NATIONAL QUALITY FORUM

Measure Feedback Loop – Environmental Scan Draft Report

TECHNICAL REPORT
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Executive Summary

In the current quality measurement environment, many measure developers do not have adequate information on how end-users use and interpret their measures. Research is needed to ensure that performance measures are having the intended effect of driving quality improvement, without any unintended consequences, while also minimizing costs. An improved understanding of the current environment of measure feedback is an important step in enhancing the process for incorporating feedback information into the measure development process. Improved measure feedback loops could provide measure developers and other stakeholders with timely, innovative and effective approaches to use feedback from measure end-users.

Guided by a multi-stakeholder committee with expertise in measure feedback, the National Quality Forum (NQF) will develop a series of reports with the aim of creating an implementation plan for a measure feedback loop pilot. In this paper, NQF will assess the current landscape of measure feedback. The objective of this environmental scan is to provide the committee a current and comprehensive view of what data and information is currently available, and how often this information is updated. This scan aims to also inform the committee of any gaps of data/information that would inform NQF's Consensus Development Process (CDP) for endorsing measures.

This environmental scan used a literature review and key informant interviews to gather information on current sources of measure feedback. This paper reviews and discusses each of the below sources of measure feedback.

- Feedback derived from NQF Processes
    - Public Comments Received During the Measure Applications Partnership (MAP)
    - Public Comments Received During the CDP
    - Usability and Use section of Endorsement Measure Submission Form
    - NQF Feedback Tool
- Feedback derived from Centers for Medicare and Medicaid Services (CMS) Processes
    - Public Comments Received during the Rulemaking Process
    - Impact Assessment of CMS Quality and Efficiency Measures Report
    - CMS Data Repositories
    - JIRA database
- Other Sources of Performance Data
    - Performance Data from Quality Clinical Data Registries
    - Performance Data from Measure Developers

Finally, this paper reviews common themes, including gaps and challenges in existing measure feedback mechanisms as identified through the key informant interviews and literature review. These themes will inform the creation of a new feedback loop process that will seek to overcome the common difficulties identified by providers, measure implementers, measure developers, and other stakeholders. Gaps and challenges cited include the absence of a single source of measure feedback, and difficulties in consolidation of feedback across sources; challenges in determining the timing of measure feedback;

and the need to offer clinicians, patients, and family caregivers appropriate tools to guide accurate interpretation of measure performance results.

Introduction

Numerous individuals at all levels of clinical care provide information for, and contribute data used in, measure performance tracking. For this reason, the successful collection of measure feedback requires extensive communication and outreach to individuals at all levels of measure implementation, as well as easy to use digital tools and tracking mechanisms that complement existing activities.

Feedback mechanisms can be rolled out across settings to assist in identifying and resolving problems as they arise, thereby adapting measures to ensure best practices are applied. However, research is needed to ensure that performance measures are having the intended effect of driving quality improvement, without any unintended consequences, while also minimizing costs. Understanding which measures are making a difference and how the implementation of these measures affects organizations, providers and patient care will inform NQF's efforts to reduce the number of measures that impose burden without reciprocal benefit.

NQF is committed to actively seeking feedback on NQF-endorsed measures currently in use. While NQF receives some information from measure developers and stewards about the implementation and use of measures within the measure endorsement and selection processes, NQF would like to strengthen and standardize the feedback to learn more from the field about experiences with measures. This initiative aims to enhance and expand feedback on measure implementation and impact that could be shared with NQF's Consensus Development Process standing committees, the Measure Applications Partnership committees, NQF members, the NQF Measure Incubator™ Learning Collaborative, measure developers and stewards, and other interested individuals and organizations.

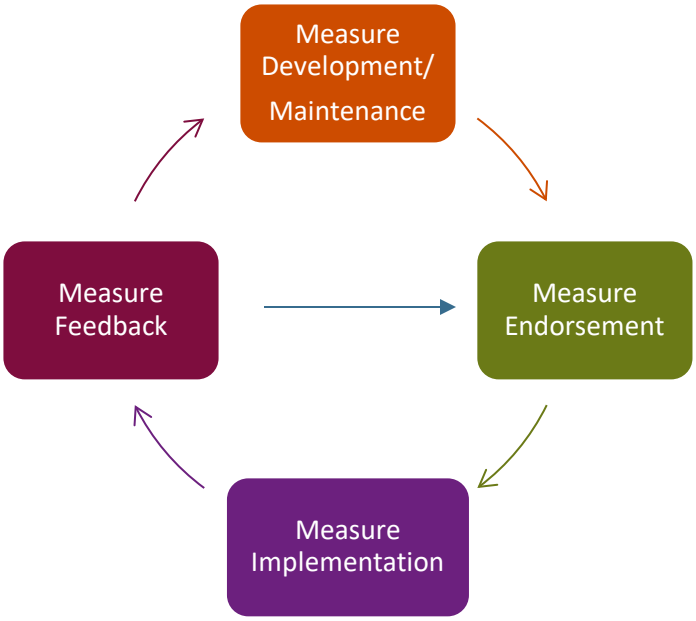
Background

In the current quality measurement environment, many measure developers do not have adequate information on how end-users use and interpret their measures. Data collection on measure use in practice is important to not only measure developers, but also other measure end-users such as patients, clinicians, healthcare purchasers, and insurers. This ability to effectively measure and report meaningful health related metrics is vital to improving the health system as whole.[1] In addition, studies have shown that improvements in data collection methods can reduce costs and may benefit both hospital performance and patient outcomes.[2]

A survey of hospital leaders found that over 70% agree that publicly reported clinical outcome, process, and patient experience measures improved quality at their institutions, with over half also observing quality improvement stemming from cost and volume measures. These same respondents indicated widespread use of clinical measures reviewing with their boards, senior leadership, and incorporated into organizational strategic planning initiatives. However, concerns about clinical meaningfulness, unintended consequences, system cost and public reporting tools remain.[3,4] An improved understanding of the current environment of measure feedback and how it fits into the measure lifecycle (**Figure 1**) is an important step in improving the process for incorporating this information into the measure development process. Improved measure feedback loops could provide measure developers and other

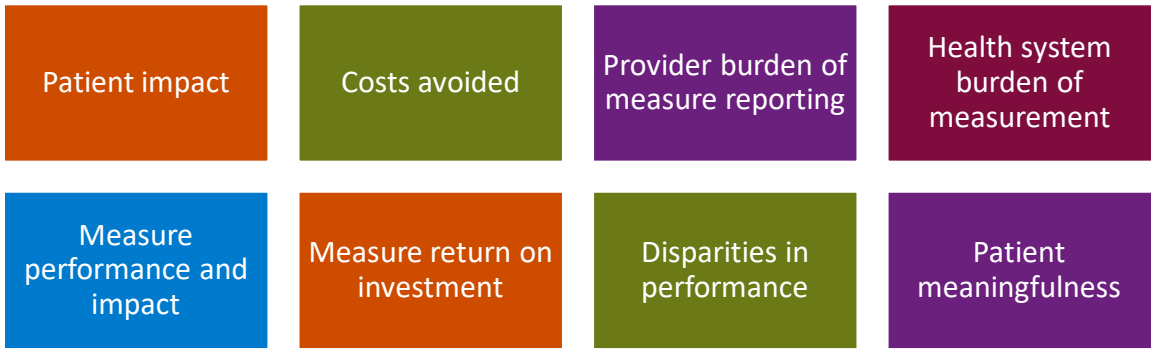
stakeholders with timely, innovative and effective approaches to utilize feedback from measure end-users.

Figure 1: Example of Measure Feedback in the Measure Lifecycle



Feedback on measures may range from the relative utility of the measure in patient decision making, to the burden experienced by clinicians when reporting the measure. It may be derived from experience with the measure from implementation to interpretation (see ***Figure 2***). Measure feedback can be positive, such as finding that the measure leads to enhanced collaboration between providers, better care processes, improved quality of care; or negative, such as measure implementation challenges, data collection and reporting burden, or unintended consequences such as gaming or reduction in services provided. More timely and comprehensive feedback from the field about measures in use will support informed decision-making regarding performance measures and how they are used in pay-for-performance, public reporting, and other accountability programs.

Figure 2: Examples of types of measure feedback



Brief Project Overview

Decision makers—including policy makers and measure developers— often lack information needed to effectively target limited resources to develop, implement, and endorse those measures that will drive the most improvement. Moreover, stakeholders need to understand how a measure performs when in use, and the possible issues or risks that may be associated with the measure's implementation. Improved feedback loop mechanisms would help measure developers and other stakeholders understand if a measure is meeting its objectives to improve quality of care and health outcomes, and provide information on any unintended consequences. By gathering meaningful, timely, and comprehensive feedback on measures in use, improved feedback loops would also help ensure that the quality improvement enterprise itself undergoes continuous improvement. Feedback refers to information about measure performance that could be based on quantitative data (e.g., performance data), or qualitative information (e.g., public comments, key informant interviews).

Guided by the multi-stakeholder Measure Feedback Loop Committee (***Appendix D***), NQF will develop four reports, culminating in an implementation plan for a measure feedback loop pilot. A measure feedback loop within NQF's context refers to the process in which feedback from the measure is relayed back to the multistakeholder Standing Committee members who recommended the measure to be (re-) endorsed or selected for program use. In this paper, NQF will assess the current landscape of measure feedback. The objective of this environmental scan is to provide the Feedback Loop Committee a current and comprehensive view of what data and information are currently available, and how often this information is updated. Additionally, this scan aims to inform the Committee of any gaps of data/information that would inform NQF's Consensus Development Process for reviewing measures for endorsement consideration.

Approach and Methodology

Literature Review

The primary purpose of this environmental scan is to thoroughly examine the landscape of measure feedback available in the literature and other sources. NQF used resources such as PubMed, JAMA, New England Journal of Medicine Blog, and Health Affairs Blog, as well as grey literature (i.e. academic or policy literature that is not peer-reviewed) to identify existing sources of measure feedback. The literature review was conducted to inform the project of the current landscape of available data sources and to provide information on gaps and other challenges for measure feedback.

NQF began the review using key search terms such as "measure", "quality", "burden", "healthcare effectiveness", "unintended consequences". The full index of search terms used can be found in ***Table 1***. NQF formulated the aforementioned key terms into simple queries to generate the largest number of results, such as "reporting" and "feasibility." Given the need to keep the information as current as possible, NQF excluded all articles older than the year 2000. NQF reviewed the titles, keywords and abstracts of the identified articles to determine if the information aligns with the project scope.

Table 1: Environmental Scan Search Terms for Literature Review

• Performance measurement results • Performance rates • Impact of quality improvement • Measure feedback • Reporting • Data collection • Registries • Burden (synonyms) • Clinician/Patient experience • Clinician/Patient satisfaction • Clinician burnout • Implementation issues	• Feasibility • Dashboard • Consumer feedback • Equity of care • Unintended consequences • Utilization • CDP • Usability • Use • Validity of specification • Reliability • Patient reported outcomes

NQF reviewed over 59 articles from the current literature that fell into the project scope and identified useful information about sources of measure feedback, measure feedback tools or challenges to providing feedback. It was possible for a paper to be applicable to more than one of these identified themes. A summary of findings was compiled and used to determine themes or ideas that could be incorporated into the measure framework, as well as guide Committee discussion on gaps.

Key Informant Interviews

Key informant interviews were conducted by phone to help fill gaps in the literature review and help inform the measurement feedback loop framework. Individuals were suggested for key informant interviews by committee members and NQF staff based on expertise and experience with quality measure use, development or implementation. NQF conducted interviews following a format that included questions related to:

- Experience with collecting measure feedback
- Experience with receiving and acting on measure feedback
- Experience giving feedback
- Challenges & mitigation strategies
- Gaps in knowledge, evidence, organizational needs

To date[a], seven key informant interviews have been completed with representatives of the quality community, specialty societies, measure developers and measure implementers. The complete interview guide and the list of key informants interviewed can be found in ***Appendix B*** and ***Appendix C*****.**

[a] March 1, 2019

Environmental Scan Results

Sources of Measure Feedback

The environmental scan identified multiple existing sources of measure feedback. These sources are documented in the following sections:

- Feedback derived from NQF Processes
    - Public Comments Received During the Measure Applications Partnership
    - Public Comments Received During the Consensus Development Process
    - Usability and Use section of Endorsement Measure Submission Form
    - NQF Feedback Tool
- Feedback derived from CMS Processes
    - Public Comments Received during the Rulemaking Process
    - Impact Assessment of CMS Quality and Efficiency Measures Report
    - CMS Data Repositories
    - JIRA database
- Other Sources of Performance Data
    - Performance Data from Quality Clinical Data Registries
    - Performance Data from Measure Developers

Feedback derived from NQF Processes

Public Comments Received During the Measures Application Partnership

NQF convenes the statutorily mandated Measure Applications Partnership as a public-private partnership of healthcare stakeholders. MAP provides input to the Department of Health and Human Services (HHS) on the selection of performance measures for public reporting and performance-based payment programs. MAP also helps to identify gaps in measure development and encourages measure alignment across public and private programs, settings, levels of analysis, and populations. During the annual MAP prerulemaking process, NQF solicits feedback on the Measures Under Consideration (MUC) list online prior to and during the MAP workgroups' deliberations. Public comments are also solicited on the MAP final reports before the MAP Coordinating Committee's review of the final reports.

A concern expressed by stakeholders in the comments received during the MAP process is that while feedback is received before the measures are widely implemented in programs, it is too late to impact the measure development process. MAP workgroup and committee members stressed the need for better feedback from frontline providers to ensure that measures are driving improvement and not causing negative unintended consequences.[5] Similarly, MAP workgroup and committee members have been supportive of NQF efforts to work with its member organizations to gather feedback on the measures, through the MAP and CDP processes and measure feedback portal, and has encouraged other organizations to work with NQF to submit better data on the current measures. To address this concern, recent cycles of MAP have included a Feedback Loop component, piloted in 2016 and rolled out to all MAP workgroups in 2017.

The MAP public comment process yielded 361 public comments on 40 measures in the 2018-2019 cycle. Feedback received included comments on risk-adjustment methodology, specifications, exclusions, data sources, implementation, and possible measure burden. Feedback also included recommendations for multi-stakeholder review and concerns over how measures align with measures in other evaluation programs. Feedback was also provided on unintended consequence of specific measures under consideration, for example MUC 2018-0048, Potential Opioid Overuse; commenters expressed concern that implementation may lead to possible changes in prescribing behavior for opioids that may harm patients.

Public Comments Received During the Consensus Development Process

NQF receives information on measure use and feedback when measures go through the endorsement and maintenance process. Both NQF members and interested members of the public can submit comments on the CDP Standing Committee's draft recommendations through the NQF website. This includes measures that were recommended for endorsement by the Standing Committee, those that were not recommended, and those in which consensus regarding an endorsement recommendation was not reached. As part of NQF's commitment to transparency, all submitted comments are posted on the NQF website, where any site visitor can review them. The Standing Committee reviews all submitted comments, and all submitted comments receive responses from the Standing Committee, measure developers, and/or NQF, as appropriate. The Standing Committee may revise its recommendations in response to a specific comment or series of comments that are submitted during this phase of the CDP.

As part of the CDP process, revised in 2017, NQF created one continuous public commenting period. This commenting period spans 12 weeks, to allow time for public and NQF member commenting. The commenting period opens approximately three weeks prior to the Standing Committee evaluation meeting and closes 30 days after NQF staff posts the draft technical report on the NQF website. NQF includes comments and member indications of support received at least one week prior to the Committee evaluation meeting and these comments are included in the committee materials for discussion during the measure evaluation meeting. The Committee reviews any comments received following the committee evaluation meeting after the close of the public commenting period. All public comments are included in each project's final report.

The public comment process of the CDP has yielded 229 comments on 56 measures from November 1, 2017 - February 22, 2019. Feedback varies, but comments often expresses general support or concern for a measure being considered by the Standing Committee. Common themes highlighted in public comments from the CDP include concerns or comments on a measure's specifications, exclusions, risk adjustment methodology, and data sources. Comments also frequently address issues of implementation and possible burden on clinicians and other care providers.

Usability and Use section of Measure Submission Form

As part of NQF's measure evaluation criteria, measures are evaluated on use and usability. The use and usability section of the measure submission form aims to provide information on the extent to which potential audiences (e.g., consumers, purchasers, providers, policymakers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations. Measure "Use" is now a must-pass criterion

for maintenance measures. Maintenance measures are re-evaluated three years after their most recent endorsement.

In particular, NQF asks[6] developers to provide information on measures by those being measured or other users when:

1) Those being measured have been given performance results or data, as well as assistance with interpreting the measure results and data
2) Those being measured, and other users have been given an opportunity to provide feedback on the measure performance or implementation
3) This feedback has been considered when changes are incorporated into the measure

This section of the measure submission form has included feedback obtained on over 200 measures. The information in this section typically includes summarized findings of technical expert panels, task forces, and developer-managed public comment periods. In addition, the information from this section may also include incorporated feedback from other sources, such as CMS.

NQF Feedback Tool

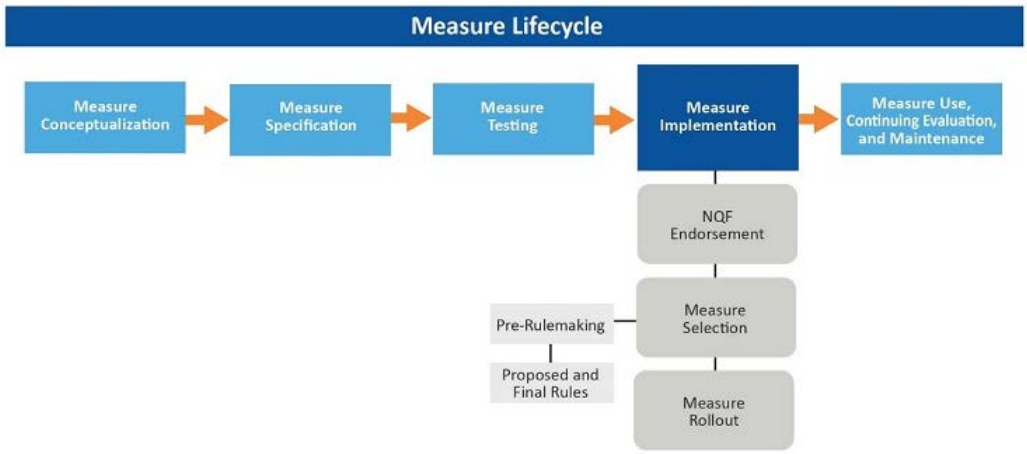
NQF has an online tool soliciting feedback on endorsed measures from those using them in healthcare settings. The objective of the tool is to learn about implementation experiences for specific measures from a wide variety of stakeholders. The tool asks stakeholders to provide information on any unexpected findings (positive or negative) during implementation of measures including unintended consequences or unintended benefits. Dating back to the early 2017 launch of the tool, NQF has received 19 feedback submissions. Information received from the feedback tool includes comments on exclusions and other aspects of measure specifications, as well as questions on NQF processes. Feedback submitted through the tool is visible through NQF's Quality Positioning System (QPS); the tool also allows users to provide feedback at any time about the use and usefulness of NQF endorsed measures.

Feedback derived from CMS Processes

Public Comments Received during the Rulemaking Process

CMS uses a public comment process to ensure that measures are developed using a transparent process. The public comment period provides an opportunity for relevant stakeholders and other interested parties to provide input on the measures under consideration. CMS notes that this process is designed to help provide critical suggestions that may have not been previously considered by the measure developer or Technical Expert Panels (TEPs) convened during the measure development process.[7] During public comment periods, the public is encouraged to submit general comments relevant to measures in general or specific to certain measures.

Figure 3: Rulemaking as part of the Measure Life Cycle[8]



Following the public comment period, all public comments are posted on the CMS website along with a public comment summary report. Comments can be submitted online, by mail, or in person at certain locations.[9] Comments are published in final rules, including a summary of the comment and a CMS response. This feedback is incorporated into the measure selection process, and may influence measure implementation procedures (see ***Figure 3***).

Impact Assessment of CMS Quality and Efficiency Measures Report

CMS conducts and publishes an impact assessment report tri-annually that analyses national measure performance trends, disparities, patient impact, and costs avoided. Using a multi-stakeholder technical expert panel and a Federal Assessment Steering Committee, CMS evaluates national performance concerning quality measures. The objective of the report is to assess the quality and efficiency impacts on how the measures are used in CMS reporting programs. In addition, the report informs CMS, federal stakeholders, and patients on the progress on reaching quality priorities. The data are received through a national electronic survey sent to hospitals and nursing homes. The responses are based on quality using a value-based score and hospital size. The data are also collected through semi-structured interviews. The report acts as an advisory document on policy regarding measure development, selection, implementation, and gaps. The report includes key indicators, estimated patient impact and prevented costs associated with changes in performance rates, aggregate trends, and changes made by hospitals and nursing homes in response to the use of performance measures.

CMS Data Repositories

As part of their participation in the Medicare public reporting and performance-based payment programs, providers and facilities submit performance data to CMS. These publicly reported data are a source of quantitative measure feedback and are available online at CMS' Data.Medicare.gov website. This site provides eight data sets of official data from Medicare.gov Compare Websites and Directories related to quality reporting.[10] The eight data sets are:

1. Hospital Compare
2. Nursing Home Compare
3. Physician Compare

4. Home Health Compare
5. Dialysis Facility Compare
6. Hospice Compare
7. Inpatient Rehabilitation Facility Compare
8. Long-Term Care Hospital Compare

Each repository reports performance data and information generated from Medicare publicly reported programs. This information is made available by CMS to ensure that data are "readily available in open, accessible, and machine-readable formats."[11] As illustrated in ***Table 2***, each repository collects information on a varying set of quality measures, with variation between level of analysis and schedule of updates. Each repository's level of analysis, schedule of updates, and measures reported are unique to the measures from the Medicare program it reports from.

Table 2: CMS Data Repository Characteristics[11]

Repository	Description	Schedule of Updates	Level of Analysis	Associated Costs to Access Data
Hospital Compare	Helps you find and compare information about the quality of care at over 4,000 Medicare-certified hospitals across the country.	Annually; quarterly	Provider; hospital; facility; state; national	None
Nursing Home Compare	Allows you to find and compare quality of care information on every Medicare and Medicaid-certified nursing home in the country, including over, 15,000 nationwide.	Monthly	Facility	None
Physician Compare	Provides information about the physicians and other healthcare professionals currently enrolled in Medicare.	Annually	Provider	None
Home Health Compare	Provides information about the quality of care provided by Medicare-certified home health agencies throughout the nation.	Annually	Facility; state; national; patient	None
Dialysis Facility Compare	You can find and compare the services and the quality of care on Medicare-certified dialysis facilities nationwide.	Annually; semi-annually; quarterly	Facility; state; national; patient	None

Hospice Compare	Helps you find and compare information about the quality of care provided by hospice agencies throughout the nation.	Quarterly	Provider; facility; national	None
Inpatient Rehabilitation Facility Compare	Allows you to find and compare the information about the quality of care of Medicare-certified inpatient rehabilitation facilities across the country.	Annually	Provider; facility; national	None
Long-Term Care Hospital Compare	Helps you find and compare information about the quality of care at Medicare-certified long-term hospitals across the country.	Quarterly	Provider, national	None

JIRA

HHS' Office of National Coordinator for Health Information Technology (ONC) hosts the publicly available web platform, JIRA, for measure users to report and discuss issues, ask questions, and provide comments on Electronic Clinical Quality Measures (eCQMs).[12] JIRA is used as an eCQM tracker platform. As measures are developed, CMS will solicit comments on the measure concept or measure via JIRA. In JIRA, members of the public have the ability to submit comments on eCQMs.[13] Measure users also have the ability to create an account and submit an issue or question regarding an eCQM to administrators and developers. JIRA allows the measure user or implementer to directly log an issue or concern. The site administrators are able to reply directly to the concern or tag the issue for a subject matter expert or measure developer to respond directly to. Users also have the ability to search for issues and see if their concern has already been answered.[14]

Other Sources of Performance Data

Performance Data from Quality Clinical Data Registries

Clinical registries track information on the health status of patients and the care they receive over time, typically focusing on patients with a common disease or health condition. Registries are used to help inform patients and providers of health outcomes across patients and interventions, as well as to compare performance on health care quality, outcomes, and resource use across providers. Registries, such as qualified registries and Quality Clinical Data Registries (QCDRs) are increasingly used for accountability purposes, ensuring that provider payments are adjusted in response to performance on health quality.

CMS defines a qualified registry as "an entity that collects clinical data from an individual MIPS-eligible clinician, group or virtual group and submits it to CMS for them."[15] Qualified registries collect and report on measures limited to measures in Merit-Based Incentive Payment System (MIPS). In order to become a qualified registry, a registry or other entity must nominate themselves and successfully complete a qualification process. The 2018 CMS-Approved Qualified Registries lists included 141 qualified registries

for use. The costs associated to access these registries varies based on factors such as, size of provider group, organization size, membership with association, and includes one-time fees and maintenance fees.[16]

The QCDR Program was initially established in the Medicare Physician Fee Schedule (PFS) Final Rule, and updated in The Medicare Access and CHIP Reauthorization Act (MACRA) in 2015. CMS defines a QCDR as "an entity we approve that collects clinicians' clinical data for submission, such as regional collaboratives and specialty societies." QCDRs differ from qualified registries because a QCDR is not limited to only MIPS measures.[17] In order to become a QCDR, a registry or other entity must nominate themselves and successfully complete a qualification process. The 2019 CMS-Approved QCDR list included 150 registries for use. The costs associated to access of these registries is varied based on factors such as, size of provider group, organization size, membership with association, one-time fee, and maintenance fees.[18]

Performance Data from other Measure Stakeholders

Measure developers refer to individuals or organizations that design and construct measures.[19] Each developer has a process for developing performance measures that is unique to their organization. Organizations that develop performance measures, such as specialty societies, CMS contractors, accreditation organizations, differ in their motivations and purpose for creating these measures. As a result, some measure stakeholders have standardized and cyclical processes for measure development and feedback collection, while for others measure development is not their core line of work.

Table 3, lists a sample of measure reporting efforts from four non-government organizations that develop and implement NQF-endorsed measures. As illustrated in the table, there is variation in the amount of information on available performance data and costs associated with accessing the feedback and data.

Table 3: Other Measure Stakeholder Feedback Data Sources

Organization	Source	Schedule of Updates	Level of Analysis	Methods of Obtaining	Associated Costs to Access Data
Joint Commission	Quality Check[20]	Annually	Facility	Download from website	Free
Leapfrog	Leapfrog Hospital Survey Quality Compass®: Benchmark and Compare Quality Data[21]	Annually	Facility	Request access from organization	Request access from organization

NCQA	Quality Compass®: Benchmark and Compare Quality Data[21]	Annually	Clinician: group/practice; Clinician: group/practice; health plan; integrated delivery system; population	Request access from organization	Varies based on product and number of licenses: $1,995-56,695
Society of Thoracic Surgeons	STS National Database[22]	Information not publicly available	Clinician: Individual; Clinician: group/practice; Facility	Request access from organization	Varies based on database, association with STS, and location: $250-12,000

Additional Key Informant Interview Findings: Gaps and Challenges

In addition to informing the sources of measure feedback documented above, the key informant interviews also identified several cross-cutting themes. Key informants noted that feedback on performance measures is collected by a variety of stakeholders, with mixed methods. In some instances, performance measure implementers have created formal tools to collect feedback from end-users of performance measures, generally concentrating on clinicians and quality officers. These tools generally require a substantial investment towards implementation, including costly site visits, surveys, and focus groups. Some feedback mechanisms are predicated on proactive input from clinicians and other end-users, such as learning collaboratives and online wikis. Other feedback mechanisms are ad-hoc, relying on end-users to approach the measure developer or implementer with questions or concerns about the measure's specifications. Multiple interviewees touched on the lack of a systematic methods in which measure feedback is collected. Many of these feedback tools are proprietary, or otherwise not easily accessible by the public (see ***Table 4***).

Table 4: Types of measure feedback collection mechanisms discussed in key informant interviews.

Tools used to gather information prior to measure implementation:	• Key informant interviews and other targeted outreach • Measure developer expert panels to identify unintended consequences, evaluate measure concepts • Alpha and Beta testing • Pilot test site visits (observe changes to workflow, re-test measures)
Tools used to gather information following	• Collaborative online tools (e.g. wikis) • Learning collaboratives • Site visits

measure implementation:	• Helpdesks owned by measure developers, quality innovation networks-quality improvement organizations (QIN-QIOs), registries • Surveys circulated to registry users • Annual public comment periods • Documentation of best practices for measure roll out and implementation

The interviews also noted challenges in the timing of receipt of measure feedback. It was noted that much of the feedback received by developers occurs too late in the cycle to allow measure developers to respond appropriately or to implement suggested changes in a timely fashion. Feedback received close to the time of rollout or endorsement is often not reflected in the final measure specifications. Another challenge identified in the interviews is that when on the ground physicians note updates in the clinical guidelines and diagnosis related groups (DRGs), this occurs too close to the time of measure rollout out or endorsement. Further, this lack of an immediate, noticeable change in the measure may lead to disengagement and an unwillingness to provide feedback by measure implementers in the future.

Key informants noted that consolidating feedback can be challenging, given that feedback can be generated from a variety of different mechanisms, including some that may not be easily investigated for follow-up because they are not attributed to a particular individual or clinical site. Moreover, generally feedback on performance measures is best leveraged by measure developers as part of their ongoing maintenance and re-evaluation processes, aimed at keeping their portfolio of measures current. However, many measure developers are not directly involved in measure implementation, and so must rely on a third-party aggregator (generally the measure implementer) to coordinate feedback between on the ground end-users and the developers. Finally, measure developers noted that measure feedback tends to emphasize negative consequences of having implemented a measure; however, positive feedback would help clarify which measures are most effective, and the field could emphasize and promote those measures.

Finally, while unintended consequences and measurement burden were a concern to many of those interviewed, key informants noted that many effects cannot be identified until a measure has been implemented. Currently, there is no single-source formal system to collect feedback from providers. Aligning measures among the various organizations involved in quality of care (e.g., The Joint Commission, CMS, private payers) was also a concern expressed during the interviews.

Additional Findings from Literature Review

Pre- and Post-Implementation Measure Feedback

In order to develop a meaningful and effective quality measure, it is necessary to collect feedback both prior to and following the implementation of the measure. Feedback on performance measure concepts, before the numerator and denominator have been defined, can help guide measure

developers in focusing their efforts on furthering those concepts and may preemptively address unintended consequences. Measure developers have used TEPs, key informant interviews, and other methods of stakeholder outreach to solicit measure feedback early in the measure development process. For example, researchers in one study developed a process for soliciting multistakeholder perspectives on the concept of using composite measures to simplify the public reporting of complex measures, and streamline performance incentives.[23]

Ongoing maintenance and periodic re-evaluations of performance measures also require information regarding how a measure is functioning post-implementation. However, collecting feedback after implementation can be challenging in the absence of meaningful incentives to encourage measure users to comment on their experience interpreting the measure result. In one initiative, physician engagement and buy-in were cited as critical efforts to secure an effective implementation of a suite of new performance measures. Despite the extensive documented outreach, a relatively low number of physicians accessed their confidential performance reports; outdated results, and the absence of a particular incentive, were cited as likely reasons for physician disengagement.[24]

Dashboards and Visualizations

Care providers have signaled that timely access to their own performance data is a precondition to offering effective feedback on measures following implementation. When data availability is limited or delayed, clinicians' ability to provide relevant feedback is hindered. Quality dashboards are one tool used to share performance results with clinicians, generally with retrospective data on the individual or a broader unit or organization.[25] A systematic review of the deployment of visualizations and clinical dashboards found that customizability of the data displayed was a common key feature of successful deployment; however, dashboard solutions were too varied, and generally only tested in a single setting, for these findings to be generalizable.[26] In some instances, clinicians have found that the addition of quality indicators in clinical dashboards has been compatible with their clinical practice. In one example, oncologists using the results of a patient-reported outcome measure generally found it useful to integrate the measure into their clinical practice.[27] Another dashboard, using results from the Patient-Reported Outcomes Measurement Information System (PROMIS) tool, was well-received by clinicians, as well as both health plans and patients with chronic conditions.[28]

While dashboards have been successfully implemented in many care settings, there remain challenges with widespread implementation and maintenance. A systematic review found only weak evidence suggesting new data collection initiatives in hospitals were ultimately cost-savers, suggesting there are significant hurdles to overcome in upfront investment costs that may not be recovered. The literature review findings also found clinicians have concerns with notification systems associated with dashboards, perceiving the quantity of alerts can be excessive and not conducive to clinical workflow.[2] Creating and implementing new quality dashboards generally includes administering several education sessions in the lead-up to deployment, offering benchmark scores from appropriate peer groups as a comparison, and individualized performance reports, particularly with indications of change over time.

Clinician Feedback and Perspectives Performance Measures

The literature review identified multiple examples of systematically collected feedback applicable to a limited defined set of quality measures and measures within particular care setting. A setting-specific assessment of quality measure implementation cited that several key factors were essential for successful implementation, including engagement with physicians to select quality metrics, use of automated methods to ensure timely performance data, and financial performance incentives for physicians to encourage accurate data collection. [29]

A series of semi-structured interviews of hospital quality officials implementing sepsis outcome measures suggested that specifications of some process measures may not be closely linked with patient-centered outcomes or may differ from current clinical definitions. These quality officers suggested hospitals should have more flexibility in choosing the treatment processes that would be most effective in their individual setting. [30] A major study of healthcare organization executives on possible costs and benefits associated with quality measure reporting reiterated concerns regarding the significant upfront investments required to implement new quality measures, frequent updates to measure specifications, the number of quality measures advanced across several different programs that may not always be acting in concert, and the lag time in receiving performance reports.[31] Another study found that clinicians emphasized concerns regarding documentation burden on providers, as well as autonomy and flexibility in implementation when asked to provide feedback on measure sets.[32] A survey of surgeons participating in the American College of Surgeons' National Surgical Quality Improvement Program found consistent awareness of the quality metrics used in the program; however, only half agreed that the measure set was "worthwhile" to implement, with majority finding fault with measures of mortality rates and case volumes as proxies of high-quality care.[33] Another study of focus group data found that clinician participants providing feedback on measure sets empathized that measures should target areas of medicine with clear consensus on the evidence, focusing on chronic conditions with high prevalence. These participants cautioned against measures that place additional documentation burden on providers, or those measures that only reflect attestation or other "check the box" type processes. Focus group participants also emphasized the importance of autonomy and flexibility in the implementation of the measure set, including the possibility of locally developed quality measures.[34]

Even when performance measure data are provided to clinicians in a timely and accessible fashion, challenges remain in insuring the information presented is interpretable. In one example, a questionnaire assessing the correct interpretation of example quality data found that experts answered three of ten questions incorrectly, with performance worsening considerably when interpreting risk-adjusted data.[35]

Patients and Family Caregivers Feedback and Perspectives on Performance Measures

The published literature on patient and family caregiver feedback on measurement finds that though patients value performance measure information, additional information about the source of the quality data and calculation methods for assigning ratings may be needed to maximize the utility of the results.

[36,37] Quality information is a strong determinant of provider choice, and simplified presentation of the data scores may improve the accessibility and use of measures by patients. Timely performance data was also cited as critical in a review of the use of consumer survey data and other measures of patient experience.[38] A synthesis of focus group data from measure developers, measure evaluators, data collectors and consumer advocates also indicated widespread concern that consumer stakeholders could not offer meaningful feedback on performance measures when the complex measures' results were not easily interpretable[32]. One assessment of the use of Nursing Home Compare quality measures found that although residents valued the performance measure results, additional information about the source of the quality data and calculation methods for assigning star ratings was needed to maximize the utility of the results in informing their decision-making.[36] This finding was identified as a common feature in a systematic review of the impact of the Consumer Assessment of Health Providers and Systems (CAHPS) quality information on consumer's choice of health plans.[37] Quality information is a strong determinant of provider choice, and features such as a simplified presentation of the data improve knowledge about and use of quality information.

Next Steps

NQF will post this report for a 14-day public commenting period from March 11 to March 25, 2019. The Committee will use the environmental scan to inform the next deliverables. The Measure Feedback Loop Committee will convene in April 30, 2019 to review and discuss the NQF CDP Use and Usability criteria in the CDP. In conjunction with the environmental scan, these documents will inform the Committee's future recommendations for the options and implementation plan for a measure feedback loop pilot. A full list of the meeting dates for this can be found on the Measure Feedback Loop project page.

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Appendix B: Key Informant Interview Guide

Topic	Questions/Discussion Guidance

Introductions/ Welcome	• NQF staff introductions
	• Interviewee introductions
	  • Brief description of your role and responsibilities in your current position(s):
	  o Organization affiliations, department/division description
	  o Organization type/stakeholder category
	  o Region
	  o Population served
	  o Key responsibilities

Purpose and overview of interview (NQF Staff)	• Brief NQF Overview • Brief Project Description • Purpose of interview /What we hope to learn • Interview Overview
Experience with collecting measure feedback	• What kinds of measures are you receiving feedback on? Process, Outcomes, Patient Reported Outcomes (PROs), Claims, Chart, eCQM? Were those measure specifications varied in any way? • What platforms or tools are you using to collect data/feedback, and from whom does the data/feedback originate? • What are the characteristics of the data/feedback you are collecting, e.g. qualitative, quantitative? • How often are you collecting data/feedback, and what is the approximate volume of feedback collected? • How is this data/feedback compiled, and presented to internal and external stakeholders? • How has feedback informed your quality improvement efforts? Has feedback on unintended consequences affected your measure design and revision process? • How do you plan to spur further measure feedback?
Experience with receiving and acting on measure feedback (measure developers)	• What are the characteristics of the data/feedback you are receiving, e.g. qualitative, quantitative? • How has feedback informed your measure development efforts? • How do you communicate unintended consequences of measure implementation? • Have you received feedback concerning the burden of measure implementation, particularly concerns around implementing electronic clinical quality measures?
Experience giving feedback	• What kinds of measures are you offering feedback on? Process, Outcomes, PROs, Claims, Chart, eCQM? Were those measure specifications varied in any way? • How do you elevate concerns about performance measures affect your relationship with your physician? • What data elements used in performance measures are most burdensome for you to note in the Electronic Health Records (EHR)? • What might make you more likely to offer feedback?
Challenges & Strategies	• Measure feedback loops have been advanced in many different forms and with many different organizations, with no standard model emerging. What do you see as the major barriers that have prevented more widespread development and implementation of a standard feedback loop process?

	○ What strategies and/or resources are needed to overcome these barriers?
Gaps in knowledge, evidence, organizational needs	• What elements of a proposed feedback loop are most important for us to clearly define in order to maximize the chances of implementation, and applicability to your work?

Appendix C: Key Informant Interviewees

Name	Title	Organization
Heidi Bossley, MSN, MBA	Consultant	Various
Tina Burt, ANP-C	Executive Director of Quality	Arnot Health
Missy Danforth	Vice President of Health Care Ratings	The Leapfrog Group
Carol Dietz, RN, MBA	State Director of New England; Consultant Director	Qualidigm
Tricia Elliot, MBA, CPHQ	Director of Quality Measurement	The Joint Commission
Jana Malinowski	Lead Solutions Strategist	Cerner Corporation
Samantha Tierney, MPH	Senior Director of Measurement Science	Physician Consortium for Performance Improvement (PCPI)

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