



5. Public Reporting as a Quality Improvement Strategy

Closing the Quality Gap: Revisiting the State of the Science

Executive Summary

Introduction

A substantial amount of research exists demonstrating that health care frequently fails to meet the current standards of quality care.^{1,2} Errors, suboptimal management or control of disease, and overutilization or underutilization of services are more likely to occur when high-quality evidence-based health care is not provided.

In a quality improvement framework that includes measuring, influencing, and improving quality, public reporting (making quality, safety, or performance data publicly available) is categorized as a means of influencing quality by providing incentives for change.^{3,4} This report focuses on how the public reporting of health care quality information may provide incentives for quality improvement that ultimately produce higher quality care. It is part of the Closing the Quality Gap: Revisiting the State of the Science series, which examines the role of several interventions in promoting quality health care.

Quality might be influenced by the different incentives public reports create for different people and organizations. The incentives may be for the consumers of health care, including patients, families, or advocates who act on the behalf of patients, or for other purchasers of health care services, such as employers, who select the options available to their employees. Public reporting can also provide incentives

Evidence-based Practice Program

The Agency for Healthcare Research and Quality (AHRQ), through its Evidence-based Practice Centers (EPCs), sponsors the development of evidence reports and technology assessments to assist public- and private-sector organizations in their efforts to improve the quality of health care in the United States. The reports and assessments provide organizations with comprehensive, science-based information on common, costly medical conditions and new health care technologies. The EPCs systematically review the relevant scientific literature on topics assigned to them by AHRQ and conduct additional analyses when appropriate prior to developing their reports and assessments.

AHRQ expects that the EPC evidence reports and technology assessments will inform individual health plans, providers, and purchasers as well as the health care system as a whole by providing important information to help improve health care quality.

The full report and this summary are available at www.effectivehealthcare.ahrq.gov/reports/final.cfm.



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Evidence-Based Practice

for the individuals and organizations that provide or arrange care, including individual clinicians, hospitals, long-term facilities or services, and health plans. Patients are motivated by the desire to maximize the benefits they derive from health care by obtaining the highest quality of care available. Individual clinicians, hospitals, and other organizations that provide or arrange health care want to attract new patients or members and avoid losing existing ones. They may also be motivated by concern about their reputation among their peers or by professional and organizational commitments to providing high-quality care.

Federal and State government agencies, community quality collaboratives, and other organizations are investing resources in public reporting as one possible intervention to bridge the gap between current and high-quality practice in health care. The Agency for Healthcare Research and Quality (AHRQ) and the Robert Wood Johnson Foundation have supported public reporting through AHRQ's Chartered Value Exchange (CVE) program (www.ahrq.gov/qual/value/lncveover.htm) and Robert Wood Johnson's Aligning Forces for Quality (www.rwjf.org/qualityequality/af4q/) program. The CVEs, also known as community quality collaboratives, are committed to public reporting and transparency as part of their mission to promote quality improvement. They involve more than 600 health care leaders and cover more than one-third of the U.S. population. Public reporting is also a component of the transparency initiatives of several government agencies that include more explicit decisionmaking procedures and open meetings, in addition to the routine release of documents and data.

As part of their efforts to promote public reporting, government agencies are making technical assistance resources available. The CVEs have a learning network (www.ahrq.gov/qual/value/lncveover.htm). An AHRQ Web site (www.talkingquality.ahrq.gov/) is devoted to public reporting resources, including a recent series of reports on best practices in public reporting.⁵⁻⁷ Also, AHRQ convened a National Summit on the Future of Public Reporting for Consumers in March 2011. (A subset of the commissioned papers were published in a leading health policy journal.⁸⁻¹⁰) These programs, along with other conferences about creating and using reports and other decision-support tools to engage consumers and providers, demonstrate the continued interest in public reporting as a quality improvement strategy for a variety of types of health care organizations and individual providers.

This report was designed to update the last published systematic review,¹¹ given the significant changes that have occurred in the scope and nature of public reporting.

Medicare has substantially expanded its public reporting program, health data from many more sources are now available with minimal restrictions, new technologies allow aggregating data from consumer feedback sites, and applications have been built to help customize and simplify the combination of data from multiple sources.¹² These trends and continuing commitments to transparency and patient-centered health care are likely to contribute to substantial increases in the amount of publicly available data on health care quality.

Scope and Key Questions

The scope of this review was determined by a definition designed to situate public reporting in the context of quality improvement, the theme of the Closing the Quality Gap: Revisiting the State of the Science series. An initial draft definition was developed and refined based on input from the Technical Expert Panel.

Definition:

Public reporting is data, publicly available or available to a broad audience free of charge or at a nominal cost, about a health care structure, process, or outcome at any provider level (individual clinician, group, or organizations [e.g., hospitals, nursing facilities]) or at the health plan level. While public reporting is generally understood to involve comparative data across providers, for purposes of this review we are adopting a broader approach to include findings in which one provider is compared to a national/ regional data report on performance for which there are accepted standards or best practices.

Given the resources devoted to public reporting and the desire to synthesize existing research knowledge to inform future public reporting efforts, the objectives of this systematic review were:

- To determine the effectiveness of public reporting as a quality improvement strategy by evaluating the evidence available about whether public reporting results in improvements in health care delivery and patient outcomes (Key Question 1) and evidence of harms resulting from public reporting (Key Question 2).
- To determine whether public reporting leads to changes in health care delivery or changes in patients' or purchasers' behaviors (intermediate outcomes) that may contribute to improved quality of care (Key Questions 3 and 4).
- To identify characteristics of public reports and contextual factors that can increase or decrease the impact of public reporting (Key Questions 5 and 6).

The Key Questions correspond to these objectives. The Key Questions were reviewed and refined in consultation with the Technical Expert Panel as well as the AHRQ staff coordinating this report and the series.

Objective 1:

Key Question 1

Does public reporting result in improvements in the quality of health care (including improvements in health care delivery structures, processes, or patient outcomes)?

Key Question 2

What harms result from public reporting?

Objective 2:

Key Question 3

Does public reporting lead to change in health care delivery structures or processes (at levels of individual providers, groups, or organizations [e.g., health plans, hospitals, nursing facilities])?

Key Question 4

Does public reporting lead to change in the behavior of patients, their representatives, or organizations that purchase care?

Objective 3:

Key Question 5

What characteristics of public reporting increase its impact on quality of care?

Key Question 6

What contextual factors (population characteristics, decision type, and environmental) increase the impact of public reporting on quality of care?

Specifying the Populations, Intervention, Comparators, Outcomes, Timing, and Settings (PICOTS) for a systematic review is an approach used to generate answerable research questions, to structure literature searches, to determine inclusion/exclusion criteria, and to organize reports. For our review of public reporting as a quality improvement strategy, the PICOTS are as follows:

• Populations

- Individuals or organizations that provide health care and make decisions about how to deliver care.
- Patients (or their representatives) making health care decisions and organizations that purchase health care services.

• Intervention

- Public reporting of performance data on patient outcomes or health care delivery.

• Comparators

- Situations in which data are not available or not publicly reported, akin to “usual care” in clinical studies.
- Comparisons of one type of public reporting intervention with another (e.g., different reports, different contexts for public reports, or differences in content and formats of reports).

• Outcomes (specified for each Key Question)

- Key Question 1. Improvements in quality of health care, including improvements in health care delivery structure or processes or patient outcomes.
- Key Question 2. Harms, including any unintended negative consequence or adverse events for both populations (patients and providers).
- Key Question 3. Changes in health care delivery structures and processes, including quality improvement activities.
- Key Question 4. Changes in the behavior of patients or their representatives, or purchasers of health care, particularly selection of an individual clinician or organization for health care.
- Key Questions 5 and 6. Evidence that the outcomes listed above are affected by characteristics of the reports and contextual factors.

• Timing

- No minimum duration of followup time from the availability of the public report to the measurement of the intermediate or ultimate outcome.

• Settings

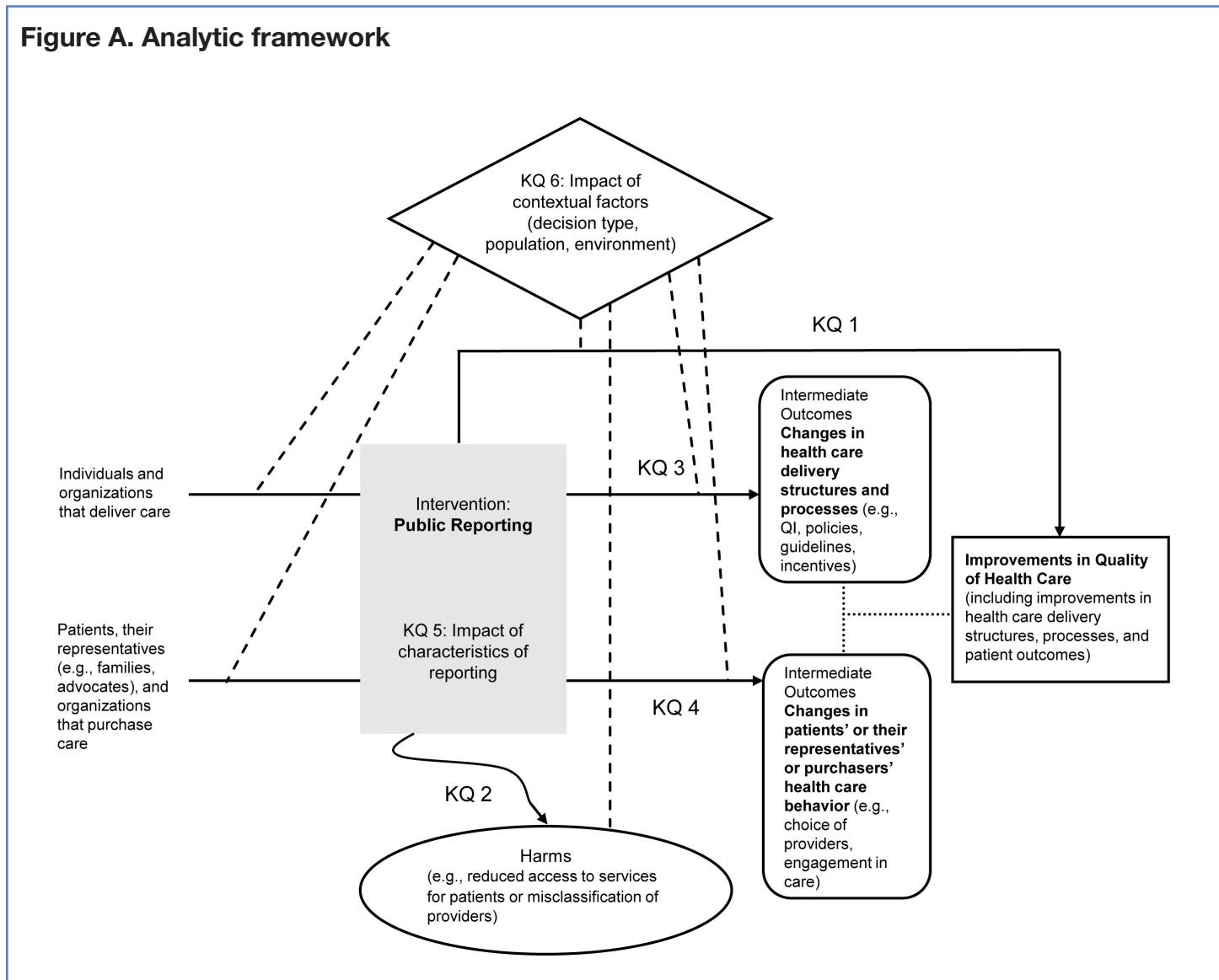
- Studies of public reporting in any level or setting for health care delivery, including health plans, health systems, hospitals, outpatient services or practices, individual clinicians, hospice, home health care, or nursing facilities.

Analytic Framework

The analytic framework in Figure A represents relationships among the populations, intervention, and outcomes that are the focus of this systematic review and illustrates how these relationships translate into the Key Questions. The relationships between the intervention (public reporting) and intermediate outcomes (Key Questions 3 and 4), as well as the relationship between the intermediate outcomes and ultimate improvement in the quality of health care (Key

Question 1), are included. Harms are another potential consequence of public reporting (Key Question 2). The relationships between the intermediate outcomes and ultimate improvement in the quality of care are represented with dotted lines and do not have corresponding Key Questions because this review does not explicitly evaluate evidence about these relationships. Rather, this framework shows key pathways by which public reporting may lead to harms, intermediate outcomes, and ultimate improvements in the quality of health care.

Figure A. Analytic framework



Note: Dotted lines indicate relationships between intermediate outcomes and ultimate improvement in the quality of care.
KQ = Key Question; QI = quality improvement.

Methods

A Technical Expert Panel for this evidence report was involved in refining the definition of public reporting to be used for this review, and also contributed to developing and finalizing the Key Questions and the analytic framework. This group included clinicians, researchers, producers of public reports, and consumer advocates. Experts in public reporting and decisionmaking and individuals representing stakeholder and user communities were invited to provide external peer review of this review; AHRQ and an associate editor also provided comments. The draft report was posted for public comment for 28 days.

We conducted literature searches for both prior reviews and individual studies in MEDLINE®, Embase®, EconLit, PsychINFO®, Business Source® Premier, CINAHL® (Cumulative Index of Nursing and Allied Health Literature), PAIS (Public Affairs Information Services), The Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects (DARE), National Health Service Economic Evaluation Database (NHS EED), and Health Economic Evaluations Database (HEED). The Grey Literature Report database maintained by the New York Academy of Medicine and AARP Ageline were searched for additional studies and reports. The searches included studies published or reported between January 1980 and December 2011. Research studies were included if they conformed to the definition of public reporting (see above) and PICOTS and addressed at least one of the Key Questions. Studies were excluded if an English abstract was not available for a non–English-language article.

At the title and abstract triage phase, we did not exclude any study based solely on study design if it met other inclusion criteria. At the full-text review stage, we identified the designs of the studies that met all other criteria, and trials and observational studies that contained empirical data on an outcome that corresponded to a stated Key Question were retained for both abstraction and quality assessment. Qualitative studies, descriptive surveys, and lab-type experiments were also retained for abstraction if they addressed a Key Question or reported outcomes that were necessary but not sufficient precursors to the outcomes in the stated Key Questions (e.g., awareness of reports; comprehension of content; attitudes toward public reporting, including specific types of presentation; and intention to use). However, these studies were not assessed for quality and their abstraction was abbreviated. Qualitative studies are reported in separate evidence tables and are summarized separately at the end of each results section for each health care setting in the full report. Since they did not measure the outcomes in the Key Questions,

they are also not included in the strength-of-evidence assessments.

A subset of titles and abstracts were triaged by all reviewers to confirm consistency. The remainder were divided among the reviewers and triaged, with a followup review of all exclusions. At the full-text stage, all articles were reviewed by two of the three principal reviewers and inclusion/exclusion conflicts were resolved through discussion and consensus.

Following full-text review, we extracted data from all included studies.

Our assessments of the quality of individual studies are based on the recommendations in the chapter titled “Assessing the Risk of Bias of Individual Studies When Comparing Medical Interventions” in the AHRQ Methods Guide for Effectiveness and Comparative Effectiveness Reviews (hereafter, Methods Guide).^{13,14} We selected criteria for quality assessment of individual included studies that were appropriate for this topic. These criteria were used by two raters, who independently rated each article on these six criteria and made an overall assessment of good, fair, or poor based on definitions from the Methods Guide. After the ratings were completed independently, they were compared and differences reconciled through discussion and input of a third rater when needed.

For initial data synthesis, we separated studies into four groups by the health care settings that were the subject of the public reports of quality. These four settings are hospitals, individual clinicians and outpatient group practices, health plans, and long-term care services (predominately nursing homes).

The strength of the body of evidence for each outcome and Key Question in the identified quantitative studies was rated according to the AHRQ Methods Guide^{13,14} based on judgments about risk of bias, consistency, directness, and precision of the evidence. The evidence for outcomes across the included studies was graded as high (high confidence that the evidence reflects the true effect; further research is unlikely to change our confidence or the estimate of the effect); moderate (moderate confidence that the evidence reflects the true effect; further research may change our confidence or the estimate of the effect); low (low confidence that the evidence reflects the true effect; further research is likely to change our confidence and the estimate of the effect); or insufficient (evidence is unavailable or does not permit a conclusion). Assessments were performed for each Key Question by two raters independently and then reconciled.

The applicability of the group of studies included in this review about public reporting depends on the user and the intended use of the report. Applicability was assessed, rather than scored or rated, and may vary according to the characteristics of the population studied and with the characteristics of the public reports.¹⁵ Applicability for this review also included considering the extent to which the literature identified can answer the question posed in the review.

Results

Database searches returned 11,809 citations for abstract and title review after duplicates were removed. From these, reviewers identified 1,632 articles that were possibly relevant and were reviewed by two of three reviewers in order to determine inclusion for data abstraction. Ultimately, 198 articles were included for abstraction, of which 97 were quantitative articles and 101 were qualitative. Four quantitative articles reported separate outcomes for both individual clinicians and hospitals and therefore appear in counts for both categories. Two studies were reported in multiple articles and are combined in the discussion of the results. Seven of the quantitative studies and 24 of the qualitative studies were conducted in countries other than the United States.

Early public reports on hospital mortality in the United States and hospital-level, and then surgeon-specific, cardiac surgery outcomes generated a significant amount of controversy and research. Studies of reports on health plans came after the public reports were created based on Healthcare Effectiveness Data and Information Set (HEDIS) and Consumer Assessment of Healthcare Providers and Systems (CAHPS) data. Through the Medicare.gov Web site the Centers for Medicare & Medicaid Services (CMS) provides information on a variety of health services and reports on additional services that are being added to Medicare Compare as data and measures are available. These public reports are the subject of the bulk of public reporting research, and the volume of research has increased as these public reports have become available.

The results of this review are presented by Key Question and then by outcome across health care settings in Table A, which includes the main conclusion, the number of studies (total and by setting), and the strength of the body of evidence for each Key Question and outcome. The conclusions are summarized in the text below.

Key Question 1: Does public reporting result in improvements in the quality of health care (including improvements in health care delivery structures, processes, or patient outcomes)?

Mortality was often the focus in studies of hospitals and was also the primary outcome in one study of individual providers. Most of the studies found a decrease in mortality, although these results are not uniformly consistent and many questions about the appropriateness of the comparisons (both groups and risk-adjustment methods) are an ongoing subject of debate. In studies of health plans and long-term care, the outcomes studied most often were quality measures for more specific outcomes, such as pain, pressure ulcers, and satisfaction with care. In general, these studies found that public reporting has a positive impact on the quality measures, although some studies found that this varies across plans or subgroups of the patient population (e.g., short- vs. long-stay nursing home residents).

Key Question 2: What harms result from public reporting?

Studies that examined harms found more evidence of no harm than evidence of harm. Research on harms or unintended negative effects related to the impact on access (e.g., selection of patients at low risk of negative outcomes or expected to do well, which is referred to as “cream skimming” and “cherry picking,” or other actions by providers to change ratings by manipulating their patient populations) had mixed findings. However, some studies in long-term care have found that public reporting can create incentives that lead to unintended negative behavior by providers.

Key Question 3: Does public reporting lead to change in health care delivery structures or processes?

In identified studies, providers, both individual clinicians and organizations, responded to public reports by making positive changes in their behavior. Studies found that hospitals were more likely to offer new services, policies were changed, surgeons with worse outcomes left surgical practice, and quality improvement activities increased. However, data are not available for all settings, and for others data are based on a small number of studies.

Key Question 4: Does public reporting lead to change in the behavior of patients, their representatives, or organizations that purchase care?

For this Key Question more than any other, there is agreement across settings. Public reports seemed to have little to no impact on selection of providers by patients and families or their representatives. When an effect was found, it was for a subgroup of patients (e.g., younger, more educated patients). The qualitative research provided insights into why this might be. The primary reasons public reports did not influence selection were that people were not aware that the quality information was available, the information provided in public reports was not what they needed or valued, the information was not always available when they needed it to make a decision, or the information was not presented in a comprehensible way.

Key Question 5: What characteristics of public reporting increase its impact on quality of care?

Almost no quantitative studies examined whether report characteristics affected the impact of public reporting on any outcome. Two studies of public reporting on individual clinicians were identified that assessed the impact of two different characteristics, but none were found for

other settings, making it impossible to draw conclusions about the strength of evidence. The majority of evidence available about the characteristics of public reports comes from qualitative studies that document the importance of relevance, readability, and clarity of presentation.

Key Question 6: What contextual factors (population characteristics, decision type, and environmental) increase the impact of public reporting on quality of care?

Relatively consistent findings showed that public reports have more of an impact in competitive markets and that improvements are more likely in the subgroup of providers with lower scores in initial public reports. While several contextual factors were identified, they do not seem to represent the complexity of the environment.

Discussion

Findings

The main findings from this review are summarized in Table A. For most of the outcomes, the strength of the evidence available to assess the impact of public reporting was moderate. This was due in part to the methodological challenges researchers face in designing and conducting research on the impact of population-level interventions.

Table A. Summary evidence table: Effectiveness of public reporting of health care quality as a quality improvement strategy

Key Question	Outcome: Conclusion	Total Studies,^a Settings (Number of Studies)	Strength of Evidence
Key Question 1 Does public reporting result in improvements in the quality of health care (including improvements in health care delivery structures, processes, or patient outcomes)?	Reduction in mortality: Public reporting was associated with a small decline in mortality after controlling for trends in reductions in mortality.	19 Hospitals (18) Individual clinicians (1)	Moderate
	Quality and process indicators (e.g., CAHPS, HEDIS, Nursing Home Compare): Most studies found that public reporting is associated with improvement in quality and process indicators, although this varies across specific measures.	19 Hospitals (5) Health plans (5) Long-term care (9)	High

Table A. Summary evidence table: Effectiveness of public reporting of health care quality as a quality improvement strategy (continued)

Key Question	Outcome: Conclusion	Total Studies, ^a Settings (Number of Studies)	Strength of Evidence
Key Question 2 What harms result from public reporting?	Increase in mortality: In one study, an increase in mortality was attributed to public reporting.	1 Hospitals	Insufficient
	Inappropriate diagnosis and treatment: In one study, the hypothesis that a publicly reported measure would lead to overdiagnosis and overprescribing was not supported.	1 Hospitals	Insufficient
	Access restrictions: Most studies concluded that public reporting does not contribute to reduced access for patients (e.g., avoiding high-risk patients, referring high-risk patients out of State). Fewer studies have identified instances of reduced access, suggesting this conclusion could be changed based on future research.	13 Hospitals (8) Individual clinicians (2) Long-term care (3)	Low
	Unintended provider behavior: There was some evidence from LTC that public reporting motivates NHs to change coding and readmit patients to the hospital. No evidence supported a link with surgeons or organizations withdrawing from the market or with declines in quality for items not measured (crowding out).	5 Individual clinicians (1) Health plans (2) Long-term care (2)	Moderate
Key Question 3 Does public reporting lead to change in health care delivery structures or processes?	Provider actions: The evidence suggested that individual clinicians and organizations respond to public reporting in positive ways, including adding services, changing policy, and increasing focus on clinical care. One study found that low-quality surgeons leave practice (considered a positive action). A study of vaccination rates was the only one that found no effect.	10 Hospitals (4) Individual clinicians (1) Long-term care (5)	Moderate
Key Question 4 Does public reporting lead to change in the behavior of patients, their representatives, or organizations that purchase care?	Selection (market share/volume): Studies found no or minimal impact of public reporting on selection as measured by market share or volume. Contracting patterns suggested purchasers give only minimal consideration to publicly reported quality when selecting providers.	47 Hospitals (15) Individual clinicians (9) Health plans (17) Long-term care (6)	Moderate

Table A. Summary evidence table: Effectiveness of public reporting of health care quality as a quality improvement strategy (continued)

Key Question	Outcome: Conclusion	Total Studies, ^a Settings (Number of Studies)	Strength of Evidence
Key Question 5 What characteristics of public reporting increase its impact on quality of care?	Mode and tone of message: One study found that mode (email vs. mail) affects use of public reports, while tone of the message (risks vs. benefits) does not.	1 Individual clinicians	Insufficient
	Accuracy and usefulness: One study found that the quality information contained in public reports is accurate and useful for patient selection, even if there is a substantial delay between data collection and publication.	1 Individual clinicians	Insufficient
Key Question 6 What contextual factors (population characteristics, decision type, and environmental) increase the impact of public reporting on quality of care?	Competitive market: Studies have found that public reporting is more likely to result in improvements in quality if the clinician or provider is in a competitive market.	7 Hospitals (2) Long-term care (5)	High
	Baseline performance: The likelihood of improvement after public reporting was greater for entities with lower quality before or at the first instance of reporting.	5 Health plans (2) Long-term care (3)	High
	Nursing home characteristics: Characteristics (e.g., ownership) did not reliably predict how NHs reacted to public reporting. Studies found no consistent difference across characteristics.	6 Long-term care (6)	Low
	Patient characteristics/subgroups: Different patient characteristics, such as age, specific health care needs, and insurance coverage, may have increased the likelihood that publicly reported data affected choice.	3 Health plans (1) Individual clinicians (2)	Low
	Variation in quality: Public reporting was more likely to influence quality if the level of quality varied across plans in the market.	1 Health plans	Insufficient

^a Conclusions and strength of evidence are based on the 97 included quantitative studies. Studies that examined more than one outcome are included separately for each outcome.

CAHPS = Consumer Assessment of Healthcare Providers and Systems; HEDIS = Healthcare Effectiveness Data and Information Set; LTC = long-term care; NH = nursing home

Limitations and Research Needs

The major limitations of this review are related to the nature of public reporting as an intervention and affect both what studies were included and how they were summarized.

- While our search was not limited to only biomedical databases, it is likely there is literature from some relevant disciplines in the social sciences and the humanities indexed in discipline-specific databases that we did not search. Also, we believe, but cannot prove, that there are studies of public reporting that exist but that have not been published in peer-reviewed journals or distributed through the gray literature sources that we were able to access. Additionally, our conclusions are based on public reporting as it was at the time the included studies were conducted. If the field has evolved so that public reporting today is materially different from what was studied, the review may not represent current state-of-the-art public reporting, and it is unlikely to include cutting-edge innovations.
- Our conclusions about public reporting are based on evidence from across different health care settings, different geographic areas, and different time periods. This limits the applicability of our results, as not all of our overarching conclusions would be applicable to a present-day public reporting effort for one health care setting in a specific geographic area. In the sections of the full report that present the results by settings and when study results are presented in detail, we included dates and geographic information (whether the public reporting was national or for a specific area, in the United States or in other countries) in the description of studies in order to make this as transparent as possible.
- The research on public reporting also has limitations. Public reporting makes information available to anyone who wants it and may involve marketing and dissemination, but it is difficult to identify exactly who is poised to make a health care decision, and we rarely know who actually receives and uses the information. This makes designing studies and conducting research challenging because there are almost always many potential sources of confounding.
- Studies rarely reported enough (if anything at all) about the public report itself or the context. Without this information, it was impossible to compare and contrast studies in which public reporting had an impact to those in which it did not and to hypothesize if the difference was due to specifics of the nature of the public reports or the context. This leaves several important questions unanswered. The diversity of public reports is not

reflected in the research literature. Public reports on cardiac surgery outcomes in three States (New York State, Pennsylvania, and California) and Nursing Home Compare are the subject of just under half of the all quantitative studies included in this report.

Future research on public reporting could address these limitations and be more relevant and useful if it were to:

- Include studies that reflect the diversity in public reporting. Both the public reporting initiatives studied and the criteria used to evaluate public reports should reflect the wide range of motivations and goals for the public reports, the scale of the public reporting enterprise, its connection with other initiatives, and innovations in the field.
- Develop a coordinated agenda for future research. Future research needs to build on what came before, with an eye toward advancing understanding and a focus on developing the science rather than repeating past approaches that have had a relatively low yield. Stakeholders, including producers of public reports, researchers, and funding agencies, need to identify key issues for the field, and then develop and conduct research targeted to these issues.
- Focus attention on public reporting interventions and the context. We do not just want to know if public reporting works (efficacy); we want to know who it works for and in what situations (effectiveness). Most articles provided very little or no information about the content or format of the public report that was the subject of study or about the context in which the intervention was implemented and studied. This lack of specification of the characteristics and components of public reports and the context makes it difficult to think about how to apply the research results in the future or move from experimentation to effective implementation on a larger scale.
- Include a systematic approach to the study of harms/unintended consequences. Potentially harmful effects, such as increasing disparities or the use of more health services (e.g., more hospital readmissions from long-term care), require more study to identify the extent of the harms and how they can be avoided. Rigorous studies that focus on perverse incentives and unintended consequences are needed.
- Contribute to development of methods. Study designs and approaches to analyses for individual studies and systematic reviews are needed that are appropriate for health services, public health, or quality improvement research.

Conclusion

Based on the studies identified in this review, we can conclude:

- Public reporting is associated with improvement in health care performance measures, such as those included in Nursing Home Compare.
- Quality measures that are publicly reported improve over time.
- Almost all identified studies found no evidence or only weak evidence that public reporting affects the selection of health care providers by patients or their representatives.
- Studies of health care providers' response to public reports suggest they engage in activities to improve quality when performance data are made public.
- Characteristics of the intervention and the context, which are likely to be important when considering the diffusion of quality improvement activities, were rarely studied or even described.
- Although the potential for harms is frequently cited by commentators, the amount of research on harms is limited and most studies do not confirm the potential harm.

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Full Report

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