



TO: Consensus Standards Approval Committee (CSAC)

FR: Ashlie Wilbon, Erin O'Rourke, and Taroon Amin

RE: Linking Cost and Quality Measures

DA: September 3, 2014

During their in-person meeting on September 3, the CSAC will be given an overview of NQF's commissioned paper on Linking Cost and Quality Measures, supported by the Robert Wood Johnson Foundation. This paper includes options for NQF in its future work in measure endorsement and measure selection. The CSAC is asked to review these findings and explore the implications for NQF's endorsement of efficiency measures and/or measurement approaches.

This memo includes a summary of the project, an overview of the public and member comment themes and the Expert Panel's responses.

CSAC ACTION REQUIRED

- Discuss operational guidance and implications for NQF endorsement of efficiency measures.

BACKGROUND

NQF recognizes the importance of both cost and quality measurement to drive improvement in the healthcare system. In 2009, NQF convened a Steering Committee to develop a framework for evaluating the efficiency of care over time. NQF's [*Measurement Framework: Evaluating Efficiency Across Patient-Focused Episodes of Care*](#) identifies three components—population at risk, evaluation and initial management, and follow-up care—that must be measured and evaluated longitudinally over the course of an episode of care. In 2012, [*NQF endorsed is first cost and resource use measures*](#) but noted that using resource use measures independently of quality measures may not provide an accurate assessment of efficiency or value and may lead to adverse unintended consequences. Instead, cost and resource use measures should be used as building blocks toward measuring efficiency of care. However, there is currently no clear consensus among stakeholders about how cost and quality measures should be used together to understand healthcare efficiency.

To begin to understand how cost and quality measures should be linked to assess efficiency, NQF convened a 24-member Expert Panel (Appendix A), comprised of stakeholders representing consumers, purchasers, health plans, providers and clinicians with expertise in performance measurement, measurement methodologies, clinical quality improvement, and health economics. The Expert Panel gathered for a two-day in-person meeting in Washington, DC on May 1st and 2nd, 2014 to explore current approaches in the field used for measuring and understanding efficiency, the methodological challenges to linking cost and quality measures for an efficiency signal, and best practices for combining cost measures with clinical quality measures to assess efficiency of care.

To guide the deliberations of the Expert Panel, NQF commissioned a white paper exploring various methodologies for linking cost and quality measures. The purpose of this paper was to:

- Explore current approaches and applications of linking cost and quality measures at both the measure and programmatic level
- Identify key methodological challenges to linking cost and quality measures
- Define key principles and best practices for linking cost and quality measures
- Provide operational guidance and recommendations for application and evaluation of efficiency measures to measure endorsement and selection

COMMISSIONED PAPER

This commissioned paper explores various approaches to linking cost and quality measures for the purpose of measuring efficiency in health care and served as the basis for the Expert Panel's deliberations. The authors, Andrew Ryan, PhD of Weill Cornell and Christopher Tompkins, PhD of Brandeis University performed an environmental scan to identify approaches to combining cost and quality measures. Through an iterative feedback process, the Expert Panel provided input on the paper and noted additional topics to explore and analyses to perform.

The paper outlines methods currently in use as well as approaches that have been developed by researchers but are not currently employed in an efficiency program. The approaches to linking cost and quality measures include both composite measures as well as approaches that keep the cost and quality domains separate when assessing efficiency. The authors then classified the approaches into seven models:

1. The Conditional Model
2. The Quality Hurdle Model and Cost Hurdle Model
3. The Unconditional Model
4. The Regression Model
5. The Cost-Effectiveness Model
6. The Data Envelopment Analysis and Stochastic Frontier Analysis Model
7. The Side-by-Side Model

Using data from Hospital Compare, the paper goes on to explore the similarities and differences of the models and the implications for their use. The paper notes current challenges to efficiency measurement such as the implications for how measures are weighted within a model, the potential for erroneous conclusions about provider efficiency if the relationship between resource use and quality measures is not well defined.

Additionally, the paper explores potential use cases such as public reporting or pay-for-performance for the models and explores principles that could be applied to combining cost and quality measures for different use cases. The authors note that the selection of a model could depend on a specific use case and that there may be trade-offs that should be considered when selecting a model.

Finally, the authors and the Panel explored a number of potential paths forward for efficiency measurement and the implications for NQF in this space including:

- Requesting that developers of cost or resource use measures specify a link with quality measures;
- Requiring that developers of performance measures specify a link with corresponding quality or cost measures;

- Creating a separate endorsement process for efficiency measures that link cost and quality measures;
- Using the Measures Application Partnership (MAP) to advance the linking of cost and quality measures.

These options are not mutually exclusive and NQF could pursue one or more of them to begin to advance the rigor of efficiency measurement.

COMMENTS AND THEIR DISPOSITION

NQF received about 40 comments on the draft report from seven NQF member organizations and members of the public. NQF staff identified the major themes expressed in the comments:

1. Need for transparency and scientifically sound methods
2. Need for improved measure methodology for both cost and quality measures
3. Strengths, weaknesses, and use cases for each model
4. Implications for the NQF endorsement process

Panel discussion of these themes is summarized below.

1. Need for transparency and scientifically sound methods

Several commenters noted the need for transparency and scientifically sound methods when evaluating efficiency. Commenters discussed the importance of transparency of the cost and quality measures included in the model and their specifications, the model being used to bring cost/quality together, the scoring algorithm/ weighting scheme, and the results used in the accountability application (tiering, payment, etc.). Further, commenters highlighted the importance of aligning measure specifications and the impact of weighting on correlation coefficients.

- *Panel response: The panel stressed the importance of ensuring efficiency measurement is reliable and valid. The panel along with the authors discussed that whenever possible, it is preferable to harmonize the specifications of the cost and quality indicators used to measure efficiency. This includes measuring cost and quality for comparable populations of patients, for the same time intervals of measurement, and the methods used to risk adjust for cost and quality outcomes.*

Additionally, the panel agrees that efficiency measurement should be transparent in regards to the elements noted above. The authors of the commissioned paper stressed the importance of transparency in the model used to link cost and quality, the scoring algorithm, and the weighting scheme. This is discussed in some length in the section five of the commissioned paper.

2. Need for improved measure methodology for both cost and quality measures

Several commenters noted the need for improved measurement methodology and greater standardization of cost measurement. Commenters raised issues such as the data challenges involved in calculating outcome quality measures.

- *Panel Response: The panel agrees with the need for greater standardization of cost measurement to assess efficiency. Improved measure methodology and development in*

various types of cost/resource use measurement is needed, in particular episode-based and per-capita based cost/resource use measurement. The panel generally agreed that endorsement of the various approaches is needed to ensure standardization. However, the group also recognizes that cost is influenced by stakeholder perspective and various approaches may be needed and appropriate. Finally, the panel agrees with the importance of developing and using outcome measures that are important to patients, and in developing efficiency measures. The panel is encouraged by the development of patient-reported outcomes, and outcome measurement using emerging data sources, but also recognizes that data challenges currently exist do exist.

3. Strengths, weaknesses, and use cases for each model

A number of commenters requested that the paper present the strengths and weaknesses of each model as well as guidance for selecting a model.

- *Panel Response: The authors of the commission paper found a lack of evidence on the statistical properties of each model and agreed it would be premature to make a strong statement about their relative merits. During the post comment call, the Panel and the authors explored potential ways to enhance the information provided about strengths and limitations of different models for different use cases. The paper will be revised to include the findings of an expanded literature search, additional analyses, and key informant interviews in response to the commenters.*

The panel appreciates the suggestion and acknowledges the importance of future work to identify clear guidance for the applications of a particular model when additional evidence is available.

4. Implications for the NQF endorsement process

Commenters asked for greater clarity about the potential role of NQF in evaluating efficiency measurement. Commenters suggested that NQF review the methodology used to link cost and quality measures, specifically the weighting methodology and the model used for different use cases to facilitate greater transparency. Others cautioned against overly prescriptive approaches to ensure flexibility and innovation.

- *Panel Response: The Panel agreed there is a need for NQF to evaluate efficiency measures to ensure transparency and scientific acceptability. The paper has been revised to include a number of possible paths forward for NQF review of efficiency measures. As a starting place, information could be requested in the submission form from resource use measure developers to identify, describe and provide rationale for quality measures to which the resource use measure could be linked. The usability criteria could be used to evaluate if a resource use measure is linked to a quality measures, adequacy of the rationale and whether there is alignment of the key components of the measures such as measure population and risk adjustment). The Panel encourages NQF to consider the various implications for endorsement identified by the panel and the paper authors.*

CSAC DISCUSSION: Implications for Endorsement

The Expert Panel and the authors raise several potential paths for NQF to consider for the evaluation of efficiency measures and/or measurement approaches. These options include:

1. Update the NQF submission form to allow measure developers to submit their plan for linking their cost/resource use measure with quality measures.

Considerations: This path may encourage measure developers to develop a plan for how the measures will be linked to develop an efficiency signal. However, measure developer may not have control over how the measure is used or implemented. Further, measure developers would consider this an additional burden.

2. Encourage measure developers submitting quality measures to submit their plan for linking cost measures

Considerations: Similar to option 1, this path would encourage measure developers to develop a plan for how the quality measures align with cost measures. While this option would provide symmetry to option 1, it is unlikely that measure developers would be willing to provide a plan for each of their endorsed quality measures.

3. Add a sub criterion under usability to evaluate the rationale for which quality measures are linked with cost measures.

Considerations: This is stronger than the option 1 and 2, since Standing Committees will be evaluating the plan to link cost and quality measures. This evaluation might include assessing the degree to which the two measure types are aligned, how well the quality measures account for potential negative unintended consequences, etc.

4. Develop a process and/or criteria to endorse the methodology used by program implementers to link cost and quality measures to develop a summary score? (e.g. endorsement of the VBP scoring methodology).

Considerations: There is limited transparency to the current methodologies for linking cost/quality signals by program implementers and often specific methodologies are propriety. Increasing transparency and multi-stakeholder review of these methods would allow consumers, purchasers, and others to understand how providers are rated, tiered, or otherwise assessed for their performance on cost and quality measures. However, program implementers do not currently submit this type of information for endorsement and there may be limited incentive to do so.

NEXT STEPS:

Using the guidance and recommendations from both the CSAC and the Expert Panel, the authors will revise the white paper. If CSAC determines there is a need for NQF to evaluate efficiency measures, NQF staff will use the guidance and recommendations from the CSAC to develop a process to operationalize this review.



Appendix A: Linking Cost and Quality Expert Panel Roster

Joyce Dubow (Co-Chair)

AARP, Washington, DC

Carole Flamm, MD, MPH (Co-Chair)

Blue Cross and Blue Shield Association, Chicago, IL

Peter Almenoff, MD FCCP

Department of Veterans Affairs, Kansas City, KS

Steven Asch, MD, MPH

Center for Innovation to Implementation, Palo Alto VA, Palo Alto, CA

Larry Becker

Xerox Corporation, Rochester, NY

David Cohen, MD, MSc

Saint Luke's Mid America Heart Institute, Kansas City, MO

Mary Cramer, MBA, CPHQ

Massachusetts General Hospital / Massachusetts General Physician Organization, Boston, MA

Christine Goeschel, ScD, MPA, MPS, RN, FAAN

MedStar Health, Columbia, MD

Donald Likosky, PhD

University of Michigan, Ann Arbor, MI

Timothy Lowe, PhD, MSW

Premier, Inc., Charlotte, NC

Catherine MacLean, MD, PhD

WellPoint, Inc., Newbury Park, CA

Jack Needleman, PhD

University of California Los Angeles, Fielding School of Public Health, Los Angeles, CA

Steven Pantilat, MD, FAAHPM

UCSF Palliative Care Leadership Center, San Francisco, CA

Kimberly Rask, MD, PhD

Alliant Health Solutions, Atlanta, GA

Iyah Romm

Massachusetts Health Policy Commission, Boston, MA



Matthew Rousculp, PhD, MPH

GlaxoSmithKline, Research Triangle Park, NC

Dennis Scanlon, PhD

The Pennsylvania State University, State College, PA

Jeremiah Schuur, MD, MHS, FACEP

Brigham and Women's Hospital, Boston, MA

Jeffrey Silber, MD, PhD

Children's Hospital of Philadelphia, Philadelphia, PA

Alan Speir, MD

Inova Health System, Falls Church, VA

Joe Stephansky

Michigan Health & Hospital Association, Okemos, MI

Herbert Wong, PhD

Agency for Healthcare Research and Quality, Rockville, MD

Gregory Wozniak, PhD

American Medical Association, Chicago, IL

Gary Young, JD, PhD

Northeastern University, Boston, MA

White Paper Authors:

Andrew Ryan, PhD

Christopher Tompkins, PhD

Jayne Mendelsohn, MPH

NQF Staff:

Helen Burstin, MD, MPH

Chief Scientific Officer

National Quality Forum

Taroon Amin, MA, MPH

Special Assistant to the President and CEO

National Quality Forum

Ashlie Wilbon, RN, MPH

Managing Director

Quality Measurement



NATIONAL
QUALITY FORUM

Erin O'Rourke

Senior Project Manager
Quality Measurement

Vy Luong

Project Analyst
Quality Measurement