other surveys, then this and the other cost figures are the marginal (or additional) costs associated with adding the HCAHPS items.)

<sup>111</sup> For 62 percent of the hospitals that we included in this analysis, 2003 was the most recent year for which Cost Report data were available; for almost all of the other hospitals, the most recent year available was 2002.

<sup>112</sup> HCAHPS can be completed using mail, phone, mixed mail and phone, or active IVR.



$C_{\text{phone}}$  is the cost per complete for a phone survey

$C_{\text{mixed}}$  is the cost per complete for a mixed mail and phone survey

$C_{\text{IVR}}$  is the cost per complete for an active IVR survey

$N_{\text{Small}}$  is the number of small hospitals (hospitals submitting 100 HCAHPS questionnaires)

$N_{\text{Non-Small}}$  is the number of large hospitals (hospitals submitting 300 HCAHPS questionnaires)

Estimates of the proportion of hospitals that collect HCAHPS by different survey modes were based on discussions with hospital survey vendors and market share information. Estimated costs per completed survey by mode are based on figures from hospital survey vendors, and the cost estimates that we obtained from other survey companies.<sup>113</sup>

Our analysis assumed that all hospitals collected HCAHPS for only the minimum number of patients for whom it is required. Most hospitals have ongoing data collection activities, and many far surpass the 300 minimum sample size in these current activities. Hospital's actual costs of HCAHPS data collection may be higher than what we report if they choose to collect HCAHPS on a larger sample than what is required, although there may be economies of scale that partially offset these higher costs.

In our analysis of cost estimates from other survey companies, we focus on median cost estimates rather than the minimum or the maximum. Companies with the lowest cost estimate may have underestimated costs, perhaps not fully understanding the survey specification worksheet. As a result, their cost figures may not be sustainable over time. Companies with high cost estimates would likely be unsuccessful in marketing to hospitals, given the availability of lower-cost options. In many cases, it appears that the companies that had high cost estimates for a given survey mode tend to specialize in another survey mode, for which their prices are more competitive, but they were attempting to be responsive to our request for a full range of cost estimates.

A major cost factor is whether HCAHPS is implemented as a separate survey or incorporated with the patient surveys used by many hospitals. To estimate the incremental costs associated with incorporating HCAHPS into existing surveys, we compared the cost estimates for survey companies for a 27-item questionnaire (i.e., HCAHPS as a separate instrument) to the costs of a 60-item questionnaire (i.e., a questionnaire that combines the 27 HCAHPS items with 33 additional questions).<sup>114</sup> These comparisons allow us to estimate the marginal (or incremental) costs associated with HCAHPS. To examine how costs differ based on survey length, we asked the major vendors about the costs associated with incorporating a shorter version of HCAHPS to their existing surveys. We also asked the non-hospital companies to estimate the costs of 7 and 15-item stand-alone surveys.

Survey vendors differ in their assessment of whether it is feasible or desirable to combine HCAHPS with other surveys. Given uncertainty about the extent to which HCAHPS will be integrated vs. administered separately, we examined the scenarios that varied with respect to the proportion of hospitals that incorporated HCAHPS into existing surveys. Also note that we assumed that HCAHPS would have no impact on existing survey activities (i.e., hospitals discontinuing patient satisfaction

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<sup>113</sup> Note that we are not able to assess the quality of the services provided by the survey companies who provided cost estimates. Our implicit assumption is that they compete solely on the basis of price, and that they are all capable of providing HCAHPS data collection services though not the full range of quality improvement services offered by hospital patient survey vendors.

<sup>114</sup> Note that some hospital patient satisfaction surveys contain more than 33 items, but this is the information that we have available for estimating the costs of incorporating HCAHPS into existing surveys.

surveys and only collecting HCAHPS). That is, we consider neither the potential cost savings that would result if questions were dropped from existing surveys because of HCAHPS or the impact that any such changes might have on hospital quality improvement activities.

### 3.4 Costs of HCAHPS as a Stand-Alone Instrument

Some hospitals may choose to administer HCAHPS as a stand-alone instrument, independent of any other patient surveys. This could be due to the concerns that some survey vendors have about the different scales used on HCAHPS and existing patient satisfaction surveys, the length of a combined survey, or the sampling methods. In addition, approximately 25 percent of hospitals do not use any of the major patient satisfaction survey vendors<sup>115</sup>, and they may choose to hire a survey vendor to collect their HCAHPS data as a stand-alone survey. The costs of administering HCAHPS as a stand-alone instrument depend on the costs associated with different survey modes, the mode used to collect the survey data and the sample size.

#### 3.4.1 Mail Survey Costs

We have four sources of information on the potential costs of HCAHPS administered as a mail survey (Table 1).

- Feinberg and Widdows (the Purdue Cost Study) estimated that HCAHPS conducted as a mail survey costs \$15- \$25 per completed survey.<sup>116</sup> Their estimates are based on the costs of a non-representative scan of survey companies that they have used for survey work. One of the hospital patient satisfaction vendors with whom we spoke indicated that this was the best source of information on their HCAHPS mail survey costs.
- A study of HCAHPS costs conducted by the Calgary Health Region in Canada estimated that the survey costs per complete for a 32-item version of HCAHPS were \$8.60 for a mail survey.<sup>117</sup> (Cost figures have been converted to U.S. dollars.)
- One of the major hospital patient satisfaction vendors estimated that their costs for collecting HCAHPS as a mail survey were \$10 per complete. This cost estimate was based on their data collection costs for previous surveys that were similar in length and content to HCAHPS. One major vendor recently decided to collect HCAHPS data at no cost to hospitals, regardless of whether HCAHPS is combined with an existing survey or collected separately.<sup>118</sup>
- We received cost estimates for the mail version of HCAHPS from a non-representative sample of four survey companies.<sup>119</sup> The median cost estimate was \$8.65 per complete, assuming that hospitals conduct two waves of mailings as is called for in the framework

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<sup>115</sup> Some of these hospitals do conduct patient satisfaction surveys, using either a small survey vendor or through their own in-house data collection.

<sup>116</sup> Feinberg R and Widdows R. “Notes on the Potential Costs of Administering the Proposed Hospital CAHPS (HCAHPS) Patient Opinion Survey, unpublished mimeograph, May 2005.

<sup>117</sup> Source: “Calgary Health Region” presented by Tim Cooke at the CAHPS National User Group Meeting, December 2004. (See [http://www.cahps-sun.org/Events/archive/UGM9/D01\\_P04\\_Farquhar.pdf](http://www.cahps-sun.org/Events/archive/UGM9/D01_P04_Farquhar.pdf)).

<sup>118</sup> Source: E-mail communication, September 1, 2005

<sup>119</sup> The small sample size is a source of concern for our estimates of mail survey costs, although estimates from these companies were consistent with the estimates that we received from other survey companies and approached the lower part of the range suggested by Feinberg and Widdows.

endorsed by the NQF. With a sample size of 100 hospitals (30,000 completes), the highest of the four cost estimates was \$12.68 per complete.

Given the cost estimates from major vendors and other survey companies, the upper part of the range estimated by Feinberg and Widdows seems unlikely. Our estimate is that, initially, the cost of HCAHPS implemented as a stand-alone mail survey would be \$10 - \$15 per complete. This estimate combines the cost estimate from one of the major vendor and the lower part of the range cited by Feinberg and Widdows, but is higher than the cost estimates that we received from other survey companies.

While it is not possible to know for certain, it is possible that, over time, the price of collecting HCAHPS via mail surveys may decrease towards the range suggested by the estimates from survey companies, particularly if there is a significant market for collecting HCAHPS as a stand-alone survey. This is because the HCAHPS instrument is widely available, and, depending on how CMS chooses to approve companies for HCAHPS collection, there may be few barriers to entry. For example, all of the NCQA-certified CAHPS vendors are listed on the NCQA web site,<sup>120</sup> a procedure that may facilitate the entry of new survey companies that may compete on the basis of price.

It is important to note that the cost estimates from survey companies do not reflect any costs that may be associated with becoming approved as an HCAHPS vendor. Given that CMS does not plan to require any application, training, or certification fee, we believe that start-up costs would be modest and likely consist mainly of the marketing costs that may be required to attract clients.<sup>121</sup>

Over time, depending on the potential market size and barriers to entry, competition among survey vendors may decrease the costs of HCAHPS, perhaps towards the \$8.65 median cost per complete estimate from the other survey companies. In an open market, it would not be surprising if one or more of the survey companies that provided cost estimates attempted to market their services to hospitals.<sup>122</sup> This would place pressure on the existing hospital survey vendors to achieve cost efficiencies by combining HCAHPS with their patient satisfaction surveys or lowering their costs for a stand-alone HCAHPS survey.

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<sup>120</sup> See [http://www.ncqa.org/programs/HEDIS/survey/SVC\\_Information/VendorList.pdf](http://www.ncqa.org/programs/HEDIS/survey/SVC_Information/VendorList.pdf)

<sup>121</sup> This is in contrast to the fees associated with becoming certified as a CAHPS vendor. According to an RFP that was issued in July 2005, the NCQA CAHPS health plan vendor certification program includes fixed costs of \$13,500 (a \$500 application fee, a \$5,000 training fee, and an \$8,000 vendor certification fee). See [http://www.ncqa.org/programs/HEDIS/survey/SVC\\_Information/RFP.pdf](http://www.ncqa.org/programs/HEDIS/survey/SVC_Information/RFP.pdf)

<sup>122</sup> Several of the companies that provided cost estimates seemed quite eager to collect HCAHPS data from hospitals, based on their contact with members of the research team and the additional marketing materials that they sent along with their cost estimates.

**Table 1: Estimated Costs of HCAHPS as a Mail Survey**

<b>Source</b>	<b>Cost Estimate (Cost per complete)</b>
Feinberg and Widdows (Purdue Cost Study)	\$15-\$25
Calgary Health Region study	\$10.48
Estimates from hospital survey vendor	\$10
Median estimate from other survey companies	\$8.65

**Notes:**

Note that one hospital patient satisfaction vendor told us that their costs of collecting HCAHPS data were reflected in the estimates of Feinberg and Widdows.

Cost estimate from the Calgary Health Region is for a 32-item version of HCAHPS and includes survey and programming costs. Survey costs alone were \$8.60 for a mail survey.

Estimates from other survey companies are based on the median cost estimate provided by survey companies. The cost estimate was based on an assumption that companies would be collecting HCAHPS data for 10 hospitals (3,000 completes). The median cost per complete assuming 100 hospitals (30,000 completes) was \$8.58. Cost estimates from other survey companies do not include the costs associated with developing a sampling frame of relevant discharges or drawing the sample of discharges to be surveyed.

*Source: Abt Associates, 2005*

### 3.4.2 Phone Survey Costs

We found a range of estimates for the costs of administering HCAHPS as a phone survey (see Table 2):

- Feinberg and Widdows estimated the costs of HCAHPS administered as a phone survey to be in the \$35 - \$75 range. As with their mail survey costs, these estimates are based on the costs of a scan of survey companies that they have used for survey work.
- The Calgary Health Region cost study reported that the survey costs per complete for a 32-item version of HCAHPS were \$12.89 for a phone survey (cost figures converted to U.S. dollars).
- We received cost estimates from several major hospital survey vendors. Their estimates of the costs of collecting HCAHPS data via a phone survey ranged from \$16.67 to \$20 per complete.<sup>123</sup>
- We received phone cost estimates from 16 other survey companies. Assuming a sample size of 3,000 (10 hospitals) and up to five attempts as called for by the NQF measure specifications, the median cost per complete was around \$18.81 assuming 10 hospitals (3,000 completes), and \$16 assuming 100 hospitals (30,000 completes). Eight of the 16 companies that provided estimates for collecting HCAHPS using a telephone survey estimated their cost per complete at \$17.00 or less, and six companies indicated that their cost would be \$13.00 or less per complete (see Figure 1).

<sup>123</sup> This represented a cost of \$15.00 per completed survey and a fixed \$500 cost for data transmission/data file creation. Thus, for a small hospital with only 100 surveys, the cost would be \$20 per complete.

Cost estimates from current hospital vendors were similar to those from other survey companies, giving a solid basis for estimates of HCAHPS phone survey costs. Our estimates were considerably lower than those of Feinberg and Widdows (the Purdue Cost Study). Only one of the 16 companies that provided estimates of phone survey costs had an estimate as high as even the lower bound of their estimated costs. Given the detailed specification sheet that we provided to the companies that furnished estimates, we believe that the estimates from these survey companies give more accurate information as to the costs of collecting HCAHPS as a stand-alone telephone survey.

**Table 2: Estimated Costs of HCAHPS as a Phone Survey**

<b>Source</b>	<b>Cost Estimate (Cost per complete)</b>
Feinberg and Widdows	\$35-\$75
Calgary Health Region study	\$12.89
Estimates from hospital survey vendors	\$16.67 - \$20
Median estimate from other survey companies	\$18.81 assuming 10 hospitals \$16.00 assuming 100 hospitals

**Notes:**

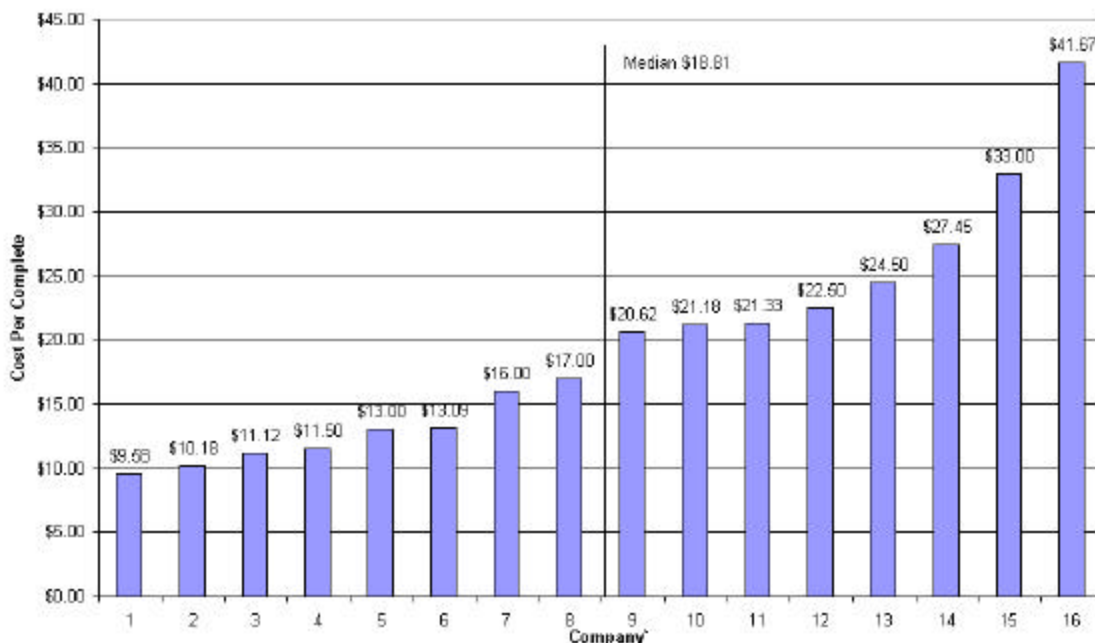
Cost estimate from the Calgary Health Region is for a 32-item version of HCAHPS and includes survey and programming costs. Survey costs alone were \$10.62 for a phone survey.

Estimates from other survey companies are based on the median cost estimate provided by survey companies for a phone survey with up to five follow-up attempts.

The cost estimate was based on an assumption that companies would be collecting HCAHPS data for 10 hospitals (3,000 completes). Cost estimates from other survey companies do not include the costs associated with developing a sampling frame of relevant discharges or drawing the sample of discharges to be surveyed.

*Source: Abt Associates, 2005*

**Figure 1: HCAHPS Phone Cost Estimates from 16 Survey Companies**



Note: Cost estimates for a phone survey with up to 5 follow-up attempts and assuming 3,000 completed surveys (10 hospitals).

### 3.4.3 Mixed Mail and Phone Costs

We do not have reliable information on the costs of collecting HCAHPS via mixed phone and mail techniques. None of the major vendors with whom we spoke provided cost estimates for mixed mode data collection. The survey companies from whom we received cost estimates specialize in either mail or phone surveys, and only one of them provided a cost estimate for collecting HCAHPS via mixed phone and mail techniques. Feinberg and Widdows provided an estimate that was based on the weighted average of mail and phone costs described above. Because of the lack of vendors providing mixed mode surveys, we anticipate that very few hospitals would elect to collect HCAHPS this way, and we do not include mixed modes in any of our cost estimates.

### 3.4.4 Active IVR Costs

The Jackson Organization provides HCAHPS data collection via active IVR. On their web site, they state that they can collect HCAHPS data for \$3,000 per hospital (or \$10 per complete assuming a sample size of 300) (Figure 2). None of the other major survey vendors provided a cost estimate for collecting HCAHPS via active IVR.

While few hospitals currently collect HCAHPS using active IVR, this price is important because hospitals seeking to minimize their HCAHPS expenditures will have the financial incentive to collect HCAHPS through the active IVR method. As one vendor noted, this may become the “street price” for HCAHPS data collection—the price to which prices move towards over time.

**Figure 2: HCAHPS Cost Estimate from the Jackson Organization**

The screenshot shows the Jackson Organization's website. At the top, there is a banner with the text "Measure Improve Thrive" and the Jackson Organization logo. Below the banner is a navigation menu with links: "Company Profile", "Company Services", "Education, News", "Online Reporting", "FAQ's and HIPAA", and "Client Access". The main content area is titled "Education & News HCAHPS Administration". A prominent headline states: "The Jackson Organization is offering to meet all HCAHPS requirements for only \$3,000 per year!". Below this headline, there is a paragraph explaining that Hospital CAHPS (HCAHPS®) was created by the Centers for Medicare & Medicaid Services (CMS) to measure and report on patients' experiences with their inpatient care. It also mentions that the information collected through HCAHPS is scheduled to be publicly reported in 2006 through the www.hospitalcompare.mhs.gov website. A timeline for implementation is provided, stating that implementation and training began in Summer 2005, with full implementation to take place in late 2005. A list of services provided for \$3,000 annually includes: 300 completed surveys per year and 100 surveys for small hospitals; English and Spanish versions of the survey; and assistance with sample development.

### 3.4.5 Survey Administration Mode

Most hospitals use mail surveys for their patient satisfaction surveys. The two largest hospital vendors, Press Ganey and the National Research Corporation (NRC), service almost 50 percent of hospitals in the United States.<sup>124</sup> Both NRC and Press Ganey use mail surveys. Based on discussions with hospital survey vendors, we estimate that between 80 and 85 percent of hospitals conduct their patient satisfaction surveys by mail. The remaining 15-20 percent use either phone or active IVR.

Combined, the major vendors have a market share of more than 70 percent. According to information from the Society of Hospital Medicine, the market share of the major hospital patient satisfaction vendors is as follows:<sup>125</sup>

- Press Ganey has a market share of more than 30 percent, including 40 percent of hospitals with more than 100 beds. Press Ganey uses mail surveys to collect patient satisfaction information.
- NRC+Picker reports a market share of around 15 percent of the hospitals that are participating in the Hospital Quality Alliance and uses mail surveys.
- The Gallup Organization has a market share of 11 percent. Gallup offers both mail and phone surveys.
- PRC has a 6 percent market share and collects data through phone surveys.

<sup>124</sup> Source: [http://www.dph.state.ct.us/Agency\\_News/PA02125%20Quality%20Health%20Report.pdf](http://www.dph.state.ct.us/Agency_News/PA02125%20Quality%20Health%20Report.pdf)

<sup>125</sup> Source: [http://www.hospitalmedicine.org/AM/Template.cfm?Section=Search\\_Advanced\\_Search&section=Medical\\_Resources\\_Docs\\_Pdfs\\_Pps\\_Ppt\\_&template=/CM/ContentDisplay.cfm&ContentFileID=337](http://www.hospitalmedicine.org/AM/Template.cfm?Section=Search_Advanced_Search&section=Medical_Resources_Docs_Pdfs_Pps_Ppt_&template=/CM/ContentDisplay.cfm&ContentFileID=337)

- The Jackson Organization has a market share of 5 percent. They offer phone and active IVR surveys.
- Avatar International has a 4 percent market share and collects survey data using mail techniques.
- The Jackson Group has 220 clients in the United States and Britain, including hospitals, physician practices, home health organizations, and long-term care facilities and uses a variety of survey methods.

Based on the market shares of the major vendors and their mode of data collection, it is clear that patient satisfaction surveys are collected using mail surveys, and it is likely that HCAHPS will follow a similar pattern.

#### **3.4.6 Distribution of Hospitals By Number of Discharges (and HCAHPS Sample Size)**

The HCAHPS sample specifications developed by NQF call for hospitals to complete a minimum of 300 HCAHPS survey instruments over a 12-month period. There is an exception for small hospitals that are not able to reach 300 completed surveys, with at least 100 completed surveys required for hospital data to be reported.

The number of annual discharges required to get 300 completes depends on the response rate and the proportion of discharges that are eligible for HCAHPS. Based on discussions with survey vendors, we estimate that hospitals can anticipate a 50 percent response rate and that 20 percent of discharges will either be ineligible for HCAHPS (i.e., because they are one of the excluded populations) or because of bad contact information.<sup>126</sup> Using these assumptions, hospitals with fewer than 250 annual discharges would probably not collect HCAHPS because they would be unlikely to reach the 100 completed surveys required for public reporting. Hospitals with between 250 and 750 discharges would be likely to have fewer than 300 completed surveys, while hospitals with more than 750 discharges would likely have 300 or more completed surveys.

Based on analysis of the number of hospital discharges reported in Medicare Cost Reports, we estimate that there are 4,777 general short-term hospitals in the United States. Focusing on those for which the most recent Cost Report covered a full year, we estimate that 5.7 percent have fewer than 250 discharges and would be unlikely to be able to reach the minimum sample size required for public reporting (Table 3). This includes 1.8 percent of hospitals that reported fewer than 100 annual discharges. Approximately 11.4 percent of hospitals had between 250 and 750 annual discharges and likely would likely collect fewer than 300 completed surveys.<sup>127</sup> The remaining 83 percent of hospitals have 750 or more discharges and should have sufficient discharges to collect HCAHPS data from 300 or more patients. Almost 80 percent of hospitals reported 1,000 or more annual discharges.

Given these figures, we estimate that there are 4,508 hospitals that have sufficient patient volume to collect HCAHPS, 503 of which would likely have a sample size of 100 completes and 4,005 that have 300 completes.

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<sup>126</sup> Excluded populations include psychiatric patients, pediatric patients under the age of 18, patients who died in the hospital, patients who did not stay at least one night in the hospital, and other patients are required by law or regulation in the hospital's state.

<sup>127</sup> Note that many of these hospitals would likely have more than 100 completed surveys, given that the HCAHPS specifications developed by NQF call for hospitals to sample as many discharges as possible.



**Table 3: Distribution of Hospitals By Annual Discharges**

Number of Discharges	Number of Hospitals	Percentage
< 100	75	1.8%
100-250	165	3.9%
250-500	264	6.2%
500-750	223	5.2%
750-1000	189	4.4%
>1000	3,352	78.5%

Note: Includes only hospitals whose most recent cost report covered between 350 and 380 days (i.e., approximately a full year). More than 500 hospitals are excluded from this analysis because their Cost Report data covers either a shorter or longer time interval.

Source: Abt Associates analysis of Medicare Cost Reports.

### 3.4.7 Total Costs of a 27-Item HCAHPS Stand-Alone Survey

Our estimates of the total costs of HCAHPS administered as a stand-alone survey are based on these assumptions:

- There are approximately 4,500 hospitals that have 250 or more annual discharges that could participate in HCAHPS. More than 4,000 hospitals are participating in the Hospital Quality Alliance, which is the program under which the HCAHPS falls, and we presume that most hospitals will elect to collect HCAHPS data.
- Most hospitals would use mail (80- 85 percent), with 10- 15 percent using phone, and 5 percent using active IVR.
- The cost of a mail survey is between \$10 and \$15 per complete.
- The cost of a phone survey is between \$16.67 and \$20 per complete.
- The cost of an active IVR is \$10 per complete.

Given these assumptions, the average costs per complete for HCAHPS are between \$11.00 and \$15.25<sup>128</sup>, or between \$3,300 and \$4,575 for hospitals collecting survey data for 300 patients (Table 4). Given these per hospital costs, the nationwide costs of implementing HCAHPS as a stand-alone instrument would be between \$13.8 and \$19.1 million, assuming that all eligible hospitals choose to participate. As discussed below, there are potential efficiencies associated with combining HCAHPS with existing patient satisfaction surveys that would likely mean that the actual costs associated with HCAHPS would be lower.

<sup>128</sup> This is the average of phone, mail, and active IVR costs, weighted by an estimate of the proportion of hospitals using each of these modes for HCAHPS data collection.

**Table 4: Estimated Costs of 27-Item HCAHPS Administered as a Stand-Alone Instrument**

<b>Component</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Costs per Complete by Mode</b>		
Cost Mail	\$10.00	\$15.00
Cost Phone	\$16.67	\$20.00
Cost IVR	\$10.00	\$10.00
<b>Costs to Hospitals</b>		
Costs Per Complete-- Weighted Average	\$11.00	\$15.25
Costs Per Hospital-- 100 completes	\$1,100	\$1,525
Cost Per Hospital-- 300 completes	\$3,300	\$4,575
<b>National Costs</b>	<b>\$13,772,617</b>	<b>\$19,092,988</b>

**Notes:**

†: Minimum hospital participation is assumed to be the 3,662 hospitals that had agreed to participate in the quality initiative program under which HCAHPS falls (as of August 2004). Maximum participation is the estimated number of hospitals with more than 250 discharges (who would be likely to be able to get at least 100 responses). Since HCAHPS is voluntary, actual participation could be less, and lower participation would result in a corresponding decrease in costs.

Cost estimates assume that 85 percent of surveys are collected by mail, 10 percent by phone, and 5 percent by active IVR.

National cost estimate assumes that 4,505 hospitals collect HCAHPS data, 503 of which collect HCAHPS from 100 patients and 4,005 that collect it for 300 patients.

Source: *Abt Associates, 2005*

**3.4.8 Costs of a Shorter Version of HCAHPS Administered as a Separate Survey**

Several patient satisfaction vendors have indicated that they could easily incorporate a shorter version of HCAHPS into their existing surveys, and we do not expect that many hospitals would choose to administer HCAHPS as a separate survey if the number of questions was reduced given the cost savings that are possible if HCAHPS is combined with existing surveys. There may be some hospitals that would elect this option, perhaps because they do not currently collect any patient satisfaction data or because of statistical concerns related to combining HCAHPS with an existing survey. It is estimated that approximately 20 percent of hospitals do not have patient survey satisfaction surveys in place.<sup>129</sup>

To estimate the costs of a shorter version of HCAHPS collected as a stand-alone survey, we asked the survey companies to provide cost estimates for a seven-item stand-alone survey. The savings associated with a stand-alone shorter version of HCAHPS are modest, as shown in Table 5:

- The median cost of a shorter version of HCAHPS administered as a mail survey was \$7.02 per complete, \$1.63 less than the costs of administering the 27-item version of HCAHPS by mail, based on the survey company cost estimates from Table 1.
- The median cost of a seven-item version of HCAHPS administered as a phone survey was \$11.25, assuming a sample size of 10 hospitals (3,000 completes), which was \$7.56 less than the median costs of collecting the 27-item version of HCAHPS by phone (from Table 2).

<sup>129</sup> Source: <http://www.jacksonorganization.com/EducationAndNews/Coalition%20press%20release.pdf>

- Assuming that 80 percent of surveys are done via mail and 20 percent by phone, the cost per complete of a 7-item HCAHPS survey is \$7.87, which is \$2.81 less than the full 27 item version of HCAHPS based on the cost estimates from survey companies.
- A 15-item HCAHPS survey is somewhat more expensive than the 7-item instrument, with a weighted average cost of \$8.65 per complete. This is \$2.03 less than the estimate of costs for the 27-item version of HCAHPS based on estimates from survey companies.

**Table 5: Estimated Costs of a Shorter Stand-Alone Version of HCAHPS (Median Cost Estimates For A 7-Item and 15-Item Survey)**

Mode	Cost per Complete	Difference in Cost Relative to 27-Item HCAHPS
<b>7-Item Survey</b>		
Mail	\$7.02	\$1.63
Phone	\$11.25	\$7.56
Weighted average	\$7.87	\$2.81
<b>15-item Survey</b>		
Mail	\$7.47	\$1.18
Phone	\$13.38	\$5.44
Weighted average	\$8.65	\$2.03

Notes: Mail survey with one follow-up; phone survey with up to five attempts. Estimates are based on the median cost estimate provided by survey companies for a 7 and 15 item stand-alone survey. These figures are based on the assumption that survey vendors would provide data collection for 10 hospitals (3,000 completes).

Weighted average is based on assumption that 80 percent of surveys are conducted by mail and 20 percent by phone. Note that no incremental cost estimate is available for active IVR or mixed phone-mail survey modes.

Cost estimates do not include the costs associated with developing a sampling frame of relevant discharges or drawing the sample of discharges to be surveyed.

Source: Abt Associates, 2005

## 3.5 Costs of Incorporating HCAHPS into Existing Patient Satisfaction Surveys

### 3.5.1 Industry Perspectives on Incorporating HCAHPS Into Existing Surveys

A major factor in the costs of HCAHPS is whether the 27 HCAHPS questions would be incorporated into existing patient surveys or administered separately. Combining HCAHPS with existing survey efforts offers the possibility of significant cost savings, given the relatively low marginal cost associated with adding questions to existing surveys. In response to HCAHPS-related solicitations for information, several organizations submitted written comments to CMS. A theme in several of these comments was that HCAHPS (either the 27-item version or the 32-item version of HCAHPS that preceded it) was too long to be incorporated into existing surveys:

- *"Overwhelmingly, the interested parties (including hospitals and the majority of research vendors) concur that for the HCAHPS program to be effective, non-burdensome, and successfully adopted and implemented, the number of questions should be six or less, thus*

*making the survey items easy to incorporate into existing surveys." (Jackson Organization, February 2, 2004)<sup>130</sup>*

- *"The HCAHPS survey indicators should be no more than five to six questions that can be integrated into existing hospital patient satisfaction measurement initiatives, rather than the currently proposed 25-question survey." (PRC, January 10, 2005)<sup>131</sup>*
- *"A total of five to six questions, which patients currently consider to be most important, will fulfill CMS' goal for public reporting but will neither be a financial burden nor be disruptive to ongoing hospital improvement initiatives" (Press Ganey, January 13, 2004)<sup>132</sup>*

Reasons given for why the 27-item version of HCAHPS could not be incorporated into existing patient satisfaction surveys included concerns about the reliability and validity of a combined instrument, the ability to benchmark, the impact of a longer survey instrument on response rates, and cost. There was also concern about whether HCAHPS could have unintended consequences on hospital quality improvement activities.

#### Validity/Reliability Concerns:

- Attempting to incorporate the 27-item version of HCAHPS into existing surveys could cause data shifts in the benchmark data from the client's previously fielded questionnaires. This could be because changes to existing survey instruments or the methods used to identify the survey sample that hospitals make to accommodate HCAHPS. This may have unintended consequences on hospital quality improvement efforts.
- Patient satisfaction surveys typically ask respondents to rate their satisfaction with hospital care. HCAHPS asks patients to report the frequency with which specific patient-centered care behaviors occurred during their hospital stay. Several vendors expressed concern that the different scales, combined with some similarity in the topics covered by HCAHPS and patient satisfaction questionnaires, may frustrate and confuse respondents and impact reliability and hospital quality improvement efforts.

#### Response Rate Concerns:

Concerns have been raised about the impact of a longer combined survey instrument on response rates. Given that patient satisfaction surveys are typically 30 or more items, combining HCAHPS with existing questionnaires would result in a questionnaire that includes around 60 items. An article authored by the leader of Gallup's Healthcare Program states, *"32 items would add seven to nine minutes to most existing telephone patient satisfaction surveys, dramatically increasing costs and respondent burden, with little added insight or benefit. The consensus at Gallup and among some of our industry competitors is that no more than six items are necessary to establish a scientific, reportable national patient satisfaction standard."*<sup>133</sup> Our interviews with major vendors suggested that these same concerns apply to the 27-item version of HCAHPS.

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<sup>130</sup> Source: <http://www.jacksonorganization.com/EducationAndNews/H-CAHPS%20Initiative%20Response%20-2-2-04.pdf>.

<sup>131</sup> Source: <http://www.pronline.com/docs/FederalRegisterCommentsJanuary05.pdf>.

<sup>132</sup> Source: [http://www.pressganey.com/scripts/news.php?news\\_id=95](http://www.pressganey.com/scripts/news.php?news_id=95).

<sup>133</sup> Nielsen, Robert. National Patient Survey: Does It Measure Up? Gallup Organization, February 17, 2004. (Accessible through [www.gallup.com](http://www.gallup.com))

There are, however, differences of opinion among survey vendors about whether HCAHPS can be combined with other survey items. NRC+Picker has created an integrated questionnaire, known as HCAHPS Picker Plus, which includes HCAHPS and additional items that "capture the full patient experience across all dimensions of patient-centered care."<sup>134</sup> Analysis by the company suggests that mail survey response rates are not affected by a longer questionnaire. In research that was presented at the December 2004 CAHPS® Across the Health Care Continuum: 9th National User Group, researchers from the company presented findings from a study that examined the impact of survey length on response rates at a sample of seven California hospitals. They examined three survey instruments: HCAHPS (an earlier 32-item version), the PEP-C survey used in 2004 (69 items) and the HCAHPS+Picker Plus survey, based on a combination of HCAHPS and some Picker items (71 items). All three surveys utilized the same mailing methodology: an initial survey with separate personalized cover letter, a personalized follow-up thank you/reminder letter (not a postcard), and a follow-up survey with separate personalized letter to non-respondents. All three versions had very similar rates of response: HCAHPS had a response rate of 43 percent, the PEP-C survey had a response rate of 41 percent, and the HCAHPS+Picker Plus survey had a response rate of 45 percent. This analysis suggests that a longer mail survey may not lead to a lower response rate, at least within the survey length range that is relevant for HCAHPS.

### ***Industry Concerns About Potential Impact on Quality Improvement Efforts***

Most U.S. hospitals conduct some type of internal patient-satisfaction surveys, either using hospital staff or by contracting with specialized hospital survey vendors. The information generated is used for internal quality control and marketing. There is concern that the 27-item version of HCAHPS could be disruptive to existing hospital quality improvement efforts.

*“There is simply no need to disrupt or duplicate these important process improvement initiatives and it certainly won’t help improve healthcare quality to lose important historical trends and comparative benchmarks built up over the years.” (PRC, quoted in a February 16, 2004 press release)*

*(The University HealthSystem Consortium) supports the notion of merging and reducing the number of the CMS questions into existing patient satisfaction surveys. CMS reporting requirements can be fulfilled while allowing our members to continue to actively engage in the performance improvement activities critical to better outcomes.” (University HealthSystem Consortium, quoted in a February 16, 2004 press release)*

The extent to which HCAHPS would affect quality improvement efforts depends on whether hospitals drop existing patient satisfaction surveys to collect HCAHPS, the extent to which longitudinal data sets are affected because hospitals change vendors or survey instruments, and the extent to which these longitudinal databases impact quality improvement efforts.

### ***Vendor Perspectives on Incorporating A Shorter Version of HCAHPS Into Existing Surveys***

Some survey vendors who do not believe that it is feasible to incorporate a 27-item HCAHPS questionnaire into existing patient satisfaction surveys do believe that it would be feasible and very inexpensive to incorporate a shorter HCAHPS survey (consisting of 6-10 items) into existing patient satisfaction surveys. Other vendors favor implementation of the 27-item version of HCAHPS and believe that it can be incorporated into existing surveys without difficulty.

One vendor told us that almost all of their clients had indicated that they would choose to embed HCAHPS if the instrument length is made shorter. It is clear that, if the length of HCAHPS is shortened, almost all hospitals will choose to embed it into their existing surveys. What is less clear

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<sup>134</sup> Source: <http://nrcpicker.com/default.aspx?DN=305,274,236,3,1,Documents>

is whether these hospitals and their vendors will find a way to incorporate the 27-item version of HCAHPS into existing surveys or administer it separately.

Avatar International, the Jackson Organization, PRC, and Press Ganey have proposed a "zero cost-low cost" plan under which a small number of HCAHPS questions would be incorporated into their existing patient surveys at little or no cost to hospitals.<sup>135</sup> This is consistent with our cost estimates from other survey companies, which showed that the incremental costs of adding 8 survey questions are minimal, particularly for mail surveys. Currently, at least one vendor does not charge hospitals for the custom questions that some of them include in their surveys.

### 3.5.2 Costs of HCAHPS Incorporated Into Existing Surveys

To estimate the marginal costs associated with HCAHPS if it is incorporated into existing surveys, we asked the companies that provided HCAHPS cost estimates to furnish estimates for questionnaires of differing lengths. While these companies do not currently collect hospital patient satisfaction data and thus have no actual survey instrument into which HCAHPS would be incorporated, their estimates of the costs associated with additional survey questions provide an unbiased, objective basis for measuring the costs of HCAHPS if it were incorporated into existing surveys. Given the politics surrounding HCAHPS<sup>136</sup>, these cost estimates provide an important external validity check on the likely costs of HCAHPS, given a scenario under which most hospitals combine HCAHPS with their existing data collection activities.

Based on the cost estimates that we received, the incremental costs of incorporating HCAHPS into existing surveys do not vary much based on the length of the survey. The costs of incorporating HCAHPS into existing surveys are considerably lower than the costs of collecting HCAHPS separately (Table 6).

- *Mail survey*: Increasing the survey length from 27 to 60 items increases the median cost per complete for a mail survey from \$8.65 to \$10.66 (assuming one follow-up attempt). The incremental cost associated with the longer questionnaire is \$2.01. Given that many patient satisfaction questionnaires have at least 30 questions, this is a reasonable proxy for the costs of HCAHPS if it is incorporated into an existing survey. Because of the fixed costs associated with mail surveys, the incremental costs of additional questions are relatively small.
- *Phone survey*: The costs of a phone survey are more proportional to survey length, but there are still economies of scale associated with a longer survey. Increasing the survey length from 27 to 60 items increases the median cost per complete from \$18.81 to \$27.07 (assuming five follow-up attempts). The marginal cost associated with the longer questionnaire is \$8.26.
- *Response Rate*: It is important to note that these marginal cost estimates implicitly incorporate the impact of any reduction in response rates associated with the longer questionnaire. This is because the survey companies were told what the required sample size was and told to estimate the cost required to achieve this rate. Thus, if companies expected response rates to decrease sharply as the length of the survey increases, this would have been reflected in their estimated costs per complete.

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<sup>135</sup> Source: <http://www.jacksonorganization.com/EducationAndNews/CMS%20CEO%20Letter1.pdf>

<sup>136</sup> As an example, see [http://www.pressganey.org/files/cms\\_ceo\\_letter\\_01122004.pdf](http://www.pressganey.org/files/cms_ceo_letter_01122004.pdf).

**Table 6: Estimated Costs of Incorporating HCAHPS Into Existing Patient Surveys (Median Cost Estimates For a 60 and 27-Item Survey)**

Mode	Total Number of Items In Survey		
	27	60	Difference
Mail	\$8.65	\$10.66	\$2.01
Phone	\$18.81	\$27.07	\$8.26
Weighted average	\$10.68	\$13.94	\$3.26

**Notes:**

Based on cost estimated provided by survey companies.

Mail survey with one follow-up; phone survey with up to five attempts.

60 item survey includes 27 HCAHPS items and 33 items in an existing patient satisfaction survey.

Weighted average is based on assumption that 80 percent of surveys are conducted by mail and 20 percent by phone. Note that no incremental cost estimate is available for active IVR or mixed phone-mail survey modes.

Source: *Abt Associates, 2005*

### 3.5.3 Costs of a Shorter Version of HCAHPS Incorporated Into Existing Surveys

We also asked the survey companies that completed the cost specification worksheet to provide an estimate for the costs of a 15-item survey. Comparison of cost estimates for a 15 and 27 item survey is our best available proxy for the marginal cost of incorporating a shorter version of HCAHPS into existing patient satisfaction surveys, allowing us to estimate the marginal savings associated with reducing the length of HCAHPS by 12 items. While most existing patient satisfaction surveys are considerably longer than 15 items, the implicit assumption is that the fixed costs associated with administering a survey are captured in the cost estimates for a 15-item survey, and the marginal costs of adding 12 additional survey items would be similar regardless of whether they were added to a 15 item survey or a longer one.

Based on cost estimates from survey companies, the savings from reducing the length of HCAHPS are small, assuming that HCAHPS would be integrated with existing patient surveys regardless of its length.

- For a mail survey, the median costs per complete were \$7.47 for a 15-item survey, \$1.18 lower than for a 27-item survey (Table 7).
- For a phone survey, the median cost per complete was \$13.38 for a 15-item survey, \$5.43 lower than a 27-item survey.
- Assuming that 80 percent of surveys are collected using mail, the estimated cost per complete for a 15-item survey is \$8.65, compared to \$10.68 for the 27-item version of HCAHPS. These figures imply that the incremental costs associated with a 27-item version of HCAHPS are around \$2.03.

This \$2.03 figure is the upper bound of our estimate of the incremental costs associated with moving from a short version of HCAHPS to a 27-item version. The lower bound of this estimate is \$0, based on information from major vendors that they could incorporate 6-10 HCAHPS items at no cost to hospitals.

**Table 7: Estimated Costs of Incorporating a Shorter (12 Item) Version of HCAHPS Into Existing Patient Surveys: Median Cost Estimates For a 27 and 15-Item Survey**

Mode	Total Number of Items in Survey		
	27	15	Difference
Mail	\$8.65	\$7.47	\$1.18
Phone	\$18.81	\$13.38	\$5.43
Weighted average	\$10.68	\$8.65	\$2.03

Notes:

Based on cost estimated provided by survey companies.

Mail survey with one follow-up; phone survey with up to five attempts.

Weighted average is based on assumption that 80 percent of surveys are conducted by mail and 20 percent by phone. Note that no incremental cost estimate is available for active IVR or mixed phone-mail survey modes.

Source: Abt Associates, 2005

### 3.5.4 National Cost Estimates Depending on the Proportion of Hospitals That Incorporate HCAHPS Into Existing Surveys

We can combine the cost figures from the tables above to measure how the estimated costs of HCAHPS changes depending on the proportion of hospitals that incorporate HCAHPS into their existing patient surveys rather than implementing it as a stand-alone survey (Table 8).

- The costs of a 27-item version of HCAHPS are estimated to be between \$11.00 and \$15.25 if it is collected as a stand-alone survey (from Table 4).
- The incremental cost of a 27-item version of HCAHPS incorporated into existing surveys is estimated to \$3.26 (from Table 6).
- The cost of a stand-alone 15-item version of HCAHPS is \$8.65 (from Table 5)
- The cost of a shorter 7-item version of HCAHPS is \$7.87 if it is conducted as a separate survey (from Table 5).
- The incremental cost of incorporating a shorter version of HCAHPS into existing surveys is estimated to be between zero<sup>137</sup> and \$2.03 (from Table 7).

A shorter version of HCAHPS is less costly, with estimated incremental costs between \$0.00 and \$7.87 depending on the proportion of hospitals that combine it with existing surveys (Figure 3). Assuming that at least 75 percent of hospitals incorporate it into existing surveys, the incremental costs of a shorter version of HCAHPS would likely be less than \$3.25 per complete, and it could be considerably lower if some vendors do not charge anything for HCAHPS data collection.

<sup>137</sup> The zero dollar incremental cost figure is based on assertions from some survey vendors that they can incorporate a 6-10 item version of HCAHPS into their existing questionnaires at no additional cost.



**Table 8: Estimated Costs For 7 and 27-Item HCAHPS Surveys Depending on Whether HCAHPS Is Combined With Existing Surveys**

	Estimated Cost per Complete	
	Minimum	Maximum
<b>HCAHPS: 27 Items</b>		
Implemented as a stand-alone survey (from Table 4)	\$11.00	\$15.25
Incorporated into existing surveys (from Table 6) †	\$3.26	\$3.26
<b>Shorter Version of HCAHPS: 15 Items</b>		
15 items Implemented as a stand-alone survey (from Table 5)	\$8.65	\$8.65
7 items Implemented as a stand-alone survey (from Table 5)	\$7.87	\$7.87
12 items Incorporated into existing surveys (from Table 7)	\$0.00*	\$2.03**

Notes:

† This is the incremental cost associated with incorporating HCAHPS into an existing 30-35 item survey.

\* The minimum figure is based on assertions from some survey companies that they would incorporate a shorter version of HCAHPS into their existing surveys at no additional cost to their clients.

\*\* This figure is based on the marginal costs associated with adding 12 items to a 15-item survey.

Note that the cost estimates that we obtained from survey companies do not permit us to estimate the costs of incorporating a 15-item version of HCAHPS into existing surveys.

Source: Abt Associates, 2005

We can combine these figures with assumptions about the proportion of hospitals that incorporate HCAHPS into existing surveys to produce estimates of the national costs of HCAHPS. Note that the assumptions below assume that 80 percent of HCAHPS surveys are collected by mail, 15 percent by phone, and 5 percent active IVR. We assume that 4,500 hospitals choose to collect HCAHPS data.

- The lower bound estimate of annual costs for a 27-item version of HCAHPS is \$4.0 million, assuming that all hospitals are able to integrate it with existing surveys and that the average marginal cost is \$3.26 per survey. (Table 9). The upper bound estimate is \$19.1 million, assuming that HCAHPS is collected as a separate survey by all hospitals with an average cost per complete of \$15.25.
- If 50 percent of hospitals combine the 27-item version of HCAHPS with current patient surveys, then the estimated annual costs of HCAHPS would be between \$8.9 and \$11.6 million.
- Assuming that 75 percent of hospitals combine HCAHPS with their current surveys, the estimated annual cost of a 27-item version of HCAHPS is between \$6.5 and \$7.8 million.

The estimated marginal costs of a shorter version of HCAHPS range could be zero, if all hospitals incorporate into existing surveys at no additional cost. If 75 percent of hospitals incorporate a shorter version of HCAHPS, the estimated marginal costs would be between \$2.5 and \$4.7 million. If 90 percent of hospitals integrate the shorter version of HCAHPS with their existing surveys, we estimate that the marginal costs of HCAHPS would be between \$1 million and \$3.6 million.

Figures 3-6 illustrate how the estimated costs per complete and national costs of HCAHPS vary based on whether the 27-item or shorter version of HCAHPS is used and depending on the proportion of

hospitals that combine HCAHPS with existing surveys. Note that Figures 3 and 4 are based on the mid-point of the minimum and maximum costs per complete.

**Table 9: National Cost Estimates for HCAHPS (Based on Proportion That Incorporate HCAHPS Into Existing Surveys)**

Percent Incorporating Into Existing Patient Satisfaction Surveys	Estimated Annual Cost	
	Minimum	Maximum
<b>HCAHPS: 27 Items</b>		
0 (All stand-alone)	\$13,772,617	\$19,092,988
25	\$11,349,842	\$15,340,120
50	\$8,927,067	\$11,587,253
75	\$6,504,292	\$7,834,385
90	\$5,050,627	\$5,582,664
100	\$4,081,517	\$4,081,517
<b>Shorter Version of HCAHPS (7-12 Items) †</b>		
0 (All stand-alone)	\$10,166,234	\$10,166,234
25	\$7,624,675	\$8,350,835
50	\$5,083,117	\$6,535,436
75	\$2,541,558	\$4,720,037
90	\$1,016,623	\$3,630,798
100	\$0	\$2,904,638

Notes:

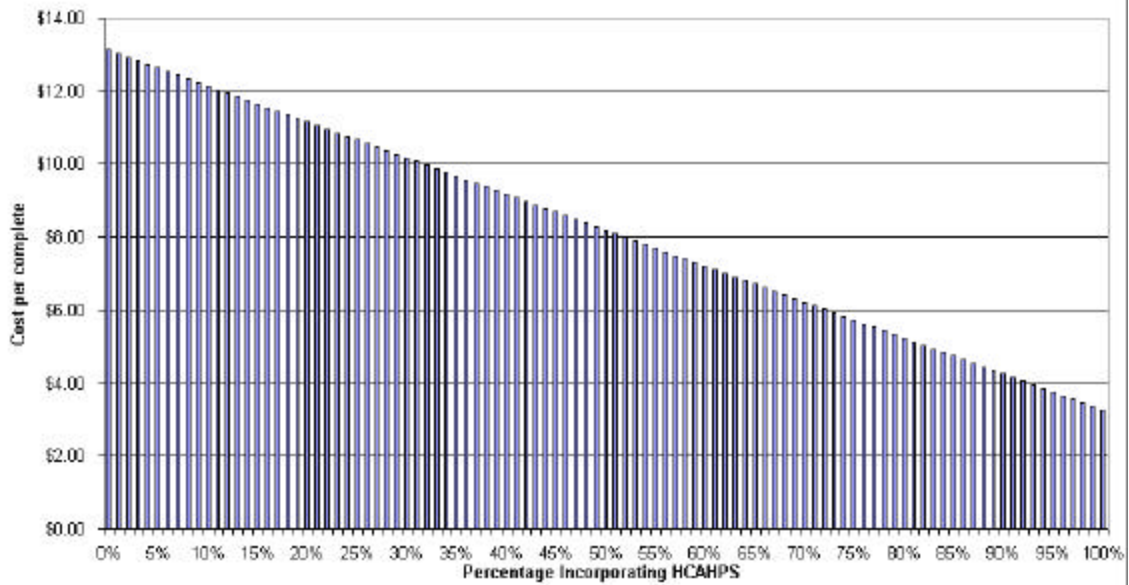
National cost estimates are based on the cost per complete figures from Table 8, information on the distribution of hospitals by size (Table 3), and assume that all eligible hospitals participate in HCAHPS (N=4,508) and complete the minimum number of required HCAHPS surveys.

\* The minimum figure is based on statements from some survey companies that they would incorporate a shorter version of HCAHPS into their existing surveys at no additional cost to their clients.

† Note that the cost estimates that we received allow us to estimate the costs of 7 or 15-item stand-alone version of HCAHPS and 12 HCAHPS items combined with an existing survey. The national cost estimate for a 15-item version of HCAHPS, administered as a stand-alone survey by all hospitals, is \$10,829,793 (\$663,560 higher than our estimate for the costs of a 7-item version of HCAHPS, administered as a stand-alone survey).

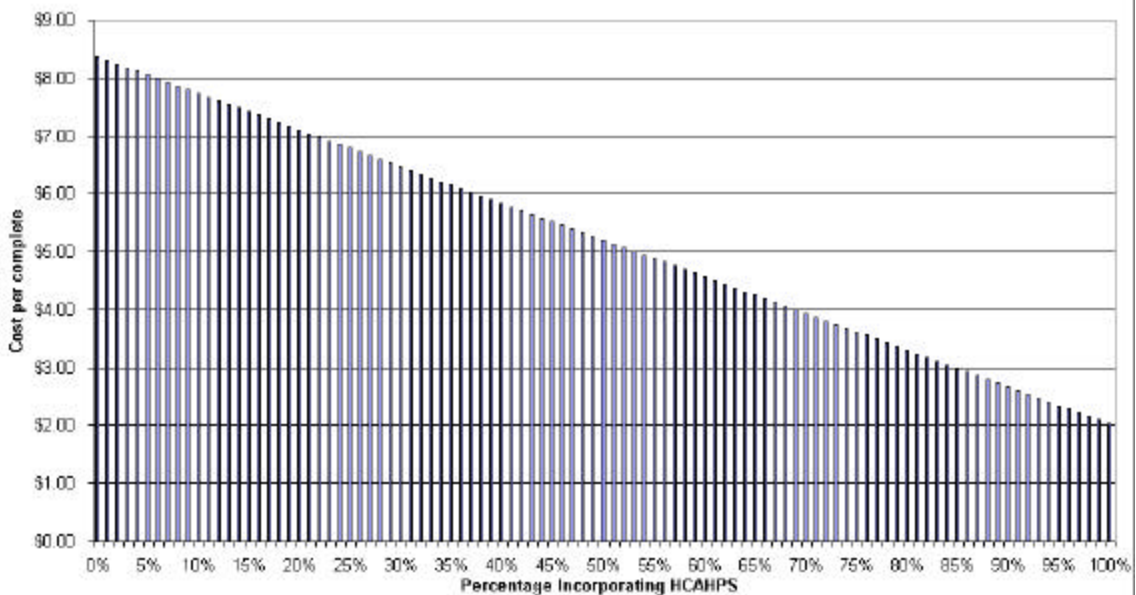
Source: Abt Associates, 2005

**Figure 3: Estimated Cost Per Complete Based on Percentage of Hospitals That Incorporate HCAHPS Into Existing Surveys: 27-Item Version of HCAHPS**



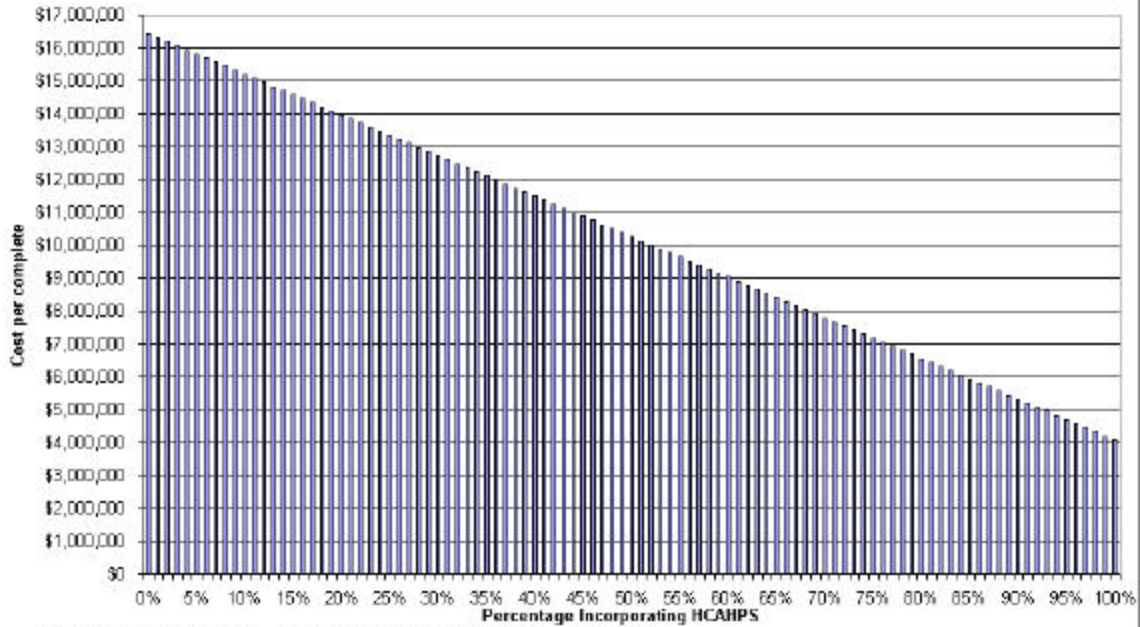
Source: Abt Associates, 2005. Note that this graph is based on figures from Table 8 (using the midpoint of the minimum and maximum values).

**Figure 4: Estimated Cost Per Complete Based on Percentage of Hospitals That Incorporate HCAHPS Into Existing Surveys: 7-Item Version of HCAHPS**



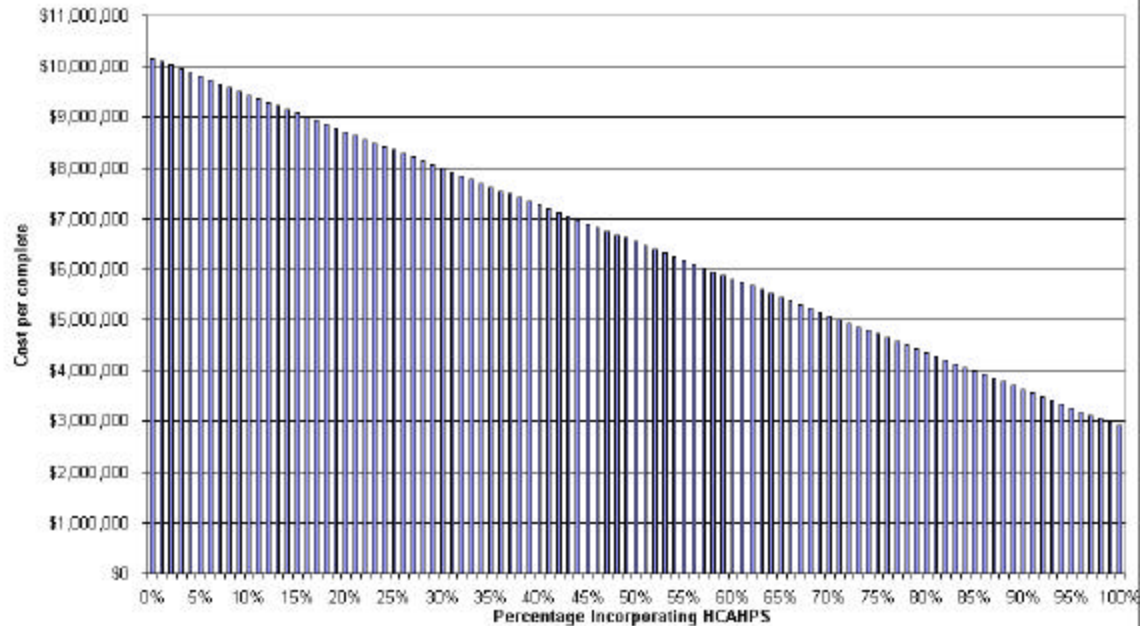
Source: Abt Associates, 2005. Note that this graph is based on figures from Table 8).

**Figure 5: Estimated National Costs of HCAHPS Based on Percentage of Hospitals That Combine It With Existing Surveys:  
27-Item Version of HCAHPS**



Source: Abt Associates, 2005. Note that this graph is based on figures from Table 9.

**Figure 6: Estimated National Costs of 7-Item Version of HCAHPS Based  
on Percentage of Hospitals That Combine It With Existing Surveys**



Source: Abt Associates, 2005. Note that this graph is based on figures from Table 9.

## 3.6 Will Hospitals Choose to Combine HCAHPS with Existing Surveys?

There appear to be significant savings associated with combining HCAHPS with existing surveys, and hospitals will have a financial incentive to combine HCAHPS with their existing surveys. Hospitals and survey vendors are limited in how to integrate HCAHPS. The draft HCAHPS specifications endorsed by the NQF specify that, if HCAHPS is combined with other survey questions, the core HCAHPS questions (questions 1-22) must appear first and in the specified order. HCAHPS demographic items may be placed anywhere in the questionnaire after the core items.

### 3.6.1 Market Forces May Drive Vendors To Incorporate HCAHPS Into Existing Surveys

Despite the arguments from several survey vendors that they cannot incorporate the 27-item version of HCAHPS, we believe that, in the long run, most, if not all vendors will offer an integrated survey, likely in addition to an option for stand-alone collection of HCAHPS. Even Press Ganey, a company that has strongly advocated for reducing the length of the HCAHPS questionnaire, has stated that they *"believe that the surveys currently in use and HCAHPS can be integrated in to one."*<sup>138</sup>

Given the significant cost savings associated with an integrated survey, vendors that offer a combined instrument will likely have a competitive advantage over companies without a combined instrument. Hospitals have a financial incentive for combining HCAHPS with other surveys, and their preferences are likely to play a major role in the evolution of HCAHPS. In their February 3, 2004 letter, the American Hospital Association states, *"Our view is that the only effective way to accomplish (the goals of meeting consumer information needs and not jeopardizing quality improvement) is to ensure that the standardized questions can be embedded at the beginning of the surveys already conducted by most hospitals through their survey firms."*

In addition to lower costs, another potential benefit of combining HCAHPS (either the 27-item version or a shorter alternative) with existing surveys is the possibility of collecting HCAHPS data on a much larger sample. The sample size for hospital patient satisfaction surveys is often considerably larger than what is required for HCAHPS, and if HCAHPS were routinely incorporated into these questionnaires (which may be important for survey instrument validity), then HCAHPS data would be collected for this larger sample. If this occurs, it may offset some of the cost savings associated with an integrated survey, since HCAHPS would be collected for more than 300 patients, but the quantity of data for public reporting would be higher due to the larger sample size.

Since some vendors have indicated that they are able to integrate HCAHPS with their patient satisfaction surveys, this may place competitive pressure on other companies to also offer integrated surveys to their clients. This may mean that, in some cases, patient satisfaction questions are replaced with HCAHPS items, particularly for vendors who use telephone surveys, given that survey length may be more of a concern for phone surveys.<sup>139</sup> While we believe that market forces are likely to lead to most vendors offering an integrated survey, there is no empirical basis for this assertion. As a result, we developed cost estimates for a range of scenarios regarding the proportion of hospitals that combine HCAHPS into their existing surveys.

As a result of market forces, we anticipate that the proportion of hospitals for which HCAHPS is collected as part of an integrated survey instrument will be relatively high, and that this will increase

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<sup>138</sup> Source: [http://www.pressganey.org/files/pg\\_hcahps\\_white\\_paper\\_05242004.pdf](http://www.pressganey.org/files/pg_hcahps_white_paper_05242004.pdf)

<sup>139</sup> Some companies have indicated that their telephone methodology can only handle a maximum of 25-30 questions adequately. This is based on a summary of an AHA meeting with HCAHPS with the major hospital survey vendors. Source: <http://www.avatar-intl.com>

over time. This may have some negative impact on the quality of the data (i.e., if the response rate is reduced or there are data shifts due to changes in the questionnaire), and there may be some negative impact on hospital quality improvement activities (i.e., if the number of patient satisfaction items is reduced to accompany HCAHPS), but we expect that the potential cost savings from an integrated survey may be a strong motivating factor.

Approximately 25-30 percent of hospitals do not currently use any of the major survey vendors. Some of these hospitals conduct their own in-house data collection; others use small survey companies. It may be that some of these hospitals would hire a survey vendor to collect HCAHPS as a stand-alone activity. According to Avatar International, internal surveys may not be capable of complying with HCAHPS reporting requirements or able to handle the details regarding HCAHPS survey sampling, administration, data edit, and reporting.<sup>140</sup>

### 3.6.2 Statistical Concerns May Lead Hospitals to Collect a Stand-Alone Version of HCAHPS

Potentially offsetting the cost efficiencies associated with combining HCAHPS with existing surveys are several statistical issues that have led to concerns about whether it is appropriate to combine HCAHPS with existing surveys. These issues include:

- ***The impact of a longer survey on response rates.*** Bogen (1996) conducted a comprehensive review of literature that examined the relationship between questionnaire length and response rates, concluding, “*Possibly the most noteworthy finding of this literature search is the fact that there is remarkably little sound experimental work to guide the survey practitioner in decisions about survey length. This is particularly true for in-person and phone surveys... There is somewhat more information for mail surveys, though even the results there have been so mixed that it is not clear where the length limits are.*” Given the differences in the length of existing hospital surveys and the lack of solid information in the literature, we are unable to make any conclusions about the impact on response rates that would result from reducing the length of the HCAHPS survey.
- ***Impact of different response options used in HCAHPS and patient satisfaction surveys.*** Survey companies are concerned that the different response options used by HCAHPS and patient satisfaction surveys may be confusing and frustrating to respondents, perhaps leading to lower response rates or less reliable responses due to frustration with apparent redundancy in survey items. Most of the HCAHPS items use a never/sometimes/usually/always scale, while some patient satisfaction surveys use a very poor/poor/fair/good/very good scale.
- ***Redundancy.*** Given that most HCAHPS items are modifications of questions from existing hospital patient satisfaction surveys, there is clearly some overlap in HCAHPS and other surveys, potentially resulting in some redundant questions in integrated survey instruments. For example, HCAHPS asks respondents “During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it? (Never, sometimes, usually, always). A hospital patient satisfaction survey might ask a very similar question (e.g., promptness in responding to the call button) using a different scale (e.g., very poor to very good). The correlation between the two items would likely be high, suggesting that they are measuring the same issue. But removing the item from the patient satisfaction survey may have an impact on patient satisfaction activities, given the response options discussion above.

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<sup>140</sup> Source: <http://www.avatar-intl.com>

- **Impact on flow.** Given the requirement that HCAHPS items appear at the beginning of an integrated survey, a survey that combines HCAHPS and patient satisfaction questions would not have a good flow, as questions about similar content areas (e.g., physicians, nurses, hospital conditions) in more than one part of the survey. This could make a combined survey instrument unwieldy. CMS has recommended addressing this concern by using some transitional phrasing like “Now we would like to gather some additional detail on topics we have asked you about before. These items use a somewhat different way of asking for your response since they are getting at a little different way of thinking about the topics.”

### 3.7 Costs of HCAHPS with Different Levels of Non-Response Follow-Up

Some have expressed concern about the costs of the HCAHPS requirement that hospitals conduct two waves of mailings or up to five phone attempts to maximize survey response rates. To analyze the incremental costs associated with these additional follow-up attempts, we asked survey companies to provide cost estimates for survey modes that varied with respect to level of follow-up:

- Mail survey with no follow-up and with one follow-up.
- Phone survey with three attempts and five attempts.

Cost estimates from the survey companies suggested that the marginal cost of additional follow-up activities is small. As shown in Table 10:

- Eliminating the requirement that hospitals conduct two waves of mailing reduced the cost-per-complete from \$8.65 to \$6.92, a decrease of \$1.73. This is similar to estimates from the Calgary Health Region, which reported that the incremental cost of a second mailing was \$1.25 (U.S. Dollars).<sup>141</sup>
- Reducing the number of phone attempts from five to three reduced the median phone survey cost from \$18.81 to \$16.36, a decrease of around \$2.50.

Decision about whether the additional follow-up activities are a worthwhile expenditure depends, of course, on the additional response generated by the additional mailings or phone calls. Analysis from the 3-state HCAHPS pilot suggested that responses to a second mailing had significant effects on several aspects of survey performance, increasing the overall response rate from 25.5 percent to 35.2 percent, increasing the representation of racial and ethnic minorities and younger persons, and significantly affecting the rankings of about 16 percent of hospitals in the sample.

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<sup>141</sup> Tim Cook, 2004.

**Table 10: Costs for Different Levels of Non-Respondent Follow-Up**

<b>Mode</b>	<b>Cost per Complete</b>
Mail	
with no follow-up	\$6.92
with one follow-up	\$8.65
Phone	
with up to three attempts	\$16.36
with up to five attempts	\$18.81

Notes:

Estimates are based on the median cost estimate provided by survey companies. These figures are based on the assumption that survey vendors would provide data collection for 10 hospitals. Cost estimates are for the 27-item version of HCAHPS.

Source: *Abt Associates, 2005*

### **3.8 Other Costs of HCAHPS**

There are several other types of costs that need to be considered when assessing the costs of HCAHPS:

#### **3.8.1 Costs to the Government**

The OMB submission for HCAHPS included an estimate of the costs to the government (\$2,000,000 per year, the value of the CMS contract with the Health Services Advisory Group (HSAG), the Arizona Quality Improvement Organization (QIO).

#### **3.8.2 Start-Up and Training Costs**

The cost estimates discussed above are for data collection and transmission only, and do not include any HCAHPS-related internal hospital expenses such as administration, training, information technology and reporting, all of which could exceed the entire cost of data collection. We were not able to estimate these costs, but they may be significant.

### **3.9 HCAHPS in the Context of Overall Hospital Costs**

In 2003, total Medicare expenditures for inpatient care were \$119 billion, and there were more than 11 million Medicare discharges.<sup>142</sup> Given the HCAHPS cost estimates from above, it is clear that, in the context of overall hospital costs, HCAHPS costs are small (less than 0.02 percent based on the maximum national cost estimate even if all hospitals collect HCAHPS as a stand-alone survey).

Even though HCAHPS represents a very small portion of overall hospital costs, given the negative Medicare margins currently being experienced by hospitals, concerns about the financial impact of HCAHPS may be valid. A report by the American Hospital Association<sup>143</sup> notes that hospitals face significant financial pressures, and that 30 percent had a negative total margin in 2003. Hospital

<sup>142</sup> Source: [http://www.medpac.gov/publications/congressional\\_reports/Jun05DataBook\\_Entire\\_report.pdf](http://www.medpac.gov/publications/congressional_reports/Jun05DataBook_Entire_report.pdf)

<sup>143</sup> Source: <http://www.hospitalconnect.com/ahapolicyforum/resources/content/05fragilehosps.pdf>



margins have decreased since the 1997 passage of the Balanced Budget Act. Analysis by the Medicare Payment Advisory Commission is consistent with these findings.<sup>144</sup> MedPAC reports that overall Medicare margins for hospitals decreased from 11.7 percent in 1997 to 5.2 percent in 2000, and -1.9 percent in 2003. Margins for rural hospitals were lower than for their urban counterparts—in 2003, rural hospitals had a margin of -6.2 percent compared to -1.3 percent for urban hospitals. MedPAC projects the negative hospital margins to continue through at least 2005.

### 3.10 Discussion

The principal goal of this analysis was to estimate the data collection costs associated with HCAHPS. The costs of collecting HCAHPS will vary across hospitals depending on the method that they currently use to collect patient survey data, the number of patients surveyed, and whether it is possible to incorporate HCAHPS into their existing survey. While some hospitals may choose to administer HCAHPS as a separate stand-alone instrument, there are significant cost savings associated with combining HCAHPS with existing surveys, and hospitals will have a financial incentive to administer a single survey that includes both HCAHPS and information necessary to support quality improvement activities.

The cost estimates in this report are based in part on cost estimates obtained from a sample of survey companies who do not currently collect hospital patient satisfaction data. While these companies were informed that their cost estimates were not for an actual procurement, they are important because they provide an external estimate of HCAHPS data collection costs from companies that, in the long-run, could provide HCAHPS services to hospitals particularly for hospitals that prefer to collect HCAHPS as a stand-alone survey. One factor that complicates analysis of HCAHPS costs from existing patient satisfaction vendors is that these vendors offer both data collection and consulting services. Because survey vendors offer a bundle of services that includes not just survey data collection but also consulting for quality improvement, it is not straightforward to separate the costs of data collection activities from the costs of these other services.

Based on information from current hospital vendors and cost estimates received from a sample of survey companies who do not conduct patient satisfaction surveys, we estimate the costs of HCAHPS to be as follows:

#### *Costs of HCAHPS administered as a separate survey:*

- Mail survey: \$10-\$15 per complete (\$3,000 - \$4,500 per hospital, assuming 300 completes)
- Phone survey: \$16.67 - \$20 per complete (\$5,000 - \$6,000 per hospital)
- Active IVR: \$10 per complete (\$3,000 per hospital)

Given that most hospitals collect patient survey data using mail surveys, the average costs of HCAHPS collected as a separate survey are estimated to be between \$11.00 and \$15.25 per complete (\$3,300 - \$4,575 per hospital), assuming that 80-85 percent of hospitals collect HCAHPS by mail and the remainder by phone or active IVR. Costs of a shorter (7-item) version of HCAHPS administered as a separate survey are estimated to be \$7.02 for a mail survey and \$11.25 for a phone survey, with a weighted average cost of \$7.87 per complete (\$2,361 per hospital). These cost estimates are for data collection and transmission to CMS only and do not include administrative, information technology,

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<sup>144</sup> Medicare Payment Advisory Commission (MedPAC). Report to the Congress: Medicare Payment Policy, March 2005. Available at: [http://www.medpac.gov/publications/congressional\\_reports/Mar05\\_EntireReport.pdf](http://www.medpac.gov/publications/congressional_reports/Mar05_EntireReport.pdf)

or other costs that hospitals may incur as a result of HCAHPS, costs that may be considerable but that were beyond the scope of this study.

### ***Costs of HCAHPS Incorporated Into Existing Surveys***

We estimate the incremental cost of HCAHPS (27 items) incorporated into existing patient satisfaction surveys to be as follows:

- Mail survey: \$2.01 per complete (\$603 per hospital)
- Phone surveys: \$8.26 (\$2,478 per hospital)
- Weighted average: \$3.26 (\$978 per hospital) (assuming 80 percent mail and 20 percent phone)

It would be less expensive to incorporate a shorter version of HCAHPS into existing surveys:

- Mail survey: estimated marginal costs between \$0 and \$1.18
- Phone surveys: estimated marginal cost between \$0 and \$5.43
- Weighted average: Between \$0 and \$2.03 (assuming 80 percent mail and 20 percent phone surveys), or up to \$609 per hospital.

These findings are consistent with statements from some of the survey vendors that we spoke to that the costs of incorporating a small number of HCAHPS items into existing surveys are very small.

### ***Annual Costs of HCAHPS***

Depending on the proportion of hospitals that incorporate HCAHPS into existing surveys, we estimate the costs of HCAHPS to be between \$4.1 and \$19.1 million per year. The annual costs of a shorter version of HCAHPS are estimated to be between \$2.5 and \$4.7 million if 75 percent of hospitals combine the shorter version with existing surveys, and between \$1.0 and \$3.6 million if 90 percent of hospitals combine it with existing surveys. In the context of overall hospital expenditures, HCAHPS represents a small expenditure, but concerns about the financial impact of HCAHPS may be valid, given the negative Medicare margins currently being experienced by hospitals.

Our cost estimates are considerably lower than the upper part of the range of annual costs estimated by Feinberg and Widdows, who estimated the annual costs of HCAHPS to be between \$22.5 and \$135 million. The upper range of the cost estimates from Feinberg and Widdows are implausible for four reasons:

- *The estimates assume a very high proportion of phone data collection.* The \$135 million figure assumes that all hospitals collect HCAHPS via phone surveys. This is implausible given that, currently, around 80 percent of patient satisfaction surveys are collected by mail.
- *The estimates of phone survey costs are implausible.* Feinberg and Widdows estimate that phone surveys cost \$35 - \$75 per complete. The lower-bound of their cost estimate is higher than all but one of the phone survey cost estimates that we received from a sample of 16 survey companies who could potentially provide HCAHPS data collection services to hospitals. Their estimated phone costs are 3-5 times as high as their estimated mail survey costs, and such a large cost differential would give hospitals a significant financial incentive to substitute to lower cost mail surveys. Feinberg and Widdows estimated mail survey costs are much closer to our estimates.

- *The estimates assume that no hospitals incorporate HCAHPS into existing patient satisfaction surveys.* Our analysis suggests that there are significant cost savings associated with combining HCAHPS with existing patient surveys, and these cost savings may give a financial incentive to hospitals to collect HCAHPS as part of a single survey and give a competitive advantage to companies that offer a combined instrument. There may, however, be reasons other than cost that lead some hospitals to collect HCAHPS as a stand-alone survey.
- *The estimates assume 6,000 hospitals.* Based on Medicare Cost Reports, we do not believe that there are 6,000 hospitals that would have enough discharges to collect HCAHPS for at least 100 patients. Our estimate is that around 4,500 hospitals could collect HCAHPS.

### ***Should CMS Implement a Shorter Version of HCAHPS?***

Many key stakeholders believe that HCAHPS is too long, and their reasons for this belief are not only due to cost-related factors. Our analysis suggests that there are potential cost savings associated with reducing the length of HCAHPS, but the upper bound estimate of these potential savings is \$19 million per year (i.e., assuming the upper range of costs and that no hospitals combine the 27-item HCAHPS with existing surveys but that all hospitals combine the short HCAHPS with existing surveys with no incremental cost). The actual savings are likely to be less given that many hospitals are likely to incorporate HCAHPS into their existing surveys regardless of its length. Our analysis suggests that cost considerations are not a sufficient reason for switching from the current version of HCAHPS to a shorter version.

This does not, however, mean that the 27-item version of HCAHPS is necessarily the most appropriate. The question of whether a shorter version of HCAHPS should be implemented depends on the marginal benefits associated with a longer survey instrument. Our analysis shows that there are marginal costs associated with the longer instrument, even though these marginal costs are relatively small.

Elsewhere in the report, we assess the marginal benefits of HCAHPS. Kessler and Brady demonstrate that, for purposes of informing consumer choice, a short version of HCAHPS performs as well as a longer version, but there may be other benefits associated with the 27-item version of HCAHPS. However, those researchers' results are based on a single outcome variable --- "willingness to recommend" the hospital; CMS' objectives for HCAHPS public reporting clearly go beyond that narrow area (see above), so the relevance of Brady and Kessler's results is questionable. Some vendors have expressed concern about the potential unintended impact of the 27-item version of HCAHPS on other quality improvement activities. While it is not the intention of CMS, some of the vendors that we spoke with expressed concern that some hospitals may elect to scale back or even eliminate their own quality improvement programs and focus on performance on the measures that are publicly reported, undermining potential quality of care improvements that may result from the public reporting of HCAHPS data. It is not possible to evaluate how disruptive either the 27-item version of HCAHPS or a shorter version will be on existing quality improvement activities.

There are, of course, other potential benefits associated with HCAHPS, but, at this point, it is not possible to determine the extent to which HCAHPS will provide consumers with information that will allow them to make better hospital choices or lead to improvements in quality of care. We neither know that HCAHPS will lead to better choices and contribute to improved hospital quality of care or that it will not lead to improvements in these outcomes. What we can conclude with some level of confidence is that the marginal costs associated with a longer version of HCAHPS are likely to be relatively small, so if there is a reasonable basis for believing that a longer survey is better, then there are good reasons for implementing the current 27-item version of HCAHPS.

## 4.0 Conclusions

### 4.1 Potential Benefits of HCAHPS

#### 4.1.1 Summary of Literature

HCAHPS has been designed to support consumer choice, encourage provider accountability, and create patient perspective-driven performance incentives. The objective of the benefits analysis was to provide information about the public reporting benefits of this survey, the benefits of reporting individual items vs. summaries, and the benefits of a shorter vs. longer instrument. This report also provided an analytic framework for conceptualizing and analyzing benefits. To conduct this analysis of potential benefits, Abt Associates Inc. described hypothetical benefits that may result from the use of HCAHPS. We conducted a limited review of available literature, websites, and other relevant documents. It should be noted that the literature review was not exhaustive, but rather was designed to rapidly identify the most relevant publications. We focused on relevant articles related to the direct impact on consumers of public reporting of consumer perspectives on hospital care, the impact to consumers of public reporting of any type of hospital performance information, and the impact of public reporting on hospital and physician quality. We also conducted interviews with key stakeholders such as hospital-satisfaction survey vendors and hospitals.

While some data have been published about the impact of public reporting of patient reports of satisfaction with care, this evidence is a combination of qualitative and anecdotal research, and there are no previous studies that generate quantifiable measures of the benefits associated with HCAHPS, information that would require a public reporting demonstration project and evaluation. It is difficult to make strong inferences in fields where rigorous methods are either not feasible or not employed. The analysis of public reporting is a field where it is difficult or impossible to test impacts using randomized designs, and there are relatively few studies that permit inferences about the impact of HCAHPS on consumers or hospitals. Given the data that are available, the evidence with respect to the impact of public performance reporting (either clinical performance or patient reports on care) is mixed with regard to consumer impact. Based on focus group evidence, there is an indication that consumers want patient perspectives on care ratings, but researchers are only in the early stages of understanding whether and how consumers will use these ratings. There is evidence that how results are presented can determine whether they are understood and used, and the fact that public reporting is in its very early stages suggests that more research in this area may be beneficial.

There is more consistent evidence that the impact of public reporting of performance data on hospitals is greater. There are multiple reports of hospitals being motivated by these data and using them for improvement. Not only is there more consistent evidence regarding hospital impact than in any other area, but also there are at least two very well designed studies (by Hibbard et al.) that have found at least some impact on clinical performance. There was even one study that concluded an impact on patient satisfaction. At the same time, evidence regarding impact on physicians is less supportive, although again, time and credibility of the data may lead to more impact.

With regard to length of the questionnaire, while CMS and AHRQ have used a systematic approach to assessing the length of the survey instrument, questions have been raised about why it could not be shortened more than it already has been. The resolution of this issue relates to the objectives that are envisioned for HCAHPS, which were systematically and rigorously specified in detail during the HCAHPS design process. Despite that process, there are stakeholders (primarily some survey vendors) who envision a different set of objectives. This difference in vision for HCAHPS has led to differing views about how long the instrument should be and about what items it should contain, and can be fully resolved only when consensus on the objectives of HCAHPS is achieved among all key stakeholders. As an example of these differing viewpoints, empirical analysis that has supported a

shorter instrument assumes that a single outcome (willingness of patients to recommend a hospital) is the only outcome of interest, in contrast to the stated objectives for HCAHPS, which are far broader. Similarly, consumer research provides reasonable indication that item-specific information is valuable for choosing hospitals, and this is a key objective of HCAHPS.

#### **4.1.2 Stakeholder Perceptions of Benefits and Limitations**

There were a variety of comments from various stakeholders. With regard to overall benefits of HCAHPS, several of the respondents with whom we spoke, including the major vendors, emphasized that they were in favor of public reporting of standardized measures and mentioned a number of potential benefits for consumers, purchasers and hospitals. Benefits to consumers centered on the support of consumer choice, and benefits to hospitals focused on quality improvement and uniform comparisons. With regard to overall limitations of HCAHPS, concerns about limitations were most often voiced by some (but not all) of the survey vendors with whom we spoke, and included such concerns as disrupting time series data and concern about impact on incentive structures. Regarding a longer vs. shorter survey, current vendor surveys have a variety of lengths, some from 35 to 90+ items. One of the major hospital satisfaction survey vendors and four of the other organizations with whom we spoke felt that HCAHPS should remain a 27-item survey. In contrast, three of the four major survey vendors and one of the other organizations felt that HCAHPS should include no more than 6-10 items. With respect to integrating HCAHPS into existing vendor surveys, most vendors use a base questionnaire to which clients can add items. They tend to view HCAHPS as another set of items that could be added onto existing surveys, if the number of additional items were small enough. They are concerned about the ease of incorporating a longer HCAHPS, though. Several of the vendors who objected to HCAHPS did not raise the topic of potential impacts on the survey vendor market. One, however, did raise this topic and felt that HCAHPS would result in “a significant reduction and higher level of competition [among vendors], but expansion in a host of services around quality improvement.”

## **4.2 Costs of HCAHPS**

The costs of collecting HCAHPS will vary across hospitals depending on the method that they currently use to collect patient survey data, the number of patients surveyed, and whether it is possible to incorporate HCAHPS into their existing survey. While some hospitals may choose to administer HCAHPS as a separate stand-alone instrument, there are significant cost savings associated with combining HCAHPS with existing surveys, and hospitals will have a financial incentive to administer a single survey that includes both HCAHPS and information necessary to support quality improvement activities.

Our methodology for developing HCAHPS cost estimates included reviewing the small number of existing cost studies, conducting interviews with several of the major hospital patient satisfaction vendors to discuss cost-related issues, and collecting cost estimates from other survey companies that may be able to collect HCAHPS data for hospitals. We also reviewed Federal Register comments related to HCAHPS costs, information available on the web sites of the major survey vendors, used information from a Medicare Payment Advisory Commission (MedPAC) report, and analyzed Medicare Cost Report data. The cost estimates from survey companies that do not currently conduct hospital patient satisfaction surveys are important because they provide an external estimate of HCAHPS costs from organizations with no interest in the version of HCAHPS that is implemented by CMS. Recognizing uncertainty in estimates in the costs per completed survey and the proportion of hospitals that would combine HCAHPS with existing surveys vs. administer it separately, we provide a range of cost estimates based on changes in the underlying assumptions.

Based on information from current hospital vendors and cost estimates received from a sample of survey companies who do not conduct patient satisfaction surveys, we estimate the average costs of

HCAHPS collected as a separate survey to be between \$11.00 and \$15.25 per complete (\$3,300 - \$4,575 per hospital), assuming that 80-85 percent of hospitals collect HCAHPS by mail and the remainder by phone or active IVR. It would be considerably less expensive to combine HCAHPS with existing surveys. We estimate that it would cost only \$3.26 per complete (or \$978 per hospital) to incorporate the 27-item version into existing surveys. The estimated marginal cost of incorporating a shorter version of HCAHPS into existing surveys is between \$0 and \$2.03 per survey, or up to \$609 per hospital.

Depending on the proportion of hospitals that incorporate HCAHPS into existing surveys, we estimate the costs of HCAHPS to be between \$4.1 and \$19.1 million per year. The annual costs of a shorter (7 item) version of HCAHPS are estimated to be between \$2.5 and \$4.7 million if 75 percent of hospitals combine the shorter version with existing surveys, and between \$1.0 and \$3.6 million if 90 percent of hospitals combine it with existing surveys. In the context of overall hospital expenditures, HCAHPS represents a small expenditure, but concerns about the financial impact of HCAHPS may be valid, given the negative Medicare margins currently being experienced by hospitals.

There appear to be significant savings associated with combining HCAHPS with existing surveys, and hospitals will have a financial incentive to combine HCAHPS with their existing surveys. Potentially offsetting the cost efficiencies associated with combining HCAHPS with existing surveys are several statistical issues that have led to concerns about whether it is appropriate to administer HCAHPS as an integrated survey.

### **4.3 Should CMS Implement a Shorter Version of HCAHPS?**

Our analysis suggests that there are potential cost savings associated with reducing the length of HCAHPS, but the upper bound estimate of these potential savings is \$19.1 million per year (this upper bound estimate assumes that the shorter version of HCAHPS would be incorporated at zero cost). The actual savings are likely to be less, given that many hospitals are likely to incorporate HCAHPS into their existing surveys and some hospitals would likely incur data collection costs even with a shorter version. Our analysis suggests that cost considerations are not a sufficient reason for switching from the current version of HCAHPS to a shorter version.

This does not, however, mean that the 27-item version of HCAHPS is necessarily the most appropriate. This decision depends on a comparison of the marginal benefits and costs associated with the longer survey. We are not able to quantify the marginal benefits associated with the 27-item version of HCAHPS, and, as a result, it is not possible to reach a definitive conclusion about what version of HCAHPS CMS should adopt. We neither know that HCAHPS will lead to better choices and contribute to improved hospital quality of care or that it will not lead to improvements in these outcomes. What we can conclude with some level of confidence is that the marginal costs associated with a longer version of HCAHPS are likely to be relatively small, so if there is a reasonable basis for believing that the 27-item version of HCAHPS offers better information to consumers than a shorter alternative, then there are good reasons for implementing the current 27-item version of HCAHPS.

# Appendices

# Appendix A: Specifications for Cost Estimates from Survey Companies

## Exhibit A-1 Specifications based on 100 hospitals (30,000 surveys annually)

Scenario			Survey Instrument Length	Survey Instrument Length	Survey Instrument Length	Survey Instrument Length	
	<b>Table of Specifications for Cost Estimates</b>			60 questions	27 questions	15 questions	7 questions
A.	Mode:	Mail mode only, with no follow-up					
B.	Mode:	Mail mode only, with 1 follow-up by mail					
C.	Mode:	Phone mode only, with up to 3 attempts by phone					
D.	Mode:	Phone mode only, with up to 5 attempts by phone					
E.	Mode:	Mixed mode, Mail with Phone follow-up; no mail follow-up, and up to 5 follow-up attempts by phone					
F.	Mode:	IVR, respondent contacted by Phone using live interviewer, with respondent option for active IVR (Interactive Voice Response), option to return to a live interviewer must be provided, up to 5 follow-up attempts by phone					
<b>Additional Specifications for each of the above scenarios:</b>							
	Number of Completes:	30,000 total Completes over 1 year ( assume 25 per month, for 12 months, for each of 100 hospitals )					
	Number of Sites / Clients:	100 Hospitals					
	Respondent Population:	Adult patients discharged from client hospital within the past 48 hours to 6 weeks					
	Proxies:	Proxies are NOT allowed					
	Question Types:	All questions are closed ended; majority are 4-point scale questions or Yes/No questions					
	Sample Type:	List Sample, to be provided directly to vendor from each client hospital, with Full Name, Address, and Phone					
	Sample Source and Loads:	Assume monthly sample loads, sample will be provided directly to vendor from each hospital					
	Sample Quality:	Assume 65% of the sample will be complete and current, for both mail and phone contact information					
	Questionnaire Development:	No questionnaire development, final content of questionnaire and phone script will be provided					
	Respondent Incentives:	Respondent Incentives are NOT allowed					
	Data Cleaning:	Monthly data cleaning and delivery, data cleaning specs will be provided					
	Data Delivery and Reporting:	Monthly					
	Client Interaction:	Medium					
<b>Important Instructions:</b> Please provide cost estimates for each of the above scenarios for which you feel you are qualified. Cost estimates for each scenario should be all-includes, e.g. printing (cover letter, questionnaire, outgoing and reply envelopes), postage, telephone charges, etc.							



**Exhibit A-2 Specifications based on 10 hospitals (300 surveys annually)**

Scenario	( preliminary, draft )			Survey Instrument Length	Survey Instrument Length	Survey Instrument Length	Survey Instrument Length
	<b>Table of Specifications for Cost Estimates</b>			60 questions	27 questions	16 questions	7 questions
A.	Mode:	Mail mode only, with no follow-up					
B.	Mode:	Mail mode only, with 1 follow-up by mail					
C.	Mode:	Phone mode only, with up to 3 attempts by phone					
D.	Mode:	Phone mode only, with up to 5 attempts by phone					
E.	Mode:	Mixed mode, Mail with Phone follow-up, no mail follow-up, and up to 5 follow-up attempts by phone					
F.	Mode:	IVR, respondent contacted by Phone using live interviewer, with respondent option for active IVR (Interactive Voice Responses), option to return to a live interviewer must be provided, up to 5 follow-up attempts by phone					
<b>Additional Specifications for each of the above scenarios:</b>							
	Number of Completes:	3,000 total Completes over 1 year ( assume 25 per month, for 12 months, for each of 10 hospitals )					
	Number of Sites / Clients:	10 Hospitals					
	Respondent Population:	Adult patients discharged from client hospital within the past 48 hours to 6 weeks					
	Proxies:	Proxies are NOT allowed					
	Question Types:	All questions are closed ended; majority are 4-point scale questions or Yes/No questions					
	Sample Type:	List Sample; to be provided directly to vendor from each client hospital, with Full Name, Address, and Phone					
	Sample Source and Loads:	Assume monthly sample loads, sample will be provided directly to vendor from each hospital					
	Sample Quality:	Assume 65% of the sample will be complete and current, for both mail and phone contact information					
	Questionnaire Development:	No questionnaire development; final content of questionnaire and phone script will be provided					
	Respondent Incentives:	Respondent Incentives are NOT allowed					
	Data Cleaning:	Monthly data cleaning and delivery; data cleaning specs will be provided					
	Data Delivery and Reporting:	Monthly					
	Client Interaction:	Medium					
	<b>Important Instructions:</b>	Please provide cost estimates for each of the above scenarios for which you feel you are qualified. Cost estimates for each scenario should be all-includes, e.g. printing (cover letter, questionnaire, outgoing and reply envelopes), postage, telephone charges, etc.					

## Appendix B: Cover Letter for Cost Estimates from Survey Companies (sent via fax)



Abt Associates Inc.

[date]

Dear [name]:

The Centers for Medicare & Medicaid Services (CMS) is preparing a survey of hospital patients [See attached specifications sheet for details.] that will be used to publicly report information about hospital care from the perspective of inpatients. This survey is known as Hospital CAHPS®, or HCAHPS. CMS has engaged an outside research organization, Abt Associates, to conduct a study of the benefits and costs of HCAHPS. Abt Associates is a research firm in Cambridge, Massachusetts with many years of experience in conducting research projects for CMS.

The HCAHPS instrument includes 22 questions covering the following topics: care from nurses, care from doctors, hospital environment, patient experiences in hospital, hospital discharge, and overall rating of the hospital. It also includes five items for the purpose of adjusting the mix of patients across hospitals and for analysis purposes, summing to a total of 27 items (questions). The primary goal is to provide the public with useful, reliable and comparable information about patients' perspectives of hospital care while not over-burdening the hospitals that volunteer to participate.

We would be grateful if you could provide cost estimates for the survey specifications given on the attached worksheet. These cost estimates are solely for purposes of this study, and will not be used for procurement purposes. Please provide cost estimates for any of the listed scenarios for which you feel you are qualified. Cost estimates should be all-inclusive, including printing, postage, telephone charges, etc. We understand that information of this nature is sensitive, and any information that you provide to Abt will be held in strict confidence. Abt will not report on or share your individual cost information with CMS or anyone else. Rather, we will report average costs and de-identified information on the range.

Your participation is important to the success of the study. The cost estimates that Abt is collecting will be used to develop more accurate estimates of the costs associated with collecting HCAHPS survey data. Your answers will be combined with those of other companies to broaden our understanding of the cost associated with different versions of HCAHPS and different survey administration modes.

We request that you return the attached specification sheet by fax with your cost estimates as soon as possible. Again, please provide cost estimates for any of the listed scenarios for which you feel you are qualified. Please fax your response to [fax number]. Please also include a fax cover sheet addressed to Attn: Hospital/Patient Survey. If you have any problems receiving this fax, please contact [contact]. We welcome and sincerely appreciate your participation in this effort.

Sincerely,  
[name]