Creating a Statewide Hospital Quality Reporting System

The Quality Initiative

February 2002
Acknowledgments

This report was prepared for the California HealthCare Foundation’s Quality Initiative under the direction of R. Adams Dudley, M.D., M.B.A., a physician in the University of California, San Francisco (UCSF) Division of Pulmonary and Critical Care Medicine and a researcher for UCSF’s Institute for Health Policy Studies (IHPS). The report provides an in-depth follow-up to the issues raised at a March 6, 2000, conference convened by the California HealthCare Foundation’s Quality Initiative, “Charting the Course for a Hospital Quality Public Reporting Agenda.” The authors are wholly responsible for the substance of this report.

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## Contents

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Executive Summary</td>
</tr>
<tr>
<td>9</td>
<td>I. Introduction</td>
</tr>
<tr>
<td>Genesis of this Report</td>
<td></td>
</tr>
<tr>
<td>Research Methodology</td>
<td></td>
</tr>
<tr>
<td>Structure of this Report</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>II. Conceptual Models</td>
</tr>
<tr>
<td>Traditional Approach</td>
<td></td>
</tr>
<tr>
<td>Alternative Approach</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>III. Inherent Challenges</td>
</tr>
<tr>
<td>Challenge 1: Choosing Among Different Types of Quality Indicators</td>
<td></td>
</tr>
<tr>
<td>Challenge 2: Developing Risk-Adjustment Methodologies</td>
<td></td>
</tr>
<tr>
<td>Challenge 3: Data Availability and the Role of Information Systems</td>
<td></td>
</tr>
<tr>
<td>Challenge 4: Lack of Consensus about the Definition of Quality and What Data to Collect</td>
<td></td>
</tr>
<tr>
<td>Challenge 5: Hospital Costs</td>
<td></td>
</tr>
<tr>
<td>Challenge 6: Provider Resistance and Concerns about Use of the Data</td>
<td></td>
</tr>
<tr>
<td>Challenge 7: Lack of Effective Government Support</td>
<td></td>
</tr>
<tr>
<td>Challenge 8: Legal Issues</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>IV. Creating a System with High Impact</td>
</tr>
<tr>
<td>Consideration 1: Bringing Stakeholders Together</td>
<td></td>
</tr>
<tr>
<td>Consideration 2: Selecting Conditions for Which to Measure Quality of Care</td>
<td></td>
</tr>
<tr>
<td>Consideration 3: Developing a Report with the Right Mix of Conditions and Indicators</td>
<td></td>
</tr>
<tr>
<td>Consideration 4: Ensuring that Reports Are Used</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>V. Comparing Reporting Strategies</td>
</tr>
<tr>
<td>Data Collection and Performance Incentives</td>
<td></td>
</tr>
<tr>
<td>Special Situations</td>
<td></td>
</tr>
</tbody>
</table>
VI. Recommendations for California

Recommendation 1: Stimulate Demand for Information on Quality
Recommendation 2: Develop Enabling Legislation
Recommendation 3: Empower State Agencies to Carry Out Legislation
Recommendation 4: Create a Multi-stakeholder Leadership Group
Recommendation 5: Identify a Set of Quality Indicators
Recommendation 6: Create Standards for Information Infrastructure
Recommendation 7: Create Useful Reports
Recommendation 8: Assess the Response to Reports
Recommendation 9: Coordinate the Reporting Burden Funding of the System

Conclusion

Appendices

Appendix A: Participants
Appendix B: Questionnaires
Appendix C: Reporting Elements

Endnotes
Executive Summary

This report explores what it would take to create an effective system for publicly reporting data on hospital quality to stakeholders—including consumers—in the state of California.

Context

Concern about variation in health care quality is growing nationwide. The recent IOM report *To Err Is Human* estimates that 44,000 to 98,000 people die every year in U.S. hospitals as a result of medical error. Consumers of health care are becoming increasingly sophisticated partners in health care decision-making, driving the need for information on health care quality that is easy to access and understand. Some health plans and purchasers are beginning to recognize the business case for quality and are implementing quality initiatives. These efforts are driven by a desire to gain competitive advantage in the marketplace by focusing on quality, or to reduce costs by decreasing the overuse, underuse, and misuse of medical services. The ideal system of quality improvement would encompass the entire spectrum of care: prevention of and screening for disease; acute episodes of illness (from initial patient contact with the health care system through diagnosis, treatment and recovery); and management of chronic disease. In doing so, it would be optimal to include care received in all settings, from outpatient care in the clinic or home to emergency room and inpatient care in a variety of facilities.

Although in recent years health care has been shifting out of the inpatient setting, the hospital remains an important place to focus on quality for several reasons. First, hospitalizations represent discrete, acute episodes of illness that are somewhat easier to define and evaluate than the ongoing care that occurs in other settings. Second, hospitals are already required to do ad hoc data collection and reporting to meet quality assurance and improvement standards for accreditation. Finally, hospital care is costly, which makes it a major concern to purchasers and health plans interested in the business case for quality.

Traditionally, hospital quality improvement has been a confidential, peer review/accreditation process focused largely on structural issues and weeding out the “bad apples.” However, these confidential approaches have failed to produce sufficiently high and uniform hospital quality. Therefore, this report explores what it would take to create an effective system for publicly reporting data on hospital quality to stakeholders—including consumers—in the state of California.
Genesis of this Report

On March 6, 2000, the California HealthCare Foundation (CHCF) convened a conference called “Charting the Course for a Hospital Quality Public Reporting Agenda.” This meeting brought together representatives from all health care stakeholder groups—consumers, employers, government purchasers and regulators, hospitals, providers, and health plans—to discuss opportunities to improve the quality of hospital care in California.

The conference participants focused on two key strategies for improving hospital quality. Some favored a “floor strategy,” defined as mandatory data collection and reporting with the government setting a minimum performance threshold. Others preferred a “market strategy,” defined as the voluntary reporting of quality data in an attempt to gain better contracts or larger market share.

At the conclusion of the meeting, participants urged CHCF to learn more about these two strategies. CHCF contracted with researchers at the Institute for Health Policy Studies (IHPS) of the University of California, San Francisco, to produce a report comparing and contrasting various strategies for stimulating hospital quality improvement through the public reporting of hospital performance. This report elaborates on the preferences and concerns that stakeholders expressed in the “Charting the Course” meeting through in-depth interviews with stakeholders about hospital quality reporting strategies and offers specific recommendations regarding the creation of a hospital quality reporting system.

Conceptual Models and Methods

This effort began with the establishment of a conceptual model for a successful hospital quality reporting system. A system can only improve quality if it either causes individual hospitals to improve their care or induces patients to switch from low-quality to high-quality hospitals. Based on that assumption, we propose that an effective strategy must have the following four critical elements:

1. A mechanism to collect valid data on hospital performance;
2. Incentives for hospitals to improve;
3. Access to sufficient resources to allow hospitals to adopt improvement programs; and
4. A mechanism for evaluating the impact of the system.

We also identify potential barriers to the implementation of a reporting system, ranging from technical issues surrounding the definition and measurement of quality to the cost of data collection and political concerns.

To inform this effort, we surveyed 35 leaders from consumer organizations, government, and the health care industry to obtain their opinions and advice on how to overcome the challenges to creating a system of hospital quality reporting that includes the four critical elements. We interviewed only five representatives of each stakeholder group, so our survey findings cannot be taken to represent “typical” opinions. However, the sample reflects our best effort to represent the full spectrum of opinion and perspective in each group. We also sought input from participants in prior quality reporting initiatives.

After conducting the interviews and reviewing the literature on hospital performance measurement, we then reassessed our models and their applicability to the California situation. From this synthesis of concepts and data, we developed comparisons of the floor and market strategies. We also generated a list of practical recommendations aimed at supporting the development of a statewide hospital quality reporting system.
Overview of Findings

The eight major challenges inherent in creating a hospital quality reporting system are:

1. Choosing which of the different types of quality indicators to report;
2. Developing an appropriate and acceptable methodology for adjusting for differences in case mix among hospitals;
3. Getting access to the data needed for the measures and for appropriate risk adjustment;
4. Overcoming a lack of consensus about the definition of quality and the need to coordinate data requests;
5. Paying the costs associated with a hospital quality measurement and reporting system;
6. Overcoming providers’ resistance and addressing their concerns about the use of reports;
7. Gaining support from the government; and
8. Addressing legal issues, especially the lack of mandated data collection and the potential to violate antitrust laws.

Most stakeholders felt these issues could be overcome, but that achieving adequate risk adjustment and generating funds to support data collection would be the most difficult tasks. When asked which measures of quality should be collected and reported, most respondents thought that while indices of patient experience, processes of care, and outcomes are all useful, risk-adjusted outcomes are the most important. Of note, the consumer groups we surveyed strongly agreed that outcomes measures are most important, followed by processes of care, with patient experience a distant third. This is in contrast to the widely shared perception of other stakeholder groups that consumers would think patient experience is the most critical data to report.

We found significant concerns among stakeholders about creating a report that is truly useful, and evidence that most prior initiatives have failed to do so. Consequently, this report includes specific technical advice about how best to address the needs of various audiences (such as consumers and purchasers). But the overwhelming message we received from stakeholders was that the best way to increase the likelihood that the reports will be used is to involve all interest groups in each step of the process (defining quality, ensuring accurate measurement, communicating results, and creating incentives for hospitals). The other crucial factor is providing enough detail about hospital performance to enable physicians, consumers, purchasers, and health plans to identify a reasonable number of high and low performers. Because prior initiatives have shied away from creating winners and losers, they have not had much impact.

Recommendations for California

Based on our findings, we recommend changes in consumer outreach strategies, the legislative environment, the choice of quality measurement approaches, and patterns of interactions among stakeholders. Specifically, we believe that a public education campaign to raise consumer awareness of the significant variation in hospital quality is a critical step in the development of a public reporting strategy. Greater awareness of the problem may also help create the political will to drive change in the state legislature.

The state legislature should create an antitrust exemption to allow sponsors of a quality reporting initiative to foster cooperation within and among stakeholder groups without fear of restraint of trade litigation. We also think mandated data collection will be necessary to gain cooperation from hospitals at opposite ends of the financial spectrum — those with little competition and good financial performance on one end, safety-net hospitals on the other. Neither set of hospitals can expect that the market will reward their strong performance
with higher reimbursement, so they are unlikely to report quality measures unless it is mandatory. Additionally, purchasers should employ incentives to reward better performing providers, such as directing consumers’ selection to higher-value providers and public recognition of high-quality providers.

Stakeholders’ conviction that all parties must be involved suggests the need to create a new organization that we are calling the California Performance Reporting Commission (CPRC). The CPRC could be governmental or quasi-governmental (like the Joint Commission), but should include representatives from all interest groups. The CPRC members would be responsible for establishing a joint definition of quality and agreeing on which types of quality data to collect for what conditions.

We anticipate that the group would pursue a crescendo approach, in which each year’s report would build upon the progress made in prior years. For example, in the first year, CPRC reports could include easily obtainable data such as risk-adjusted mortality measures from the state’s forthcoming reports on bypass surgery and myocardial infarction, plus indirect measures of quality such as the volume of specific procedures. Indicators of patients’ perceptions of care, perhaps measured through an expansion of the PEP-C program, could also be released to the public. (Sponsored by the California HealthCare Foundation, the Patient Evaluation of Performance in California [PEP-C] is currently a voluntary program that uses surveys to collect information on patients’ experiences in hospitals.) Over the space of a few years, the CPRC could add more outcomes and processes measures, but most of these will require further basic research to determine how to correct for case-mix differences among hospitals and whether specific processes actually influence outcomes. Although the CPRC would be a state-based organization, it would combine efforts within the state with national efforts when appropriate, such as the National Quality Forum. The National Quality Forum (NQF) is a not-for-profit membership organization created to develop and implement a national strategy for health care quality measurement and reporting. Members include consumer organizations, purchasers, providers, health plans, government agencies, and academics.

In summary, we argue that neither a floor nor a market strategy is optimal to ensure that providers respond to hospital quality reports. Rather, a combination of mandatory data collection and market-based incentives is more likely to succeed.

**Conclusions**

Modest advances in hospital quality reporting in California are possible in the next two years, with dramatic advances potentially achievable in the next five years. Government agencies, foundations, and other concerned organizations can contribute to the creation of a hospital quality reporting system by educating consumers, bringing stakeholders together, offering financial support to a CPRC, and funding research on the measurement, risk adjustment, and reporting of indicators of health care processes and outcomes.
CONCERN ABOUT VARIATION IN HEALTH CARE

Consumers of health care are becoming increasingly sophisticated partners in health care decision-making, driving the need for information on health care quality that is easy to access and understand. In other industries, the standard for acceptable error in production has been framed as striving for Six Sigma Quality. This is the equivalent of fewer than 3.4 defects per million units. Available evidence in the health care arena suggests that we are far from this goal. For example, providers fail to detect or adequately treat depression in 58 percent of patients with the disease; 79 percent of eligible heart attack survivors are not taking beta blockers despite clear evidence that these medications save lives. Some health plans and purchasers are beginning to recognize the business case for quality and are implementing quality initiatives. These efforts are driven by a desire to gain competitive advantage in the marketplace by focusing on quality, or to reduce costs by decreasing the overuse, underuse, and misuse of medical services.

The ideal system of quality improvement would encompass the entire spectrum of care: prevention of and screening for disease; acute episodes of illness (from the initial contact of the patient with the health care system through diagnosis, treatment, and recovery); and management of chronic disease.

In doing so, it would be optimal to include care received in all settings, from outpatient care in the clinic or home to emergency room and inpatient care in a variety of facilities. However, while stakeholders in some areas of the country have forged partnerships to address quality issues, there are no examples of large-scale efforts to organize stakeholders, coordinate and standardize data collection, and implement systemwide quality improvement programs that focus on the full spectrum of health care across multiple delivery sites. In this report, CHCF has asked us to focus on issues related to measuring and reporting quality in acute-care hospitals. We believe this effort should be conceptualized as only one component of an overall initiative to improve care throughout our health care system.
In recent years, health care has been shifting out of the hospital setting. That said, the hospital remains an important place to focus on quality for the following reasons:

- Hospitalizations represent discrete, acute episodes of illness that are somewhat easier to define and evaluate than the ongoing care that occurs in other settings.
- Hospitals are already required to do ad hoc data collection and reporting to meet quality assurance and improvement standards for accreditation.
- Hospital care is costly, which makes it a major concern for purchasers and health plans interested in the business case for quality.

Traditionally, hospital quality improvement has been a confidential, peer review/accreditation process that has tended to focus on structural issues and the weeding out of “bad apples.” Public reporting of hospital quality data has arisen, for the most part, from the failure of these confidential, often bureaucratic proceedings to produce sufficiently high and uniform hospital quality. Programs to improve quality in other industries have demonstrated the importance of feeding back to providers data on outcomes and the information necessary to continually refine the internal processes of care that are linked to better outcomes. This emphasis on identifying and encouraging the practice of processes that have been demonstrated to improve patient outcomes has been termed “evidenced-based medicine.” The public reporting of this information, in addition to supplying information hospitals can use to improve their own internal processes of care, adds another dimension by influencing patients’ choice of providers, providers’ choice of hospitals, and the willingness of purchasers and health plans to direct patients and providers toward higher-quality hospitals.

**Genesis of this Report**

On March 6, 2000, the California HealthCare Foundation (CHCF) convened a conference called “Charting the Course for a Hospital Quality Public Reporting Agenda.” This meeting brought together representatives from all health care stakeholder groups — consumers and patients, employers, government purchasers and regulators, providers, and health plans — to discuss opportunities to improve the quality of hospital care in California.

During the meeting, these stakeholders identified two strategies for improving hospital quality and the supply of performance information: a “floor strategy” and a “market strategy.” A “floor strategy” was defined as government and/or self-regulatory mechanisms to establish a minimum quality threshold. Under this approach, performance would be determined through mandated data collection and quality measurement. Demonstrated performance above a minimum threshold would be required to do business in California. Alternatively, a “market strategy” was defined as an initiative that would rely on market agents and economic activity to reward high-performing hospitals with better contracts and larger market share. Under this model, success in the market would be determined by the demonstration of high quality in a system based on voluntary data collection and public reporting. Some conference participants believed this might stimulate quality improvement even without regulatory intervention.

At the conclusion of the meeting, participants urged CHCF to learn more about these two strategies through surveys of stakeholder groups and a review of the literature. CHCF contracted with researchers at the Institute for Health Policy Studies (IHPS) of the University of California, San Francisco, to develop a report comparing and contrasting various strategies to stimulate quality improvement in California through the public reporting of hospital performance. This report
elaborates on the preferences and concerns that stakeholders expressed in the “Charting the Course” meeting through in-depth interviews with stakeholders about hospital quality reporting strategies and develops specific recommendations for the creation of a hospital quality reporting system. In this report, we therefore outline what we believe to be the essential elements of a successful hospital quality improvement system and discuss the types of information that could be reported publicly, including the significant weaknesses inherent in relying on any single indicator of quality.

**Research Methodology**

**Literature Search**

To prepare this report, we reviewed the literature to identify prior hospital performance reporting initiatives and their results. To identify descriptions of prior reporting initiatives, we searched Medline, Current Contents, and FirstSearch Social Abstracts for all articles published as of October 31, 2000. Key words were: hospital performance, public reporting, hospital outcomes, performance reporting, consumer reports, report cards, and quality. We retrieved all articles on initiatives to provide consumers with data about hospital quality, and searched the references of these articles for other relevant studies.

**Stakeholder Interviews**

We conducted interviews with representatives of the following stakeholder groups: consumer organizations; physician organizations; hospitals; health plans; purchasers; and regulators. Working with CHCF, we selected five individuals from each of the stakeholder groups with an eye toward identifying interviewees that could represent the full spectrum of opinions and perspectives in each group. The relatively small number of interviewees precludes statistical analysis or any claim to portray “typical” group opinions.

**Consumer organizations.** The consumer groups selected for participation included both those with a specific clinical focus and those with more general interests. Representatives of these groups were not required to have had any prior experience with quality of care research, policy, or reporting initiatives. They were instructed to answer our questions on behalf of the consumers represented by their organization.

**Physician organizations.** We interviewed both professional organizations and medical groups with a significant presence in California. We included groups from both Northern and Southern California, and groups that serve both the privately and the publicly insured. Interviewees held titles in their organizations that ranged from executive vice-president to CEO.

**Hospital organizations.** For hospitals, hospital chains, and health plans, we included organizations within California as well as some that had participated in hospital quality reporting initiatives in other areas of the country (specifically Cleveland and New York state). The individuals chosen to represent these stakeholder groups held leadership positions and could speak on behalf of their organizations. Furthermore, each person interviewed had substantial decision-making power within his or her organization with regard to quality improvement activities. Titles ranged from medical director to president and CEO.

**Purchasers.** We interviewed representatives of large California-based and national employers and employer groups that are actively engaged in launching health care quality reporting initiatives. We also spoke to representatives of large state and federal health care purchasers. These individuals were all at the director or CEO level.

**Regulators.** The study included individuals at the state and federal levels with responsibility for the oversight of hospitals or health plans. In addition, an attorney who formerly worked...
for the Federal Trade Commission provided counsel on legal issues.

In order to learn from the experience of others, we also interviewed individuals involved in health care performance reporting initiatives outside the state of California. Individuals chosen for participation are currently directing, or had previously directed, such initiatives or are researchers who evaluate the process of quality measurement and reporting. Refer to Appendix A for the list of participants.

**Developing the Questionnaire**

With input from CHCF, the UCSF research team developed the questionnaires used in this study (see Appendix B). A pilot test of the instrument was conducted with a CHCF staff member familiar with quality issues but not directly involved in this project. The purpose of the questionnaires was to extract each stakeholder group’s opinions and knowledge about specific areas. We covered identical thematic areas across all stakeholder groups, with only slight variations on certain questions to ensure their appropriateness to the audience. Topics included the following:

- How to define quality;
- What current quality reporting activities they were participating in;
- The relative importance of various types of quality information;
- What quality information would be necessary to choose a health plan or a hospital;
- What information should be included in quality reports;
- How it should be presented; and
- To whom reports should be targeted.

We also addressed other areas with the purpose of developing ideas for a possible course of action. The topics included but were not limited to the following questions:

- Who should participate and who should take the lead in various tasks associated with the development of a hospital quality reporting system?
- What barriers do stakeholders perceive?
- Which groups or organizations would have most credibility in producing quality reports?
- What incentives should be available to act as a catalyst for improving quality?

Whether via telephone or in person, each semi-structured and open-ended interview took about one hour, which allowed us to get detailed responses to our questions.

**Structure of this Report**

Based on the findings from these interviews and our review of the literature on hospital-based performance measurement, we first attempted to identify the critical determinants of the success of various strategies to improve hospital performance and the situations in which each strategy was most applicable. In this report, we first offer a conceptual model describing the essential elements of a multi-hospital quality improvement system. We then discuss the primary challenges to creating such a system and some of the factors that are likely to influence its effectiveness based on the findings of our interviews and literature review. Finally, we compare alternative approaches to building a hospital quality improvement system based on an analysis of the determinants of success for various strategies to improve hospital performance and the situations in which each strategy is most applicable. We also suggest specific steps that would foster the development of such a system.
II. Conceptual Models

**Definition and measurement of quality are closely linked and discussion in the literature revolves around the classic triad of structure, clinical process, and patient outcomes.**

**Comments from the “Charting the Course” meeting as well as our stakeholder interviews revealed a consensus that there are significant and important variations in hospital quality, regardless of how quality is defined or measured. Most stakeholders doubted that consumers are aware of the severity or significance of hospital quality problems. However, while all stakeholders agreed on the need for quality improvement, they were not sure about the optimal approach to defining, measuring, reporting, and improving the quality of care. In this section, we outline what we believe to be the essential elements of a successful hospital quality improvement system.**

Definition and measurement of quality are closely linked and discussion in the literature revolves around the classic triad of structure, clinical process, and patient outcomes. In this report we include among structural measures indirect indicators of quality, such as annual hospital volume for specific procedures, since this has become commonplace in many quality reports (see, for example, the Web sites HealthGrades.com and HealthScope.org).

**Traditional Approach**

The traditional philosophical foundations of most hospital quality improvement or assurance initiatives have been the evaluation of administrative functions and confidential review (whether of individuals or organizations). For example, hospital accreditation by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) is based on compliance with administrative standards such as the convening of monthly committee meetings to discuss quality. JCAHO reviewers request proof that the meetings occurred, in the form of documented minutes from the meeting. However, there is no requirement that the hospital prove that the activities of the quality committee have improved overall clinical performance. In addition, if an organization does not achieve accreditation, JCAHO does not release to the public a list of the standards that were not met.
The foundation of peer review is similar: When Congress wanted to control hospital quality—especially overuse problems—in 1972, it mandated the creation of Professional Standard Review Organizations (PSROs). The PSROs involved physicians only (consumers and regulators were specifically excluded) and their assessments of whether inpatient care met local standards were kept confidential.

Other approaches—especially ones that involve the comparison of patterns of clinical performance across hospitals and the release of data to the public or to regulators—could have been adopted since the JCAHO was founded in 1951 or Congress created the PSRO mechanism for review in the 1970s. But strategies involving comparisons of hospitals and public reporting of performance have consistently met with substantial resistance from hospitals and physicians. Both floor and market strategies to improve hospital quality represent a major paradigm shift and run the risk of opposition from providers. That said, the rationale for trying to drive quality improvement through public reporting is straightforward: for the most part, confidential bureaucratic processes failed to produce sufficiently high and uniform hospital quality.

**Alternative Approach**

In order for hospital quality of care to improve across the board, one or both of the following must occur: either individual hospitals must increase the quality of care they provide (by reducing the prevalence of medical overuse, underuse, and misuse); or patients must shift from lower-quality to higher-quality hospitals.

In light of this hypothesis, we propose that a highly effective strategy for stimulating quality improvement through public reporting must have four critical elements:

1. A method for collecting valid data on hospital performance;
2. Meaningful incentives for hospitals to improve;
3. Financial resources for hospitals to adopt improvement programs; and
4. Capacity to evaluate the impact of the system.

**Element 1: A Data Collection Method**

Because organizations cannot improve without understanding in what ways performance varies, the first essential component of any hospital quality improvement system is the collection of valid data on hospital performance. Unfortunately, these data are currently available in only a few states, and hospitals in these states collect clinical process and outcome data for only a very small set of conditions.

**Element 2: Meaningful Incentives for Hospitals to Improve**

A successful system to stimulate hospital quality improvement must also offer specific incentives for hospitals to do better over time. The incentives could take many forms and theoretically could be positive or negative (see Table 1).

Positive incentives could include enhancements to local reputation, financial gains (increased payment per case or bonuses for overall quality of care provided to all patients), and increased market share. Disincentives include potential negative effects on reputation, payment, or patient volume, as well as the possibility of regulatory intervention (closure or restriction on services provided).
Element 3: Financial Resources

To improve quality, hospitals must also have the resources necessary to respond to quality problems. For hospitals with insured patients, these resources could come from quality-based payments or from increased market share. Hospitals with a high proportion of uninsured patients, however, will not be able to generate enough quality-based revenue to cover the costs of a quality improvement program. While in the long run, improvements in quality may be associated with a decrease in the overall costs of care, the initial costs of data collection and reporting can be significant in the short run. If the public reporting of quality is pursued, the participating stakeholders will need to pay special attention to the clinical and financial performance of safety-net hospitals.

Element 4: Capacity to Evaluate the Impact of the System

There is no prior model of large-scale hospital quality measurement and public reporting from which to know the influence of such an initiative on hospital care. The capacity to evaluate the impact of a public reporting program on hospital performance is an essential element because it will allow stakeholders to identify and track the overall costs and benefits of the strategy, and adjust it as needed to maximize effectiveness. An evaluation must include assessments of changes in quality for the conditions for which performance reports are prepared as well as measures of the costs of quality measurement and reporting. It would be especially important to monitor costs versus benefits to assure that the initial costs of data collection will not prevent hospitals from participating fully in the initiative or from providing accurate data on a timely basis. This appraisal should be wide-ranging, including an assessment of the “collateral damage” and “collateral benefits” of the initiative and the distribution of benefits and costs across socioeconomic, racial, and ethnic groups. The factors to include in a thorough evaluation of a hospital quality reporting system are:

- Changes in quality of care for specific conditions reported;
- Collateral damage (discussed below);
- Collateral benefits (discussed below);
- Total cost of system relative to total benefits; and
- Distribution of costs and benefits of the system across socioeconomic, racial, and ethnic groups.

Collateral damage. By collateral damage, we mean unintended negative consequences that could result from a quality-reporting program, some of which may only be recognized once the program is operational. Five areas of potential collateral damage of a condition-specific reporting system are:

- People who are admitted emergently or too ill to be transferred may end up at hospitals that no longer perform certain procedures; for example, a patient with a ruptured aortic aneurysm requiring emergent surgery may end up at a hospital that is no longer as experienced with aortic surgery if it is either

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<thead>
<tr>
<th>INCENTIVE TYPE</th>
<th>Means of Creating this Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Reputation</td>
<td>Publicize performance data within the community</td>
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<tr>
<td>Regulatory</td>
<td>Include performance in criteria for accreditation or licensing</td>
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<td>Financial</td>
<td>Base price-per-case or annual bonuses on quality performance</td>
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<tr>
<td>Market Share</td>
<td>Customize performance data for consumers, referring physicians, health plans, and purchasers</td>
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Table 1. Possible Incentives to Influence Hospital Performance
no longer allowed (under a floor strategy) to
do elective aortic surgery or has fewer such
patients (under a market strategy).

- Some patients prefer to use nearby hospitals
even when better hospitals are only a few
miles away, but in a system that requires a
minimum level of performance (as would
occur with a floor strategy), these patients
may be forced to travel because the hospital
they would have preferred no longer performs
the procedure they need.
- Hospitals may lose so many patients of a
certain type (such as cardiac bypass patients)
that they are no longer able to support some
types of specialists (cardiac surgeons), who are
then not available to perform other services
(such as cardiac valve surgery).
- The creation of quality measurement systems
will cause hospitals to focus all their quality
improvement effort on the conditions for
which quality of care is being measured, to
the detriment of quality in other areas.5
- Socioeconomic disparities among hospitals
may widen if safety-net hospitals that pay
the cost of data collection and demonstrate
high quality do not see an increase in market
share or revenues. In particular, if the program
creates data collection burdens for safety-net
hospitals without generating additional
revenues (either from higher prices or
increases in patient volumes), these hospitals
may have to cut other services in order to
comply with the data collection mandate and
may not have the resources to make invest-
ments to improve quality. The result would
be that the wealthy get better hospital care
because of a reporting system that further
reduces the services available to the poor,
widening the socioeconomic disparities in
quality and access to care.

Collateral benefits. Unplanned benefits may
arise as well, even for patients who do not have
the conditions for which quality is reported.
These are likely to take the form of general
improvements in clinical processes that can be
extrapolated to other conditions or that generate
economies of scale or scope. In addition, there is
evidence that decreasing overuse and misuse of
medical care will, in the long run, decrease
overall health care costs.1

Some potential collateral benefits of a condition-
specific reporting system are:

- Many processes that are improved for patients
  with Condition A will be applicable to patients
  with Conditions B and C (for example,
  improving the timeliness of peri-operative
  antibiotic administration for patients under-
  going esophageal cancer surgery is likely to
  create processes that are easily applied to
  improving care for patients needing any
  surgery on the gastrointestinal tract).
- Economies of scale or scope.
- Decreased overall costs of health care due to
decrease in overuse and misuse of medical care.

A separate concern, in addition to the collateral
damage and benefits discussed above, is the cost
of implementing a public reporting system. It
would be especially important to monitor costs
versus benefits to assure that the initial costs of
data collection will not prevent hospitals from
participating fully in the initiative or from
providing accurate data on a timely basis.
III. Inherent Challenges

A complete picture of hospital performance requires statistically stable, risk-adjusted, evidence-based measures of the quality of processes and outcomes as well as valid measures of patient experience.

Stakeholders concur that hospital quality is a complicated concept that should include both technical quality and patients’ personal experiences. But they often do not agree on how to define and measure these elements of quality. Moreover, to the extent that there is some consensus about what to measure, the health care system has not yet developed the information infrastructure needed to measure and report on quality in any of these areas. Thus, the challenges to achieving an operational hospital quality measurement and reporting system include both the conceptual and the practical issues discussed below. In this chapter, we describe these challenges in detail, offering lessons gleaned from the literature and from our interviews with participants in prior and ongoing initiatives. For each challenge, we also report the feedback we heard from various stakeholders.

The eight challenges inherent in creating a hospital quality measurement and reporting system are:

1. Choosing among different types of quality indicators;
2. Developing risk-adjustment methodologies;
3. Data availability and the role of information systems;
4. Lack of consensus about the definition of quality and what data to collect;
5. Hospital costs;
6. Provider resistance and concerns about use of the data;
7. Lack of effective government support; and
8. Legal issues.
Challenge 1: Choosing Among Different Types of Quality Indicators

Providing patients and other stakeholders with a complete picture of hospital performance requires statistically stable, risk-adjusted, evidence-based measures of the quality of processes and outcomes as well as valid measures of patient experience. These measures must be reasonably simple to collect and report, and actionable on the part of providers who want to improve quality. Unfortunately, indices of quality that meet these criteria (particularly process and outcomes measures) are not readily available.

While measures of patients’ perceptions are more developed, instruments in the public domain have not traditionally been focused at the level of the hospital (for instance, CAHPS is the Consumer Assessment of Health Plans Survey).

Different types of quality indicators include:

- Risk adjusted outcomes;
- Risk adjusted processes of care;
- Measures of patient experience; and
- Indirect indicators of quality.

The most direct measure of hospital quality is patient outcomes. Accurate risk adjustment of outcome data, however, usually requires clinical information that is not available in claims or administrative databases. Furthermore, most hospitals do not have electronic medical records (EMR) systems capable of producing the data needed for risk-adjustment purposes. As an alternative, one could report variables shown in the literature to be indirect indicators of quality. For example, studies have found a correlation between hospital outcomes and these indirect indicators of hospital quality:

- Teaching status;\(^6,7\)
- High annual condition-specific volume of procedures;\(^8,9\)
- Level of care (for example, Level I trauma center);\(^10\)
- Designation by regulatory body or professional group;\(^11\) and
- Participation in clinical trials.

Both risk-adjusted outcomes and indirect indicators like volume have drawbacks as indices of quality (and hence, as elements in public reports of hospital performance). Direct measurement of outcomes is limited, for many conditions, by hospital sample sizes that are too small to generate annual hospital-specific quality indices.\(^13,14\) For example, in California in 1997, the majority of esophageal cancer surgeries (94 of 169) occurred in hospitals doing three or fewer procedures per year. Even a decade of data from such hospitals would not generate stable estimates of an individual hospital’s mortality rate. For some conditions, a reliance on hospital volume as a sign of good quality could penalize low-volume hospitals that are doing well. Hannan et al. found a volume-outcome relationship for coronary artery bypass grafting (CABG) in New York, but some low-volume hospitals had risk-adjusted mortality rates below the mean for high-volume hospitals, and some high-volume hospitals had higher-than-expected mortality rates.\(^8\) In addition, there are many operational difficulties with using indirect indicators. In the common situation where hospitals are closely affiliated to other hospitals, should they all be given credit for the teaching status or hospital volume of the flagship hospital?
**Process and structure measures.** We have discussed both the direct measurement of outcomes and the use of indirect measures of quality for quality assessment. A third option is to measure compliance with either with process indicators (such as clinical guidelines) or structural measures (for example, ensuring the physicians performing a procedure at a hospital are all board certified). However, these measures should be restricted to those aspects of clinical care or structure for which an evidence base has been developed through randomized trials (or through observational data that is universally accepted as convincing) linking the measure to improved outcomes. Even for common, frequently studied conditions like myocardial infarction (MI), there are many clinical process decisions that are likely to affect outcomes, even though this link has not been established through large randomized trials. Some report cards on hospital quality have included provider board certification or hospital accreditation status, but these variables are even more tenuously linked to outcomes than are process measures. Thus, focusing quality measurement exclusively on process or structural variables that correlate with outcomes would limit the breadth of quality assessment and would avoid rewarding hospitals that have identified methods for improving quality that have not yet been studied. To avoid misleading consumers or other users of hospital quality data, the limitations of process and structure indicators should be considered in the selection of quality measures and, if publicly reported, should be explained in the reports themselves.

**Measures of patients’ perceptions.** As an alternative to assessing the technical quality of hospital care, one could focus instead on patients’ perceptions of care. Patients’ perceptions are often determined by factors—such as the establishment of strong relationships with caregivers—that are not technical in nature, but are nevertheless important components of healing. Compared to data on processes or risk-adjusted outcomes, the collection of data on patients’ experiences is relatively inexpensive.

However, there are several problems with using measures of patients’ perceptions as a primary means of improving hospital quality. First, the current impetus to improve hospital quality arose from evidence of problems with technical quality of care, especially poor processes and outcomes of care. Because patients’ perceptions often relate to service issues and the quality of communications between patients and families and care providers, rather than to technical quality of care, patient satisfaction reports alone may not identify hospitals with technical quality problems. Nonetheless, measures of patients’ perceptions of care are an important component of hospital quality and should be considered an important aspect of a public reporting system.
Lessons from Prior Initiatives

Unfortunately, other hospital reporting initiatives provide little insight into the relative importance of the quality indicators described above. While there have been programs that reported each type of indicator, few studies have evaluated the impact of these programs or investigated the relative impact of the different types of quality indicators on hospital performance or consumer behavior.

The most closely studied initiative has been New York state's program to provide hospital-specific risk-adjusted mortality rates for CABG. In each of the first four years after New York's Cardiac Surgery Reporting System (CSRS) was introduced, crude and risk-adjusted mortality rates decreased. The crude mortality rate decreased from 3.52 percent in 1989 to 2.78 percent to 1992, a 21 percent reduction. The risk-adjusted mortality rate decreased 41 percent from 4.17 percent in 1989 to 2.45 percent in 1992. However, this occurred in the context of a nationwide decline in CABG mortality rates. A comparison of the New York trend to national trends suggests that mortality rates fell faster in New York, but this comparison was done without risk adjustment so it is not known whether the public reporting of quality was the sole or predominant cause of New York's relatively stronger performance. Perhaps the most convincing evidence that the reporting system had an impact is that the hospital-to-hospital variation in performance, which was wide and statistically significant when the system was first introduced, declined rapidly as hospitals with poor performance improved more rapidly than high performers. Another aspect of the CSRS bears mention: both hospital and individual surgeon performance were reported, so it is not possible to determine how much of the effect is due to the hospital reporting aspect of the initiative.

Many employers and purchasing coalitions have collected and reported process of care and patient experience measures. While some have focused their attention on hospitals, a large number of these efforts have concentrated on quality at the health plan level, which is typically expressed with measures from HEDIS (the Health Plan Employer Data and Information Set). Historically, HEDIS measures focus on preventive care and often strike consumers as providing only minimally useful information on which to assess a plan's quality. With the addition of CAHPS and other measures, however, this is improving. Where the reporting of these data at the health plan level has been studied, it appears to have had only marginal effect on consumer choice of plan.

The most comprehensive hospital quality initiative sponsored by employers was the Cleveland Health Quality Choice (CHQC) program, which measured hospital outcomes (for example, intensive care unit [ICU] mortality rates), processes of care (such as cesarean section rates), and patient satisfaction. CHQC reported these data from 1993 until 1999, when a major hospital system in Cleveland refused to continue its participation. While there were no formal evaluations of the relative usefulness of the different indicators, most of the controversy that led to CHQC's downfall centered on hospitals' concerns about the risk adjustment for the mortality reports. In addition to the hospitals' concerns regarding the validity of the data, a disappointing lack of response from consumers and employers to the program also contributed to its demise.
Federal and state governments have also made attempts to assess hospital performance. In the early 1990s, the Medicare program used quality measures to designate hospitals as Centers of Excellence in cardiac or orthopedic surgery. The criteria for this designation included outcomes, process, and structural measures (such as hospital volume and the availability of certain services). The intent was to have hospitals use their designation in marketing, so effectively the program was one of government measurement of multiple quality indicators with private distribution of the results. While the only evaluation of this program found that designated centers performed better than programs that did not receive the designation,¹¹ the marketing of the program and its impact on patient volume were minimal and the program has been suspended.

At least six states, including California, have condition-specific mortality reports (primarily for cardiac procedures, but for some other conditions as well) and several regional initiatives to report on patients’ perceptions of care are underway. However, most initiatives focus on a single type of indicator and have not been evaluated for their impact on performance.

**Stakeholder Input**

Despite the relative lack of data, stakeholders had definite and firmly held preferences for different types of quality indicators. Participants in the “Charting the Course” meeting recommended collecting and reporting data on the indicators shown in Table 2. The participants in this conference wanted efforts to focus on the process and outcomes measures in the left-hand column labeled “Technical/Clinical Quality.”

<table>
<thead>
<tr>
<th>Technical/Clinical Quality</th>
<th>Patients’ Perceptions of Care</th>
<th>Structural Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence-based process of care measures</td>
<td>Physical comfort/pain management</td>
<td>Working information systems that deliver real-time clinical and service information</td>
</tr>
<tr>
<td>Risk-adjusted outcomes (for example, OSHPD’s risk-adjusted mortality rates across multiple conditions)</td>
<td>Information and education</td>
<td>Safety systems</td>
</tr>
<tr>
<td>Medication errors</td>
<td>Coordination of care/access</td>
<td>Staffing levels: RN, LVN, CAN, MD, other</td>
</tr>
<tr>
<td>Comprehensive panel of measures</td>
<td>Respectful communication (including culturally appropriate)</td>
<td>Willingness to participate in voluntary quality reporting efforts</td>
</tr>
<tr>
<td>Hospital volumes for selected procedures</td>
<td>Continuity and transition</td>
<td>Staff survey of quality management</td>
</tr>
</tbody>
</table>
In our interviews, we built on the results of the conference by obtaining more in-depth and broad-ranging input from stakeholders. Specifically, we wanted to know about the relative importance they placed on three categories of hospital performance data: outcomes, processes of care, and patient experience. We first asked each interviewee to rank the relative importance of these three categories of data from one (most important) to three (least important). The mean rankings by stakeholder group are listed in Table 3.

We then asked stakeholders to assign 100 points across the three areas according to relative importance (in the opinion of the interviewee). Mean point assignments by stakeholder group are shown in Table 4.

Despite the commonly held assumption that consumers are primarily interested in data on patient experience, the consumer representatives we surveyed felt that measures of the outcomes of care are the most important aspect of hospital performance. In fact, consumer groups placed less than one-quarter of the weight of their evaluation of a hospital on patient experience. This was less than any group other than purchasers. To look at this further, we asked the providers, health plans, and purchasers how they thought consumers would assign their 100 points. Table 5 shows consumer preferences again, with the predictions of physicians, hospitals, health plans, and purchasers about those preferences.

| Table 3. Mean Rankings by Stakeholder Group of Relative Importance of Quality Data |
|----------------------------------|------------------|------------------|------------------|
| **STAKEHOLDER** | **Outcomes** | **Processes** | **Patient Experience** |
| Consumer Groups | 1.5 | 1.9 | 2.6 |
| Purchasers | 1.1 | 1.9 | 3.0 |
| Health Plans | 1.1 | 2.8 | 2.1 |
| Hospitals | 1.1 | 2.5 | 2.4 |
| Regulators | 1.0 | 2.0 | 3.0 |
| Medical Groups | 1.4 | 1.8 | 2.8 |

| Table 4. Mean Points Assigned by Stakeholder Group to Quality Data |
|----------------------------------|------------------|------------------|------------------|
| **STAKEHOLDER** | **Outcomes** | **Processes** | **Patient Experience** |
| Consumer Groups | 43 | 35 | 22 |
| Purchasers | 47 | 35 | 18 |
| Health Plans | 46 | 24 | 30 |
| Hospitals | 53 | 22 | 25 |
| Regulators | 40 | 31 | 29 |
| Medical Groups | 43 | 31 | 25 |

| Table 5. Stakeholders’ Predictions of Consumer Choice |
|----------------------------------|------------------|------------------|------------------|
| **STAKEHOLDER** | **Outcomes** | **Processes** | **Patient Experience** |
| Hospital | 38 | 13 | 50 |
| Health Plan | 23 | 10 | 67 |
| Purchaser | 45 | 14 | 41 |
| Medical Group | 29 | 21 | 30 |

| **ACTUAL POINT ASSIGNMENT** |
|----------------------------------|------------------|------------------|
| Consumer Group | 43 | 35 | 22 |

Note: Rows may not add up to 100 due to rounding.
Our findings suggest that consumers are much more interested in outcomes and processes than other stakeholders believe, and consider patient experience the least important type of quality data. In part this discrepancy may reflect the consumer representatives we interviewed. Leaders of consumers groups may be more sophisticated about many aspects of consumer protection, including assessing product quality, than the general public. We did not, however, intentionally seek consumer advocates with special knowledge of health care quality measurement.

A recent study prepared by RAND Health for CHCF on consumer attitudes about health care quality asked consumers to rate the value of various kinds of information on a scale of 1 to 10, with 10 being most useful. The results of that study are consistent with our findings that consumers are more interested in outcomes of care than in patient experience data (Consumers and Health Care Quality Information: Need, Availability, and Utility, California HealthCare Foundation 2000).

An option offered by one of the interviewees was to focus on different indicators depending on the goal of the reporting initiative. A reporting program designed to stimulate hospitals to improve their performance might focus on processes, since that is the variable over which hospitals have the most control. Alternatively, a program intended to inform patients about differences in quality might include more data on patients' experiences and outcomes.

Of course, one need not choose among these indicators. With sufficient resources, a report could be developed that included all of them. Alternatively, one could develop a long-range plan that included all indicators. Such a plan might involve starting with reports of quality indicators that are easier to calculate but less clearly reflective of quality than measures of process or outcomes. Examples include structural variables like hospital volume or whether the hospital uses a computerized order entry system. Over time, one could add more direct and sophisticated measures of quality as our ability to do so increases as a result of improvements in risk adjustment and more evidence clearly linking processes to outcomes.

**Challenge 2: Developing Risk-Adjustment Methodologies**

Reports of hospital-specific outcomes, and in some cases processes, should take into account the case mix at the hospital. Many studies have shown statistically significant differences in expected mortality rates for the same condition from one hospital to the next that are due to underlying differences in the hospitals' patient populations. Furthermore, some process measures are only appropriate in patients with certain characteristics (for example, aspirin after a MI is inappropriate in a patient with ulcers). Failure to take these differences into account could lead to inappropriate conclusions about quality of care. The science of risk adjustment, however, is relatively primitive. There are only a few conditions for which researchers have been able to identify the clinical patient characteristics that influence mortality rates. For the most part, these are limited to cardiac conditions, some cancers, and perhaps ICU and trauma care. Even among the cancers, most of the risk indices are more applicable to long-term mortality than to inpatient or 30-day mortality.

However, even when the variables needed for risk adjustment are known, they may not be reported routinely in administrative databases such as state hospital discharge data. For example, stage of cancer is clearly an important determinant of outcome, but it is not part of the diagnosis coding system included in administrative data. Thus, the predictive power of risk models based only on the variables available from administrative databases is limited.
Lessons from Prior Initiatives

Failure to adequately risk adjust has been the biggest fatal flaw for most prior hospital quality public reporting initiatives. The best known example of this occurred in the mid-1980s, when the Health Care Financing Administration (now the Centers for Medicare and Medicaid Services) issued hospital-specific mortality rates for Medicare patients. These reports were heavily criticized for their lack of risk adjustment.26 Perhaps because of this criticism, the reports were largely ignored by consumers27 and were eventually discontinued.

As noted earlier, concerns about risk adjustment also plagued the Cleveland Health Quality Choice project. Hospitals requested access to data in order to validate the risk-adjustment methodology but were not given the opportunity due to the proprietary nature of the data collection instruments and risk-adjustment model. The Cleveland Clinic, the largest hospital system in the program, had particular concerns about the adequacy of risk adjustment for ICU care. The risk-adjustment models were based on the published literature, but they had been developed using data from the late 1970s and early 1980s on patients from other regions of the United States. The Clinic argued that insufficient efforts were made to ensure that the models were calibrated for and applicable to Cleveland’s medical environment in the 1990s, and eventually withdrew from the project.

There are examples of excellent risk adjustment. New York’s CSRS collects condition-specific clinical variables that significantly affect mortality from CABG and other cardiac procedures and combines these data with discharge abstract data to adjust mortality rates (see list of risk factors in box at right). These data are included in reports of mortality rates for a variety of cardiac procedures. For the most part, rather than attack the risk-adjustment process, New York hospitals that perform poorly have recognized that they need to improve and often have succeeded in doing so.21 This model has been so successful that several other states have adopted it, at least for CABG.

Stakeholder Input

Stakeholders who felt qualified to comment generally believed that risk adjustment is important and should be sophisticated. In particular, interviewees believed that risk adjustment should include clinical variables beyond those available from traditional discharge abstracts whenever possible (as is done in New York). However, some stakeholders, especially health plans, said they would be willing to act on quality data even if it included only very crude risk adjustment (for example, for age and gender) or none at all.
### Potential Risk Factors for CABG Surgery in New York State

- Age*
- Gender*
- Race
- Surgical priority (elective, urgent, emergency)
- Height*
- Weight*
- Body surface area*
- Body mass index, kg/m²*
- Ejection fraction*
- New York Heart Association functional class
- Canadian Cardiovascular Society functional class
- Number of vessels diseased
- Previous open heart operations*
- Previous myocardial infarction (< 6 h, 6-23 h, 1-7 d, 8-14 d, 15-21 d, or > 21 d)*
- Stroke
- Carotid/cerebrovascular disease
- Aortoiliac disease
- Femoral/popliteal disease
- Hemodynamic instability
- Disaster (acute structural defect, renal failure, or cardiogenic shock)*
- Shock
- Degree of left main disease*
- Hypertension
- Intravenous nitroglycerin within 24 hours before operation
- Electrocardiographic evidence of left ventricular hypertrophy
- Congestive heart failure*
- Major acute structural defect
- Persistent ventricular arrhythmia
- Extensively calcified ascending aorta
- Chronic obstructive pulmonary disease*
- Diabetes requiring medication*
- Hepatic failure
- Renal failure
- Dialysis dependence*
- Immunodeficiency
- Intra-aortic balloon pump before operation*
- Cardiac catheterization “crash” (see percutaneous transluminal coronary angioplasty [PTCA] “crash”)
- PTCA “crash” — immediate surgery required after PTCA complicated by a cardiovascular collapse that requires cardiopulmonary resuscitation en route to the operating room or resuscitation in the catheterization laboratory
- Previous PTCA, this admission
- PTCA before this admission
- Thrombolytic therapy within 7 days
- Smoking history in past 2 weeks
- Moderate or severe myocardial ischemia on stress test*
- Unstable angina*

**Note:** All of the variables above are tested annually to determine significance in predicting hospital mortality for CABG surgery in New York state.

*Denotes a variable found to be a significant risk factor for hospital mortality for CABG surgery in New York state, 1989 through 1992.
Challenge 3: Data Availability and the Role of Information Systems

Often the data needed to measure quality (by any indicator) are not routinely available in electronic form. This means that the collection of the necessary data proceeds by chart abstraction or by interviews or surveys of patients or providers. This makes data collection expensive and time-consuming. Currently, very few hospitals or hospital systems have the electronic medical records (EMRs) necessary to facilitate data collection. Furthermore, each hospital or hospital system that develops an advanced technical infrastructure for data collection and reporting does so independently; there is no attempt to make data systems compatible within a region or state (let alone nationally).

Lessons from Prior Initiatives

The lack of EMRs has been a limiting factor for data collection in most prior initiatives. It has also contributed to concerns about risk adjustment. In Cleveland, where a sophisticated risk-adjustment model was in place, the lack of adequate information systems significantly increased the cost of participation. Those hospitals that were not convinced of the adequacy of the risk adjustment still bore a substantial expense for data collection that discouraged them from participating.

Even in states with adequate risk adjustment, the tendency has been to limit reporting to cardiac conditions in order to rein in the costs of data collection. This reflects the large annual hospital volumes and high reimbursement for those conditions (creating both economies of scale in data collection and low ratios of data collection cost to revenues). In addition, in some cases, the cardiac surgery reporting systems have been overlaid on a system of CABG mortality measurement already put in place by hospitals in cooperation with the Society of Thoracic Surgeons.

Another complication created by poor information systems is delays in data collection. The New York CSRS, the California Hospital Outcomes Project (condition-specific hospital mortality rate summaries produced by the Office of Statewide Health Planning and Development, or OSHPD), and most other systems are plagued by reporting lags of two years or more. Even with significant support from outside institutions (as is available to hospitals participating in the California HealthCare Foundation’s PEP-C project), data lags can be as long as six to nine months.

Stakeholder Input

The various stakeholders agreed that information systems need to be upgraded and that such improvements would facilitate quality measurement. However, some report “EMR paralysis”—a state in which hospitals wait to implement EMRs until they know what data health plans and purchasers will require, while a consensus about what data to collect awaits the installation of useful EMRs. In addition, the cost of EMRs is a great concern to hospitals and health plans.

There is also a consensus about the need for information systems to process data quickly and efficiently so that reports are timely. Most interviewees felt that data would not be useful if it were more than two years old, and that the more rapidly public reports are made available, the more impact they will have.

Challenge 4: Lack of Consensus about the Definition of Quality and What Data to Collect

Hospitals (and health plans) consistently report that they are deluged with demands for performance data. They also say that the requests, though often similar, are each sufficiently different from the others so as to represent a unique reporting task. Thus, while the number of data elements they must report is already very large,
the effort is magnified by the need to repackage the collected data into a new format for each specific data request.

This number and variety of demands to some extent reflect the lack of a clear definition of quality. This conceptual confusion, combined with the day-to-day effort involved in being responsive to potential customers, limits hospitals’ ability to be proactive in developing definitions of quality that are acceptable to all stakeholders. In addition, the lack of standardized quality measures may be discouraging stakeholders, most notably consumers but also others, from using performance reports once they are generated.

Lessons from Prior Initiatives

There is evidence from other initiatives that a consensus among stakeholders about the importance and uses of quality data is critical. The Cleveland Health Quality Choice program was an employer-driven initiative that encouraged provider participation from the beginning. However, other stakeholders were not given a voice. Perhaps as a result, consumer groups did not work to get the data out to the public and the hospitals did not believe consumers were aware of or using the data. The decision to exclude health plans from the process was based on the initial intent of employers to engage in direct contracting. However, as the direct contracting trend waned and health plans were not asked to pick up where employers left off (it is not clear that they would have done so), hospitals opposed to the initiative perceived no disincentive to opt out, and the program was discontinued.

The New York CSRS provides a more positive example. The program’s Cardiac Advisory Committee includes consumers in addition to members from hospitals, physicians, and government. However, this program does not involve health plans, whose use of the data has been minimal.

More recently, the National Quality Forum (NQF) is working to develop agreement on a standardized set of health care quality measures for hospitals. The goal of the Hospital Performance Measures Project is to gain consensus on an initial core set of hospital quality measures and establish a longer-term framework for priorities and scope, implementation, and reporting. Three working groups have been established to address these areas, with a steering committee guiding the entire process. From a previous consensus project, NQF learned that although convening small groups with representative stakeholders facilitates broader consensus, agreement among the members of the small group does not mean that the larger set of stakeholders will also agree, and “buy in” to the result, unless further consensus efforts are undertaken. NQF expects their consensus process on the proposed recommendations will begin in 2002.

Stakeholder Input

There was consensus among interviewees about the importance of identifying common measures and reducing the number and type of requests for quality measures (what some referred to as “indicator cacophony”). Most stakeholders felt that this could best be achieved by convening a governmental or quasi-governmental committee with a membership drawn from all stakeholder groups. This committee would be responsible for determining what data are necessary to provide an adequate picture of hospital quality without creating too much of a data collection burden. As the technical infrastructure develops and risk-adjustment methods become more sophisticated, data collection and reporting may become more streamlined.
Challenge 5: Hospital Costs

Cost is a major factor in the implementation of any new program. This is of particular concern to California hospitals, as many are experiencing financial difficulties and are therefore hesitant to invest in reporting quality data without compensation. In many cases, it is hard for health care providers to focus on the long-term goal of lowering costs by increasing system efficiencies and decreasing overuse and misuse of medical care when faced with the often substantial short-term costs of data collection.

Lessons from Prior Initiatives

Previous attempts to perform broad-ranging quality measurement demonstrate that the cost issues are surmountable. For example, medical groups in the Dallas area voluntarily participate in providing data along several quality dimensions as requested by the Dallas-Fort Worth Business Group on Health. Similarly, the data required to become a Medicare-designated Center of Excellence covered many different elements of quality. However, if there is not a clear market response to the data, cost is a frequently cited reason for terminating programs. For example, when Cleveland hospitals perceived that risk adjustment was poor and consumers were not using the data (either because their representatives weren’t involved in its production or because they believed the reports were not accurate), they complained that the expenditure of millions of dollars annually to collect data was not justified.

Striking a balance between the short-term financial concerns of hospitals and the long-term goal of improving hospital quality is not easy. For example, in California Assembly Bill 524 (AB 524), which created the California Hospital Outcomes Project, the legislature directed OSHPD to produce risk-adjusted hospital outcomes reports for three new conditions every year. In response to hospitals’ concerns about the cost of data collection, however, the legislature in 1998 limited the number of variables that OSHPD could require hospitals to report to no more than 15 new data elements every five years (New York's CSRS captures more than 15 variables for cardiac procedures alone). This provision led OSHPD to use only discharge abstract data for risk adjustment. But experience has shown that there are very few conditions for which this approach to risk adjustment is sufficient. Since AB 524 was passed in 1991, only reports for MI have been issued on a continual basis (for example, reports on diskectomy were developed but subsequently dropped because discharge data alone did not allow for an accurate ascertainment of risk factors and outcomes).

In the California Intensive Care Outcomes (CALICO) project, hospitals are being asked to collect data about patients’ chronic health and acute physiology that go well beyond that available from discharge abstracts (see the list of variables in box at right). While this project was designed to address the weaknesses in Cleveland’s ICU risk-adjustment model, this approach increases the cost of data collection. The data collection requires approximately 20 minutes per patient per ICU stay. However, since hospitals have already cut ICU staffing to bare minimums, some are unwilling to ask ICU nurses to collect the data as part of routine care. These hospitals are considering using dedicated data collectors (with estimates of as many as 1 to 1.5 full-time equivalents [FTEs] for larger hospitals), but cost is cited as a significant barrier to participation. In the PEP-C project, hospital recruitment is going faster, in part because CHCF covers the majority of the data collection expenses.
Stakeholder Input
Some interviewees suggested foundation funding for data collection in a manner similar to the PEP-C project. However, most recognized that a full-scale system would include multiple indicators and that the cost of data collection would be beyond the means of any foundation. Therefore, most stakeholders agreed these expenses would have to be covered as part of routine operations or through purchaser incentives for quality. In addition, interviewees agreed that costs should be minimized by identifying a parsimonious set of data to collect and report. Hospitals in particular, but also some health plans, felt that any additional data requests should be matched to reductions in the requirements for JCAHO accreditation.

### Variables for CALICO (California Intensive Care Outcomes Project)

#### Physiology
- Temperature
- Heart rate
- Respiratory rate
- Blood pressure (mean or systolic)
- Hematocrit
- White blood cell count
- Albumin
- Bilirubin
- Glucose
- Serum sodium
- Serum potassium
- Serum bicarbonate
- Blood urea or blood urea nitrogen
- Creatinine
- Urine output
- \( \text{PO}_2 \)
- \( \text{PaO}_2 \) or (A-a) \( \text{DO}_2 \)
- \( \text{PaO}_2 \) or \( \text{FiO}_2 \) (if ventilated or CPAP)
- \( \text{pH} \) and \( \text{PCO}_2 \) (acid-base disturbances)
- Prothrombin time
- Glasgow Coma Scale

#### Chronic Health Status
- AIDS
- Cirrhosis
- Lymphoma
- Hematologic malignancy
- Leukemia/multiple myeloma
- Hepatic failure
- Metastatic cancer
- Immunosuppression
- Chronic renal insufficiency

#### Acute Diagnoses
- Acute renal failure
- Cardiac dysrhythmia
- Cerebrovascular incident
- Gastrointestinal bleeding
- Infection
- Intracranial mass effect
- Reason for admission

#### Other
- Age
- Patient origin
- Type of admission
- CPR prior to ICU admission
- Mechanical ventilation
- Vasoactive drug therapy
Challenge 6: Provider Resistance and Concerns about Use of the Data

Hospitals have significant concerns about how performance reports will be used. Many are afraid of being excluded from practice or of losing patient volume based on bad data. Consequently, they believe that no information should be released to the public as long as there are any doubts about the quality of the risk-adjustment methodology.

Lessons from Prior Initiatives

Hospital resistance was an insuperable barrier for several programs that have since been terminated. In addition, we could only find one example of a program in which resistance was overcome without some form of legislative or regulatory mandate: the California CABG reports. All other ongoing programs are either directly mandated by law or are given a significant legislative assist (for example, the New York CSRS is “voluntary,” but it is run by the same Department of Health that issues the certificates of need required to continue to provide cardiac services).

In addition to direct opposition to reporting, providers can render a reporting system ineffective. For example, although the state of Pennsylvania produces CABG mortality reports, surveys have shown that referring physicians have not used them to choose a hospital for their patients’ cardiac surgery.28 This refusal to use the report stemmed from a lack of confidence in the risk-adjustment model and in the data collection process.

Stakeholder Input

Most stakeholders agreed that, without some form of mandate regarding data reporting, hospitals would be reluctant to participate given the expense of data collection and the risk of appearing to have poor quality. However, most also agreed that a government mandate would not be sufficient; some market incentive or evidence that the information is being used would be necessary to keep providers from eventually defeating a reporting initiative. All felt that it would be absolutely necessary to prove that the risk-adjustment methodology is valid in order to gain and maintain provider support.

Challenge 7: Lack of Effective Government Support

Participants in the “Charting the Course” meeting and commentators in the literature expressed concern that government support, while crucial to reporting initiatives, might not be forthcoming. One major issue involved the overlap of, or confusion about, responsibilities among government agencies, resulting in too much uncoordinated activity. Another was that political pressures might be responsible for a lack of ongoing encouragement for reporting efforts, with the opposite result of too little government activity.

Lessons from Prior Initiatives

We found no reports of programs that were initially successful but failed when a government agency was asked to support it but was unwilling to do so. However, the California Hospital Outcomes Project was hampered before it began by legislative limits on its mandate and the leaders of the Cleveland Health Quality Choice program never sought the government assistance that might have replaced employers’ efforts when they chose not to pursue direct contracting.

Stakeholder Input

Few stakeholders felt that this would be a problem by itself. Most believed that, if all the various interest groups favored government action, it would occur and would be effective. If the government were to take a leadership role, there was a consensus that this should be at the level of the state. Stakeholders who expressed a preference as to which California state agency would be most
appropriate to take on such a leadership role favored the Office of Statewide Health Planning and Development, given this agency’s prior experience with hospital quality reporting.

**Challenge 8: Legal Issues**

Creating a hospital reporting system may require both specific legislative support (enabling legislation) and protection from other kinds of limitations on cooperation among and within stakeholder groups. Legislation mandating data collection and the production of public reports would be the most powerful enabling legislation, but may not be sufficient.

Many observers feel that the sustainability of quality reporting requires that all stakeholders in a given group agree on collective action. For example, in order to get all hospitals to cooperate with data collection and reporting, employers may need to communicate to hospitals that they intend to use quality data as a basis for contracting or patient referral. However, such collective action by purchasers could violate antitrust and restraint-of-trade laws. An agreement to avoid hospitals with certain characteristics (essentially a private “floor” initiative) could be construed as an illegal boycott and hospitals would have a strong incentive to sue.

**Lessons from Prior Initiatives**

Enabling legislation has been a key component of cardiac and maternity quality measurement and reporting systems in other states. In New York, the certificate of need laws are effective at generating support for reporting programs that are only indirectly related but are also only partially “voluntary.” There have been no antitrust or restraint-of-trade challenges to prior initiatives.

**Stakeholder Input**

Almost all stakeholders favored the passage of enabling legislation. Those who were aware of the limitations placed on California OSHPD’s ability to collect data for hospital quality reporting (no more than 15 new data elements every five years) felt these restrictions were too extreme.

While none of the traditional stakeholders brought up antitrust issues, almost all suggested that collective action by health plans and purchasers would be needed to sustain a system. A former Federal Trade Commission (FTC) lawyer indicated that the risk of legal action on the basis of restraint of trade was significant if stakeholders formally committed to collective action. However, since any judgment would be rendered based on a rule of reason he felt collective action could probably be justified — despite the potential for monopsony power in the hands of an employer coalition or group of health plans — on the basis that the benefits to consumers of quality reporting outweighed any harm due to restraint-of-trade.

Two steps might protect such an initiative from expensive litigation. The first would be to get the state legislature to pass a law expressing its intent to foster collaboration among and within interest groups to generate a quality reporting system. Such legislation would supercede federal antitrust code. If this legislation cannot be obtained, the participants in a multi-stakeholder initiative could seek advisory opinions from the Federal Trade Commission and the Department of Justice that the activities are justifiable. With favorable advisory opinions, it would be very difficult for any party to successfully sue to stop the initiative (or even to find a law firm to take on the case).
IV. Creating a System with High Impact

Most interviewees believed consumers do not understand the magnitude or significance of current variations in technical quality of care.

The challenges discussed in the previous section relate primarily to the collection of data on hospital quality. However, even if a system were in place to collect data, important decisions would remain with regard to which conditions to report on and how to ensure that reports are useful to all stakeholder groups. The four important considerations that would have to be addressed in order to create a hospital quality reporting system with high impact are:

1. Bringing stakeholders together;
2. Selecting conditions for which to measure quality of care;
3. Developing a report with the right mix of conditions and indicators; and
4. Ensuring that reports are used.

Consideration 1: Bringing Stakeholders Together

It was clear from our interviews that all stakeholders should be represented in the development, execution, and evaluation of a hospital quality reporting system in California. Attention to process in this case is essential. Without the input and support of all sectors, including government, health plans, hospitals, providers, purchasers and consumers, there is greater risk of the program failing, as happened in Cleveland.

Consideration 2: Selecting Conditions for Which to Measure Quality of Care

In addition to choosing which type of quality information to report (structure, process, outcomes, patients’ perceptions), the stakeholders involved in this effort also must decide for which conditions they should generate quality reports. Research has shown that performance at a single hospital varies from one condition to the next, so quality must be measured across a variety of clinical populations. Even performance on general indicators such as patients’ perceptions of care might vary by clinical population and hence warrant population-specific measurement (for example, patients with chronic diseases and frequent users of hospital care might have different opinions about an institution than one-time users). Most technical measures of quality are condition-specific, either because the
process applies only to certain diseases or because
the methods of risk adjustment for outcomes are
particular to each condition. Because resources
are finite, stakeholders will have to make difficult
choices. Some criteria for selecting conditions to
report are:
- Clinical significance (prevalence/impact
  on quality and length of life);
- Impact of quality of care on measured
  performance;
- Magnitude of variations in quality;
- Practicality of measuring quality; and
- Contribution to the scope of hospital
  performance assessment.

Clinical Significance
The impact of a quality improvement initiative
on overall public health will be greater if the
conditions targeted are both common and
serious. For instance, improvements in the quality
of cancer care may have greater impact than
initiatives targeting either liver failure (equally
severe but less common) or labor and delivery
(more common but much less severe).

Impact of Quality of Care on Measured
Performance
Even where hospital quality varies widely, it may
not be feasible to identify the best hospitals if
factors other than quality cause most of the
variation in measured outcomes. For example,
policymakers may decide to measure and report
hospital mortality rates for specific conditions.
This is typically more feasible for common
elective procedures — which should have low
mortality rates for appropriate patients — than
for many medical conditions. Patients with
coronary artery disease, for instance, can be
admitted to the hospital for elective percutaneous
transluminal coronary angioplasty (PTCA,
expected mortality rate below 2 percent) or for
congestive heart failure due to a MI (expected
mortality rate 20 percent or higher). Quality
differences that lead to an increase of two
percentage points in the mortality rates of PTCA
patients should be obvious, since mortality rates
would be double at poorly performing hospitals.
Identifying which hospitals have 2 percent higher
mortality for heart failure patients, however,
would be more difficult. A two-percentage-point
difference in mortality rates can only be detected
and ascribed to differences in quality of care if
risk-adjustment models can reliably reduce the
unexplained variation in mortality due to patient
characteristics.

Magnitude of Variations in Quality
When feasible, targeting quality improvement
initiatives to clinical populations for which
quality varies greatly will increase the impact
of any program. For instance, in a recent report
on the impact of hospital volume on mortality
rates, Dudley et al. found that odds ratios (ORs)
for mortality associated with admission to a
low-volume hospital were higher for pancreatic
cancer surgery than for esophageal cancer surgery
(ORs were 2.29 – 5.00 for pancreatic cancer
surgery versus 1.78 – 3.78 for esophageal cancer
surgery). For this reason, although there were
a similar number of admissions to low-volume
hospitals in California in 1997 for the two
conditions, the number of deaths attributable
to low volume were substantially higher for
pancreatic cancer surgery.
Practicality of Measuring Quality

To minimize the data collection and reporting burdens and reduce clinical challenges to quality assessments, policymakers could choose conditions for which quality is relatively easily measured. For example, for patients admitted with diabetic ketoacidosis (blood sugar severely out of control, often in response to some infection), the two dominant concerns are to control the blood sugar level and to treat concomitant infection as quickly as possible. Compliance with quality guidelines can be measured by reporting blood sugar levels and documenting that patients with infections receive antibiotics. For patients admitted with syncope (sudden loss of consciousness), however, the list of differential diagnoses is broad—from seizure to cardiac arrhythmias to emotional stress—and the appropriate diagnostic tests and treatments may be different for each case. Thus, developing quality indicators and setting up a system to measure compliance is more complex. Therefore, it may be advisable to focus initial quality measurement and reporting efforts on conditions like diabetic ketoacidosis rather than on complex ones like syncope.

Contribution to Scope of Hospital Performance Assessment

While any quality data would be useful, it may be preferable to produce information that covers a broad spectrum of conditions so that it is relevant to more people. For example, the state of New York's reporting system for cardiac procedures began reporting risk-adjusted mortality rates for bypass surgery and has since added heart valve surgery and PTCA. For this purpose, the state has advisory boards that transmit the clinical expertise and reporting preferences of cardiologists and thoracic surgeons. Thus, it would be easiest for the New York Department of Health to add cardiac transplantation as its next condition for the public reports. However, the public may benefit more from learning about the quality of care provided to other kinds of patients (for example, cancer or stroke patients), and this may justify the greater effort required to make some non-cardiac condition the next topic for reporting.

Consideration 3: Developing a Report with the Right Mix of Conditions and Indicators

What information should be included in hospital quality reports? Participants in the “Charting the Course” conference recommended that a report include the elements shown in Table 2. Note that those recommendations focused more on type of information than on the conditions for which data should be collected.

Our interviews with stakeholders built on the findings of that meeting. Stakeholders’ preferences are just one consideration, however, in the development of a hospital quality report. Other important questions to ask are:

- What information is needed to create an accurate overall picture of hospital quality?
- What data are needed to assess condition-specific quality?
- What information do stakeholders want about hospital quality?
- What data are needed to actually change consumer or purchaser behavior?
- What will be the additional contribution to quality assessment of the data produced in the report?
Consideration 4: Ensuring that Reports Are Used

Measuring important indicators of quality for a variety of conditions is not sufficient to ensure that performance reporting leads to improvement in the average quality of care. As described earlier, a public reporting strategy can only lead to improvements in overall quality if it either causes a shift of patients from lower to higher quality hospitals or stimulates an increase in the quality of care provided by individual hospitals. This means that either patients must use the reports to choose a hospital or hospitals must use the reports as a basis for deciding where and how to improve. These two results could be facilitated by actions taken by employers and health plans, or government purchasers and regulators.

Encouraging Consumers to Use Reports

Stakeholders agreed that they would need to pay special attention to how information is reported to consumers. In fact, most interviewees believed consumers do not understand the magnitude or significance of current variations in technical quality of care. This is consistent with available literature, which shows that, while consumers are aware that quality varies, they are doubtful that this affects them. Furthermore, many believe that simple measures—such as using an accredited hospital or board-certified physician—are sufficient to guarantee high-quality care.

Several suggestions arose from the interviews, some relating to the reports themselves, others to initiatives that should be undertaken in conjunction with the reports. On this latter point, several stakeholders suggested a public education campaign to convince consumers that quality differences could affect them. On the other hand, a physician interviewee felt that trends in the health care industry over the last two decades had already eroded the trust in the physician-patient relationship and that further alerts to consumers would do more harm than good.

In terms of creating reports that get consumers' attention, one interviewee pointed to recent literature showing that consumers are more likely to agree to pay more, drive further, or change physicians if quality data are presented with a preamble that draws attention to the possibility of significant life-or-death differences. Another suggestion, which is also supported by data in the literature, was to frame the information on quality in terms of loss rather than gain. For example, an introduction that emphasizes the opportunity to receive improved quality of care seems to have less impact than an introduction that focuses on the opportunity to avoid harm from poor quality. Several interviewees felt that the use of quality information could be increased by summarizing technical measures (that is, using experts to weight the various measures, rather than expecting consumers to be able to do this themselves) and presenting the data visually (for example, displaying bar graphs rather than tables of numbers).

Almost all stakeholders felt that, if presented properly, information about conditions a consumer does not personally have could still influence his or her choice of hospital. There is very little evidence of this in the literature, but Hibbard et al. showed that patients without breast cancer considered information on the quality of breast cancer care salient but not sufficient to change a general consumer's health care choices. However, this study used information about a single condition; it is possible that reports for multiple conditions would be more influential.

A final issue relates to differentiating hospitals that perform well (or poorly) from the large number of hospitals with average performance. This corresponds to the traditional 95 percent confidence intervals in statistics, a criterion with which hospitals are more comfortable. On average, this means that only 2.5 percent of hospitals (or one in 40) will be identified as superior and a similar number as inferior. The
California Hospital Outcomes Project uses even stricter criteria, with symbols designating which hospitals are in the top 1 percent, the middle 98 percent, and the bottom 1 percent.

Disappointment in the inability to distinguish among hospitals contributed to Cleveland employers’ dwindling interest in direct contracting and to the eventual demise of the CHQC program. In addition, it gave the opponents of quality reporting the argument that the expensive process of data collection only results in reports in which “all hospitals look the same.” Consumer groups commented that the two standard deviation criterion was too stringent, but hospitals were afraid of being incorrectly labeled as poor quality. When asked to name an alternative method for presenting performance, many stakeholders favored reporting actual performance (for example, standardized mortality rates) and identifying larger groups of superior or inferior performers. Other frequent suggestions included the use of performance quintiles and the identification of the top and bottom 15 to 20 percent of hospitals. This latter number corresponds roughly to using a single standard deviation from average performance as a criterion for naming high and low performers. Any of these approaches would be more likely than 95 percent confidence intervals to produce distinctions that consumers might act on.

Encouraging Hospitals to Use Reports
Use of public reports of technical quality of care by hospitals has been limited to situations in which they not only believe the risk adjustment is adequate, but also face significant pressure to improve. This is an important distinction between the New York and Pennsylvania CABG reports; in New York, hospitals feel pressured by the threat that the state will rescind the certificate of need of a hospital that chronically under-performs. In Pennsylvania, on the other hand, there is good evidence that few people use the reports, so hospitals feel little pressure to be responsive.

In California, hospitals have complained that the reports of the California Hospital Outcomes Project are less useful than they could be because performance variations have not been linked to specific processes that hospitals can improve. Thus, ensuring hospital commitment requires proof that the risk adjustment is adequate, some threat of a market or government response, and the delivery of information that is actionable for the hospitals.

Some providers favored reporting results, especially outcomes, by category of hospital (for example, separating large teaching hospitals from community hospitals and presenting results within these two groups). Most other stakeholders opposed this approach on the grounds that consumers would want to be able to compare the quality of all hospitals within a reasonable distance from their homes, without regard to hospital category. We were unable to find any situation in which results had been reported by hospital category. The hospitals noted that, fundamentally, their preference for this approach reflected a lack of confidence in current risk-adjustment procedures. One provider we interviewed shared these concerns but felt that every hospital could make an argument that it belonged in its own category and that only improvements in risk adjustment could lead to meaningful quality reporting.

Encouraging Medical Groups and Physicians to Use Reports
All stakeholder groups agreed that physicians, to the extent that their contracts with hospitals allow, could use information to direct their patients to higher-quality hospitals. This information would need to be readily available to physicians as they make the decision to admit one of their patients. In addition, through their participation on hospital committees, physicians could use information to encourage quality improvement within the hospital.
Interviews with leaders of physician organizations revealed that physicians are not currently using OSHPD reports or other data sources in these ways, either because they are unaware that data exist, or because they do not trust that the data are appropriately risk adjusted. Our interviews also revealed that physicians believe that—relative to the patient care activities of other, especially non-physician, health care workers—their individual actions are the dominant determinants of patient outcomes. That is, physicians continue to operate under the assumption that if a good doctor admits a patient to a hospital that is responsive to the doctor’s needs (by providing the appropriate equipment and following the doctor’s orders in a timely and efficient manner), then good patient outcomes will follow. This assumption ignores recent literature that shows that quality can be greatly affected by hospital teams and systems that are independent of an individual physician. In addition, our interviews suggested that physicians are more likely to use data (formal or anecdotal) on patient experience when choosing which hospital to use, because this information is more readily available and because this is an aspect of hospital quality that physicians consider to be the responsibility of the hospital administration and staff.

Physician groups could play a major role in educating physicians about issues of hospital quality and in disseminating quality information. Our interviews revealed that the most effective way to reach physicians with data on hospital quality is through traditional channels used by physician organizations, such as hospital meetings, direct mailings, and appropriate Web sites.

**Encouraging Employers to Use Reports**

In our interviews, purchasers predominantly expressed interest in quality initiatives reporting on processes and outcomes. (Note, however, that we only interviewed five organizations and that they tended to be very sophisticated about health care purchasing.) Feedback from earlier initiatives underscores our finding that employers, like consumers, need to be able to distinguish among hospitals, so the use of 95 percent confidence intervals may not be adequate.

Some large employers have found that information about preventive services and patients’ perceptions of care does not influence employees’ health care choices because consumers give more weight to satisfaction reports from friends and family than to those from their employers. Most initiatives are too new to evaluate their impact however, the trend is for employers to move toward the reporting of process and outcomes measures, or indirect indicators that relate to these aspects of care.

Reports that include such information may be sufficient to stimulate the market approach to quality improvement described at the “Charting the Course” conference. Employers in Cleveland had intended to pursue such an approach, primarily by directing patient volume to high-quality hospitals. However, they were stymied by the lack of clear distinctions using 95 percent confidence intervals and by providers’ complaints about risk adjustment. Stakeholders interviewed for this project felt that purchasers could address hospitals’ fear of being incorrectly reported to have poor quality by agreeing to act only after data accrued over multiple reporting periods shows a clear pattern of low quality. Interviewees were less confident that risk-adjustment methods would soon be sufficient to alleviate provider concerns.
Encouraging Health Plans to Use Reports

If the goal is to pursue a market strategy, health plans share most of the concerns raised by employers. In order to influence quality successfully, health plans need to be able to distinguish between hospitals and to have confidence in the underlying risk-adjustment methodology. However, like hospitals, health plans would also benefit if outcomes reports were linked to specific differences in processes of care, so that improvement efforts could be focused on these areas.

Encouraging Government Purchasing Programs and Regulators to Use Reports

Government purchasers and regulators represent the stakeholder groups that would need to support a floor strategy. There was substantial concern among interviewees that, for political reasons, any minimum performance standard that was set by government purchasers such as Medicare or established by state regulations would be too low to stimulate quality improvement.

Nonetheless, many interviewees thought that government support would be critical even to a market strategy. That is, such a strategy would likely be based on mandated data collection organized at least in part by state regulators. Furthermore, to the extent that Medicare joined any purchasing initiative, it would have much more impact on hospitals’ willingness to improve quality.
V. Comparing Reporting Strategies

To this point, we have laid out a conceptual framework for creating a hospital performance reporting system, identified barriers to its implementation, and offered suggestions for creating an effective report. This section evaluates the strengths and weaknesses of floor and market strategies to improve hospital quality.

Data Collection and Performance Incentives

The first point comes from our conceptual model: the process of collecting performance data is a separate element from the performance feedback mechanism (i.e., the “incentive for hospitals to improve” as outlined in the four critical elements in Chapter 2). As discussed at the “Charting the Course” conference and in the subsequent request for proposals from CHCF, these two elements are linked: A “floor strategy” combines mandatory data reporting with a minimum performance threshold set by the government, while a “market strategy” involves voluntary reporting in an attempt to gain better contracts or larger market share.

However, as our conceptual model suggests, these two elements do not have to be linked in this way; in other words, it is not necessary to connect the creation of the data to its use. One could have mandated data collection and reporting (such as a state government initiative), with coordinated responses from stakeholder groups to stimulate quality improvement. Responses could include payment or market share incentives alongside penalties associated with state-mandated minimum performance standards. We call this a “report and coordinate” strategy. Mandatory reporting with complete reliance upon market mechanisms is also possible (“report and watch,” which is the current approach in Pennsylvania for CABG and California for MI), but it has not been very effective in prior initiatives.

There are several benefits to the “report and coordinate” strategy relative to either the floor or market approaches. First, if one focused only on the market strategy described above, safety-net hospitals with few insured patients would realize they had little chance for financial reward. As a result, they would be unlikely to accept the financial burden of collecting data on quality; the benefits of a quality reporting system and
associated improvements in care would therefore accrue disproportionately to insured patients. With a floor strategy, most stakeholders felt that politics would lead to quality floors set so low that little meaningful improvement would occur. Under a “report and coordinate” strategy, all hospitals would produce data, market responses would be possible, and safety-net hospitals would be able to ask foundations for help in meeting the data collection obligation. If the safety-net hospitals were shown to provide excellent quality of care, they would have a greater opportunity to attract more insured patients. If, on the other hand, they demonstrated poor quality of care, they would then have data to offer when claiming that their lack of societal resources is hurting patients dependent on safety-net facilities.

Special Situations

Any of these three strategies is plausible in an urban environment where competition is possible and there are enough competitors to replace hospitals that fail to meet floor or market standards. Which strategies work when there are few hospitals or only one? In these situations, neither a pure market nor a “report and watch” strategy is likely to be sufficient to get hospitals to provide quality data. Hospitals need strong incentives to make the initial investment in expensive performance measurement, but market approaches are unlikely to provide those incentives in areas without competition because hospitals already have a large market share and can negotiate favorable rates. A floor strategy either won’t work at all (because there is no substitute hospital to provide the service) or — to avoid making services completely unavailable in some geographic areas — the floor will have to be set so low that it is not meaningful.

Again, the “report and coordinate” strategy might be a better option. Mandatory reporting would be necessary to get the data in the first place. If mandatory reports show a quality problem, community leaders could work with hospital executives to improve quality and meet statewide standards, even if they did not have market incentives to offer.
VI. Recommendations for California

Interviewees were unanimous in their opinion that any quality initiative should seek input from all stakeholder groups.

In light of our conceptual models and research, this section offers nine recommendations for a hospital quality reporting system in California. We recommend actions by specific organizations, but in every case the underlying assumption is that a multi-stakeholder group will ask the organizations named below to perform the tasks listed.

The nine recommendations for developing a hospital quality reporting system in California are:

1. Stimulate demand for information on quality;
2. Develop enabling legislation;
3. Empower state agencies to carry out legislation;
4. Create a multi-stakeholder leadership group;
5. Identify a set of quality indicators;
6. Create standards for information infrastructure;
7. Create useful reports;
8. Assess the response to reports; and
9. Coordinate the reporting burden.

Recommendation 1: Stimulate Demand for Information on Quality

It is well known in health policy circles that significant variations in hospital quality exist in the United States, but that consumers are not always aware of how these variations could affect them. This suggests a need for comprehensive effort to educate consumers about the risks they face.

A public education campaign could have the added benefit of helping to increase public support for enabling legislation. Although consumers are becoming more interested in this issue, political will remains insufficient to drive many of the legislative changes needed to establish a statewide hospital quality improvement initiative. Over the past decade, there have been several failed attempts to pass legislation in California that would strengthen the position of OSPHD to collect and report data on hospital quality. A large-scale public education
campaign on the variations in hospital quality could help create the political will necessary to make hospital quality improvement a legislative priority. Experience in public education and marketing would be essential to the success of this program.

Recommendation 2: Develop Enabling Legislation

The California state legislature could facilitate the creation of a hospital quality reporting system in two ways. First, it could eliminate antitrust concerns by passing a law stating that, pursuant to the state action doctrine of antitrust theory, it is the intent of the legislature to provide an antitrust exemption and to foster collaboration among stakeholders in the creation of a hospital quality reporting system. This law would grant some government or quasi-governmental organization the power to seek collective stakeholder action in the name of consumer protection.

In addition, the legislature could create a mandate for data collection by loosening the restrictions on OSHPD related to the collection of additional clinical data elements. With the development of electronic medical records, the cost of data collection is less likely to be determined by the number of data elements collected on patients with a single condition than by the number of patient groups for which data is collected and the types of data gathered. Thus, writing a specific number of data elements into law creates a cumbersome hurdle; allowing a multi-stakeholder group to balance costs and benefits might be more efficient.

Also, it is not yet known which variables are needed for risk-adjustment models for most conditions. Therefore, the legislation must give OSHPD or some other agency leeway to mandate the collection of data for the purposes of determining which variables to include in risk models (currently OSHPD does not have a mandate to perform “research”). In the meantime, however, it is important to continue pursuing quality improvement without these legislative changes.

Legislation that grants powers to state agencies or quasi-governmental bodies is not sufficient to generate change. The legislature also needs to give the associated state agencies the budget necessary to perform these activities. Based on the number of hospitals in California, this means initially at least one FTE for each condition for which reporting is mandatory (in addition to the staff necessary to continue the other tasks assigned to the agencies).

Recommendation 3: Empower State Agencies to Carry Out Legislation

There was little consensus among stakeholders that any particular office needed to perform specific functions. However, it is clear that state agencies need to give hospitals the impression that they will enforce legislation as passed. To that end, OSHPD needs a larger budget as well as a plan to increase the number of conditions for which it produces reports. If OSHPD continues its current model of contracting out the development of condition-specific reports, the cost of such reports is likely to be in the range of $400,000 per condition per year, with a three-year timeline for the identification of a risk model for each condition. Validation of these models (such as the chart reviews that demonstrate that the outcomes for the condition being studied correlate with better processes of care) is likely to cost somewhat less per year and can be accomplished within 12 to 24 months.
Recommendation 4: Create a Multi-Stakeholder Leadership Group

Interviewees were unanimous in their opinion that any quality initiative should seek input from all stakeholder groups. This could mean that a government agency leads but has advisory committees representing all stakeholders and holds frequent hearings. Alternatively, there could be a quasi-governmental organization with similar make-up. For the rest of this report, we will refer to this organization (whatever form it takes) as the governmental “California Performance Reporting Commission” or CPRC. If the state legislature is unwilling to pass antitrust exemption legislation, the creators of the CPRC should seek advisory opinions from the Federal Trade Commission and the Department of Justice that its planned activities are legal.

The CPRC would be too unwieldy if it included membership from every provider, health plan, purchaser, or consumer group. However, the CPRC bylaws should include membership selection processes that assure all stakeholders that their interests are represented. The quality reporting landscape is strewn with the carcasses of initiatives that failed to involve and activate all stakeholders.

The name of the organization we propose does not include the word “hospital.” In part, this is because it would be a shame to bring together all stakeholders and ignore outpatient care. However, it also reflects the need to promote medical groups’ use of the hospital quality reports to ensure sustainability of the system. An additional function of the CPRC might be to report on medical groups’ selection of hospitals.

Recommendation 5: Identify a Set of Quality Indicators

The CPRC will have many tasks. The first is to identify a set of mandatory hospital quality measures that are acceptable to all stakeholders using the criteria listed in Chapter 4. (Appendix C offers some specific conditions for consideration.) Although it is important that the initial set of indicators be consistent with the current limitations in information systems, we also recommend the development of a clear-cut timeline for improvements in reporting capabilities. For example, hospitals could be asked to report immediately on easily obtainable indirect variables such as hospital volume for most conditions. Within one or two years, hospitals could then get credit in quality reports for indirect indicators and for the mere provision of clinical data needed to do risk adjustment for outcomes or process measurement (as PBGH does in its Blue Ribbon Awards process). The year after the deadline for provision of data, the standard could be based on the accuracy of the clinical data provided, which would require audits. At three to five years, the reports could begin to include risk-adjusted performance.

Describing the timeline may end the electronic medical record paralysis described earlier and provide the necessary encouragement for hospitals to improve their information systems. Data requests should be limited to a defined indicator set in order to reduce hospital reporting costs, but it should also be emphasized that, in the long run, hospitals have much to gain from improvements in their information systems quite apart from the public reporting initiative.

The participation of medical groups in the development and maintenance of a hospital quality reporting system will be critical, since physicians control hospital referrals and market share. Therefore, we would recommend that the CPRC also develop medical group-level reports that detail how often patients assigned to medical
groups use high-quality hospitals. This would require adding to the hospital discharge abstract a variable that identifies the referring provider (or providers, if, for example, a patient is sent by their internist to see a cardiologist who refers them to a hospital for CABG) and developing a registry of medical groups. However, this is feasible with only minimal cooperation from medical groups and minor changes in the administrative database. In addition, it would be inexpensive and would increase the probability that both referring physicians and hospitals use the reports.

**Recommendation 6: Create Standards for Information Infrastructure**

The health care industry lags behind other sectors in terms of investing in technology, partly due to hospitals’ and health plans’ concerns regarding the substantial financial investment required to develop new data systems. However, the potential return on this investment is likely to be large; in addition to their value for reporting purposes, integrated information systems will be very useful to hospitals for internal clinical and quality management activities. The recent development of national data standards through the Health Insurance Portability and Accountability Act (HIPAA) is expected to accelerate the adoption of new information systems by requiring that the data hospitals generate can be used in other unrelated systems.18, 34

**Recommendation 7: Create Useful Reports**

The CPRC should also be responsible for preparing hospital performance reports that are useful, appealing, and understandable to all stakeholders. It may or may not be necessary for the CPRC to undertake distribution of these reports. Some stakeholders believe that good reports would be rapidly incorporated into traditional consumer news sources (such as *Consumer Reports*) or widely distributed as a beneficiary service by consumer groups and employers. Some health plans said they would undertake distribution of their own accord, expecting the benefits of higher quality care to outweigh the cost of report distribution, but admitted that they would be less inclined to distribute reports that showed their hospitals doing poorly.

The CPRC should always be searching for opportunities to improve its reports. In particular, it should work with OSHPD and other government agencies to achieve a timely linkage of hospital data to national vital statistics, so that over time reports of long-term outcomes (versus in-hospital mortality) can be prepared more easily and rapidly.

**Recommendation 8: Assess the Response to Reports**

The impact of the reporting system on the quality and cost of care should be evaluated on a regular basis. This could be performed by the CPRC itself, though many stakeholders might prefer to have another organization perform this function periodically. The analysis should also identify and assess collateral damage and benefits (see pages 15–16 for details). In addition, the CPRC needs to investigate situations in which market conditions, especially the lack of competition, limit the impact of reports. To this end, it might be appropriate for the CPRC to have a subcommittee on Exclusive Regional Provider Hospitals.
Recommendation 9: Coordinate the Reporting Burden

To maintain provider and health plan support, the CPRC or some other body should assist hospitals in efforts to reduce other reporting burdens. Specifically, since the goal of these reports is to measure quality directly, the presence of the CPRC program may render some current JCAHO standards obsolete. One interviewee specifically described physician credentialing as time-consuming and anachronistic; in an era of direct measurement, this may be accurate. Meanwhile, it is important to frame the reporting “burden” as an investment in a quality improvement process that ultimately will serve to increase efficiencies, decrease costs, and improve patient outcomes.

Funding of the System

The funding for a hospital quality reporting system is likely to come from many sources. Most stakeholders thought that the activities of the CPRC should be funded by the state or foundations.

For simplicity’s sake, it might be preferable for hospitals to pay for data collection and build the cost into their rates. Indeed, most interviewees expected the hospitals to pay for data collection as a cost of doing business, keeping in mind that any short-term investment in data systems and quality improvement initiatives would ultimately be rewarded in the long run with lower costs and increased market share. However, the politics and psychology of the situation suggest that the system would be more sustainable if other stakeholders had explicit buy-in. Thus, purchasers (preferably both private and public) should offer financial support for data collection in the form of performance incentives. If the financial reward goes from purchasers to health plans rather than directly to hospitals or medical groups, the plans should pass most of the incentives on to participating providers.

Conclusion

With adequate support from foundations and government, most participants in the health care market would welcome and support efforts to create a statewide public reporting system for hospital quality. In order for public reports to have maximum impact, stakeholders should be involved in the planning phase, data reporting should be mandatory, hospital participation should be universal, and purchasers and health plans should create financial or market share incentives for hospitals to improve.
Appendix A: Participants

The following individuals were interviewed to gather information for this report, however the conclusions and recommendations are those of the authors and not of the interviewees. Two individuals who were interviewed asked not to be identified.

**Purchasers**

Lorraine Brown, M.S.P.H.
Deputy Director
Benefits and Quality Monitoring
California Managed Risk Medical Insurance Board

Steven B. Clauser, Ph.D.
Director, Quality Management and Health Assessment Division
Health Care Financing Administration

Suzanne Delbanco, Ph.D.
Executive Director
Leapfrog Group

Peter V. Lee, J.D.
President and CEO
Pacific Business Group on Health

Patricia Salber, M.D., M.B.A.
Medical Director for Managed Care
Health Care Initiatives
General Motors Corporation

**Consumer Groups**

J. Patrick Luby
Legislative Representative
American Association of Retired Persons

Lisa Murdock
Western Regional Director for Program Services and Advocacy
American Diabetes Association

Suzanne R. Pattee, J.D.
Vice President of Public Policy and Patient Affairs
Cystic Fibrosis Foundation

Maggie Robbins, M.P.H.
Director of Health and Safety
California Labor Federation

Shelley Rouillard
Program Director, Health Rights Hotline
Center for Health Care Rights

**Health Plans**

Michael J. Belman, M.D., M.P.H.
Staff Vice President, Medical Director of Quality Management
Blue Cross of California

Howard Fullman, M.D., F.A.C.G.
Member, Board of Directors
Southern California Permanente Medical Group

Sam Ho, M.D.
Vice President and Corporate Medical Director
Pacificare

Charles Nagurka, M.D., M.B.A.
Senior Medical Director
UnitedHealthcare

Aran Ron, M.D., M.B.A., M.P.H.
Vice President/Chief Medical Officer
Group Health, Inc.

**Hospitals**

Jeffrey P. Gold, M.D.
Professor and Chairman
Department of Cardiothoracic Surgery
Montefiore Medical Center/Albert Einstein College of Medicine

Ian Leverton, M.D.
Vice President, Clinical Integration
Sutter Health

Thomas M. Priselac
President and CEO
Cedars-Sinai Health System

Tracy Sklar, R.D., M.S., M.B.A.
Director for Clinical Practice Improvement Initiatives
Catholic Healthcare West

Herbert P. Wiedemann, M.D.
Professor and Chairman, Department of Pulmonary and Critical Care Medicine
Cleveland Clinic Foundation
Government Regulators
Robert Leibenluft, Esq.
Hogan and Hartson (formerly of the Federal Trade Commission)

Judith Phelps
Chief, Quality Management Section
Medi-Cal Managed Care Division
Department of Health Services

Paul M. Schyve, M.D.
Senior Vice President
Joint Commission on Accreditation of Healthcare Organizations

Joyce Vermeersch
Chief, Office of Oversight Standards and Research
California Department of Managed Health Care

Medical Groups and Physicians
Ronald P. Bangasser, M.D.
Medical Director
Beaver Medical Group

Jose J. Gonzalez
President and CEO
Latino Health Care

Jack Lewin, M.D.
Executive Vice-President and CEO
California Medical Association

Arthur Southam, M.D.
Executive Director
California Association of Physician Organizations

Prior Reporting Initiatives
Edward L. Hannan
Professor and Chair, Department of Health Policy, Management, and Behavior
State University of New York at Albany

Judith H. Hibbard, Dr.P.H.
Professor, Department of Planning, Public Policy and Management
University of Oregon

Gregg F. Meyer, M.D., M.Sc.
Director
Center for Quality Measurement and Improvement

Gary E. Rosenthal, M.D.
Director, Division of General Internal Medicine
University of Iowa Hospitals and Clinics

Gail L. Warden
Chair, Board of Directors
National Quality Forum
Appendix B: Questionnaires

Sample Questionnaire for Consumer Groups

I. Defining Quality

1. In our survey, we will be asking you many questions about the opinions and preferences of the consumers your organization serves. To help us understand what we are asking before we start the survey, can you describe the consumer group you serve?

2. How do you think the consumers you serve define hospital quality?
   If they do not spontaneously mention any of the categories of information below, ask if they think they are important:
   - Patient satisfaction
   - Process of care
     (the things that a hospital or doctor should do to care for a given condition, such as start the right antibiotics in a timely fashion for a patient with pneumonia)
   - Outcomes of care
     (complications/death rates)

3. How do you think the consumers you serve should define quality?
   - Patient satisfaction
   - Process of care
     (the things that a hospital or doctor should do to care for a given condition)
   - Outcomes of care
     (complications/death rates)

II. Current Quality Reporting Activities

4. Do you currently provide quality information on hospitals or health plans to the consumers you serve?

5. Is it adjusted to reflect severity of illness of patients at different hospitals?

6. What is your role in providing this information? Specifically, do you participate in:
   - Data collection
   - Data reporting and distribution
   - Translating data into a form that consumers can understand

7. What feedback have you gotten from the consumers you serve about the data you provide?

8. Have the consumers you serve expressed an interest in receiving other types of quality information about health plans or hospitals?

9. Since 1992, the state of California has been publishing annual reports on hospital quality based on condition-specific risk-adjusted mortality rates. To your knowledge, are the consumers you represent aware of these quality reports?
   9A. If so, do they find the information useful? How so?
   9B. If not, why not?

III. What Should Be Measured and Reported

10. Some people choose a health plan based in part on information about which hospitals and doctors are in each plan’s network. What additional data about hospital performance would help the consumers you serve when choosing a health plan?

11. What data about hospital performance would help the consumers you serve choose a hospital? Check all that apply.
   - Patient experience and satisfaction with hospital care?
   - Data about actual outcomes
     (for example, what percentage of patients die after cancer surgery)?
   - Something else?
12. Given that resources are not infinite, we would like to know how important consumers will think various types of quality information are. How do you think the consumers you serve would rank the relative importance of reporting the following types of measures?
   * **You must pick a first choice, then a second.**
   - Patient satisfaction
   - Process of care
     (the things that a hospital or doctor should do to care for a given condition, such as start the right antibiotics in a timely fashion for a patient with pneumonia)
   - Outcomes of care
     (complications/death rates)

12A. If you had 100 points to assign to the importance of those three elements of quality (must use all 100 points, cannot use more than 100 points), how many would you assign to patient satisfaction? Processes of care? Outcomes?

13. If reports of hospital performance are produced, to whom do you think the reports should be directly targeted: consumers, providers, health plans, employers, other?

13A. Do you think it would be necessary to produce more than one report in order to target individual audiences more directly?

13B. If you think that there are multiple audiences, what information should be targeted to the following groups in particular: consumers, providers, health plans, employers, other?

**Hospital Categories**

15. Do you think the consumers you serve would find it most helpful for public reports of hospital quality to compare hospitals only to their peers within certain categories?
   
   For example:
   - University teaching hospitals grouped together and reported separately from community hospitals?
   - Rural hospitals grouped together and reported separately from urban hospitals?
   - Hospitals that tend to refer complicated patients out to other hospitals grouped together and reported separately from those that receive referrals of complicated patients?

15A. If so, what hospital categories do you think would be most informative and useful to the consumers you serve?
   - University teaching hospitals vs. community hospitals?
   - Rural hospitals vs. urban hospitals?
   - Hospitals that tend to refer complicated patients vs. those that accept referrals?

**Elective vs. Non-elective**

14. It is easy to imagine how a patient or his/her family might use timely data about outcomes to choose a hospital for an elective procedure (for example, knee surgery). Do you think information about outcomes for non-elective conditions (for example, treatment for heart attack or pneumonia) would be useful to the consumers you serve?

14A. If so, how would it be used?

14B. Would that depend on whether or not a consumer had a particular disease? That is, if a person had a history of chest pain from heart disease, would he or she consider choosing doctors and hospital based on the performance of the hospital for heart attacks?

14C. If a person did not have heart disease as far as they knew, would he or she consider choosing a hospital based on the performance for heart attacks?
Reporting Hospital Mortality
16. The California OSHPD currently reports on hospital quality by ranking hospitals according to their death rates from heart attack in three quality categories: best, worst and in the middle. 95 percent of the hospitals are in the middle, with only 2.5 percent of the hospitals in the state ranked “best” and 2.5 percent ranked “worst.” Do you think grouping hospitals into three categories is useful to the consumers you serve, or would they benefit from seeing the actual death rates for each hospital?

16A. Is 2.5 percent a useful cutoff point for best and worst, or would a different cutoff point that identified a larger number of “best” and “worst” hospitals be more useful? (for example, top 20 percent, bottom 20 percent, all others? Top and bottom 10 percent and all others?) Please get them to pick a number, such as top and bottom 15 percent.

16B. Do you think that three performance categories are adequate? Or would five categories be preferable?

Patient Satisfaction
17. How do you think public reports of patient satisfaction with hospital care should be organized to be most useful to the consumers you serve:

17A. Do you think grouping hospitals into three categories is useful to the consumers you serve, or would they benefit from seeing the actual scores for each hospital?

17B. Is 2.5 percent a useful cutoff point for best and worst, or would a different cutoff point that identified a larger number of ‘best’ and ‘worst’ hospitals be more useful? (for example, top 20 percent, bottom 20 percent, all others? Top and bottom 10 percent and all others?) Please get them to pick a number, such as top and bottom 15 percent.

17C. Do you think that three performance categories are adequate? Or would five categories be preferable?

Distribution
18. How should hospital quality performance data be distributed to best reach the consumers you serve?

IV. Technical Details
(not asked of consumers)

V. Who Should Take the Lead/Participate in Development?
19. What organizations should participate in the development of a hospital reporting system for the state of California?

- State government agencies
- Organization of hospitals
- Organization of health plans
- Organization of purchasers/employers
- Consumers or consumer groups
- Other organizations

19A. Would consumers use the data from a hospital quality reporting system if purchasers/employers took the lead in its development?

20. What organization do you think should be responsible for (take the lead role in) performing the functions of:

- Hospital quality data collection and validation?
- Preparation of public reports?
- Transmission of data in public reports to consumers in an easily understandable manner and format?
21. What organization would produce the most credible report for the consumers you serve?

21A. Would the consumers you serve doubt the credibility of a report produced by any of the following?
- State government agencies
- Organization of hospitals
- Organization of health plans
- Organization of purchasers/employers
- Consumers or consumer groups
- Other organizations

22. If you believe that government has some role, do you have any ideas about which department or departments can most effectively facilitate the production of reliable quality reports?
- Department of Health Services
- Office of Statewide Health Planning and Development
- Department of Managed Health Care
- Federal agency responsible for Medicare (HCFA/CMS)
- County or local government

23. Who should pay for the work of organizations that perform or support hospital quality reporting and improvement initiatives?

24. Do you think hospitals that can demonstrate higher-quality performance should be paid more?

25. Do you think employers or health plans should spend money to make sure the consumers you serve get information about which hospitals are best?

26. Some employers have considered offering to cover more of the cost of insurance for patients if they use the best health plans or hospitals in their area. Would the consumers you serve think this approach is reasonable?

26A. Do you think the consumers you serve would find a hospital quality reporting system less credible if it was linked to financial incentives?

VI. Barriers to Development of a Hospital Quality Reporting System

27. What do you perceive as the major barriers to developing an effective and sustainable hospital quality reporting system?

Let them answer, then probe about: cost of running the system, politics, lack of cooperation among parties, data limitations, lack of consumer interest or understanding.

VII. Role of Consumer Groups

28. What role do you see consumer groups playing in the future to help consumers identify high-quality hospitals?

29. What role do you see your organization in particular playing? Check all that apply.
- Collection of data on hospital quality?
- Reporting and distributing hospital quality data made available by other organizations?
- Raising general awareness about the existence of hospital quality data made available by other organization?
- Education about or “translation” of complex quality issues and technical measures of quality (for example, risk-adjusted mortality models, assessments of processes of care) into language that the layperson could understand?
- Advocacy or policy work related to the production of data on hospital quality for use by consumers?
- Other?
**Questionnaire Comparison and Contrast**

This sample questionnaire, which targets consumer groups, was one of the first we created. For the remaining five stakeholder groups (purchasers, health plans, hospitals, medical groups, and regulators), we developed variations on the original questionnaire. All of the questions on the sample questionnaire are included in the questionnaires for the five other stakeholders.

To learn about other reporting initiatives, we developed a separate questionnaire for each interviewee in order to capture the experiences, expertise, and insight of these individuals, and the details of their respective projects.

This section explains the differences between the consumer questionnaire and those of the other five stakeholder groups.

**Differences in Health Plan, Hospital, Medical Group, Purchaser, and Regulator Questionnaires**

These questions were added to all of the above questionnaires. Any unique questions that were added to specific stakeholder questionnaires can be found in their corresponding paragraphs below.

Hospitals, health plans, medical groups, and purchasers were asked additional questions in the following areas:

- How consumers would rank and weight various types of quality information;
- How quality information should be used (for example, shared with the public, kept by hospitals for internal use only, etc.); and
- How quality data might affect contracting behavior.

These four groups were also asked about the following topics:

- How timely data would need to be so that it is useful;
- Technical questions regarding how much risk adjustment would be necessary;
- Whether reporting should be mandated and how effective regulatory versus incentive-based efforts would be to improve quality; and
- How stakeholders determine the cost/benefit of investing in additional quality information.

**Hospital Questionnaire**

We asked hospitals for their opinions on what data should be collected to provide an accurate picture of their quality of care. We also inquired into the hospitals’ information systems, barriers to collecting data, and thoughts on the costs and benefits of collecting quality data.

**Regulator Questionnaire**

To determine if there might be other mechanisms for developing a hospital quality reporting system, we asked whether the government agency the interviewee represented had the ability to protect confidential data collection under a peer review process similar to the Medicare Peer Review Process. Questions about how government might use quality data and what type of quality data might influence any decisions to intervene in the health care market were also asked.
Appendix C: Reporting Elements

While it is beyond the scope of this report to recommend specifically what mix of quality indicators and conditions should be included in a public report of hospital quality, we have been asked to suggest some possibilities to be considered by a multi-stakeholder group such as the CPRC. In Chapter 4, we outlined five criteria for selecting conditions. In this appendix, we offer examples of some specific conditions for consideration by the CPRC (see box). However, the indicators we list here are for illustrative purposes only. The selection of quality measures by the CPRC is an important step in ensuring stakeholder buy-in and we do not intend to foreclose that process here. With that caveat, the CPRC could benefit in its deliberations from the experience of others, particularly the California Hospital Outcomes Project Technical Advisory Committee, which has been providing OSHPD with direction in this regard over the past decade.

In our interviews, stakeholders suggested that multiple types of quality indicators should be included in the reports. An ideal report would include some general measure of patients’ perceptions of care (which probably would not need to be condition-specific) as well as assessments of processes and outcomes of care for conditions that span the clinical spectrum. Currently, we are best able to produce reports on general patients’ perceptions and process and outcome measures for cardiac conditions. These could be combined with reports of patients’ perceptions of cardiac care to develop a report that includes all three types of quality information for a single condition. (California currently has MI mortality reports, a CABG mortality report, and a PEP-C report.)

In the short term, the inability to measure technical quality of care for most other clinical conditions could be covered by reporting structural measures. As outcomes or process measures become available, these could replace structural measures. Stakeholders felt that most of the subsequent effort to improve quality reporting should go into the development of measures of technical quality of care in clinical areas other than cardiology.

Because risk-adjustment models have been developed for the reporting of other cardiac procedures in New York (and since hospitals there no longer complain about the quality of risk adjustment), systems to report mortality from PTCA and from heart valve and pediatric cardiac surgery could be developed easily. Of these, it might be most feasible to pursue PTCA reports in California, since the other two procedures are less common, pediatric cardiac surgery is already consolidated into a small number of hospitals in California, and the resources required to create these reports could be better spent on developing reports in other areas. OSHPD has already validated models for pneumonia patients and in the next couple of years will know whether reports on hip fracture and maternal outcomes are possible. An expansion of CALICO (OSHPD’s ICU project) would make it possible to determine in approximately three years whether we can report valid ICU mortality measures and how mortality rates relate to processes of care. However, these projects are not included in OSHPD’s current budget and creating the system to report ICU process measures (after identifying those that relate to mortality) would take some additional time. In the meantime, we could report which hospitals participate in the development of that system.
There are a small number of conditions that lend themselves to reports on the quality of processes of care. These conditions share two characteristics: they are common and their care involves several clinical decisions that can be made on the basis of randomized controlled trials. These areas include MI, AIDS, pneumonia, stroke, congestive heart failure, and asthma. In addition, several surgical specialties, including vascular and oncologic surgery, are amenable to the development of outcomes reports because the associated conditions are common and carry substantial risk of mortality or morbidity. Reports of neurosurgical care (especially for vascular aneurysms) might also be possible. Each of these would be expected to take approximately three years, but more than one could be pursued simultaneously.

Possible Indicators to Consider for Inclusion in Quality Reports

**Within Next 1–2 Years:**
- General patients’ perceptions of care (similar to PEP-C)
- Risk-adjusted (based on detailed clinical data) mortality reports for CABG
- Risk-adjusted (based on discharge abstract data) mortality reports for MI, hip fracture, maternal outcomes, and pneumonia
- Structural variables such as:
  - presence of computerized order entry
  - annual hospital volume for conditions with known volume-outcome relationship including PTCA, several vascular surgeries and cancer surgeries, and AIDS
  - level of neonatal ICU care
  - use of board-certified ICU physicians in adult ICUs
- Hospital participation in efforts to develop risk-adjusted outcomes measures for ICU patients

**In Addition, Within Next 3–5 Years:**
- Risk-adjusted (based on detailed clinical data) mortality reports for PTCA and ICU care
- Hospital participation in efforts to develop process measure reports for ICU patients

**Other Conditions to Consider:**
- Process measures for:
  - MI
  - AIDS
  - Pneumonia
  - Stroke
  - Congestive heart failure
  - Asthma
- Outcomes measures for:
  - Vascular surgeries (abdominal aortic aneurysm, carotid endarterectomy, others)
  - Oncologic surgeries
  - Cerebral aneurysm
Endnotes


