NATIONAL QUALITY FORUM

Meeting Summary

Chief Complaint-Based Quality of Emergency Care Committee In-Person Meeting Day 1

The National Quality Forum (NQF) convened a two-day, in-person meeting for the Chief Complaint-Based Quality of Emergency Care Committee on January 28 and 29, 2019.

Welcome, Roll Call, Disclosures of Interest, Review of Agenda and Project Scope

Ashlie Wilbon, NQF Senior Director, welcomed the Committee. She provided opening remarks and reviewed the agenda and meeting objectives:

- Develop a chief complaint measurement framework
- Identify and prioritize measurement gaps and concepts
- Develop guidance for advancing chief complaint standardization
- Develop guidance for development of chief complaint-based measures
- Develop recommendations to advance science, development, and implementation of chief complaint measures

Elisa Munthali, NQF Senior Vice President, then called on each Committee member to briefly introduce themselves and disclose any relevant interests related to the project activities.

The objectives for day one of the meeting included:

- Develop Chief Complaint Measurement Framework
- Identify measure concepts for future development
- Establish criteria for prioritizing measure concepts for development

Chief Complaint Measurement Framework

Dr. Jesse Pines, an NQF consultant, provided an overview of the goals of the first session of the meeting dedicated to development of a measurement framework to guide chief complaint measure development. The framework is intended to represent a conceptual model for organizing ideas about what is important to measure for a topic area and how measurement should be conducted. As an example, he shared the NQF Diagnostic Accuracy Framework.

Dr. Pines reviewed the Committee's working definitions for chief complaint-relevant terms and presented a corresponding draft measurement framework. Terms with working definitions included chief complaint, reason for visit, presenting problem, and clinical syndromes.

The initial draft framework sought to represent an emergency department (ED) episode of care and consisted of a set of three concentric circles representing the relationship between chief complaints, presenting problems, and clinical syndromes, which are established upon

presentation in the ED. This was followed by a set of three linear boxes representing evaluation and work-up, diagnosis and treatment, and discharge and disposition. A table of possible process and outcome measurement domains was also included for Committee consideration.

Arjun Venkatesh, Committee Co-chair, facilitated Committee discussion of the figure to solicit feedback. Committee members suggested restructuring the figure to capture the evolution and iterative process of clinical problem formulation from presenting problems to clinical syndromes. Some also proposed restructuring the measurement domains to reflect three measurement lenses: patient-level, public health, and population level.

Dr. Venkatesh redirected the conversation to chief complaint measurement domains. He asked the Committee to provide feedback on the existing list of domains. Committee members suggested the inclusion of the following domains: diagnostic process, timeliness, disposition, and transfers. They also suggested including the term "unexpected" before "mortality" and "return visit to ER."

Chief Complaint Standardization and eCQMs

Ms. Wilbon presented the current landscape of chief complaint nomenclature standardization. There currently is no standard nomenclature for capturing chief complaints for any use case. Ms. Wilbon discussed the required steps for chief complaint standardization. This process involves cleaning data at the point of entry through natural language processing or autocomplete; matching this data to vocabulary on a standard list, such as HaPPy, CCC-EDS, or UMLS; and finally, mapping this vocabulary to a standard code set, such as SNOMED-CT or ICD-CM.

Ms. Wilbon then provided an overview of electronic clinical quality measures (eCQMs) and data requirements for specifying these measures. The Committee was asked to discuss the feasibility or potential for specifying chief complaint-based measures as eCQMs. The Committee generally agreed that future chief complaint measures should be specified as eCQMs.

Opportunity for Public Comment

Ameera Chaudhry, NQF Project Analyst, opened the meeting to public comment. No public comments were offered.

Discussion of Measurement Gap Areas

Dr. Pines reviewed measurement gap areas identified to date. NQF staff collected a total of 69 measure concepts through a Committee survey process and environmental scan. The Appropriateness domain contained the most measure concepts, followed by Care Coordination, Diagnostic Accuracy, Shared Decision Making, and Utilization/Cost.

Dr. Venkatesh then facilitated discussion on the measure concepts and solicited Committee input on whether topics represented in the measure gaps should be prioritized for further concept development, if certain gaps should be prioritized for children, and the challenges to

addressing measure gaps. In addition to the acute, undifferentiated complaints currently captured in the Committee's discussions to date, the Committee agreed that future measure concepts should include exacerbations of chronic conditions like sickle cell anemia and hypertension.

Breakout Groups: Prioritization of Measure Gaps and Concepts

The Committee discussed how chief complaint measures should be prioritized for development and when development of a chief complaint-based measure would be more beneficial than a diagnosis-based measure. The Committee agreed that chief complaint measures should not replace current diagnosis-based measures used to measure quality in the ED, but should complement them to provide a comprehensive picture of the ED episode of care. The prioritization criteria for ranking measure gaps and concepts included:

- Representation of a quality problem (Importance):
    - Conditions where diagnostic quality and safety are major concerns (i.e., if missed/major harm to patient)
    - High-cost work-ups/evaluation/episodes of care
    - Affects many people (frequent chief complaints)
    - Suspected overuse (e.g., imaging overuse, inappropriate use)
    - Known poor quality care or outcomes
    - Known gap in measurement
- Feasibility of systematic capture of standardized data elements
- Conditions/complaints with clinical guidelines, data, and adequate research to support quality measurement
- Conditions/complaints with clinical guidelines, data, and adequate research to support quality measurement; and to whom chief complaints are the correct characterization
- "Gameability" is low
- Applicability to multiple populations, care settings (e.g., urgent care, retail clinic, primary care)
- Valuable to patients
- Useful to payers, useful in public policy

The Committee was divided into four groups to discuss and prioritize measure gaps and concepts. Each group focused on a subset of measurement domains and reported the top five measure concepts in each assigned domain to the full group. Each group reviewed concepts identified within assigned domains, identifying additional concepts as relevant, and ranking concepts within each domain using the prioritization the criteria as guidance.

- Group 1: Appropriateness (work-up/evaluation)/Diagnostic process/Effective care, Care coordination, Timeliness
- Group 2: Patient Experience, Patient informed outcomes, Patient-reported outcomes, Shared decision making
- Group 3: Cost of care, Transfer rates, Utilization
- Group 4: Complications, Safety, Unexpected mortality, Diagnostic Accuracy

Opportunity for Public Comment

Ms. Chaudhry opened the meeting to public comment. No public comments were offered.

Summary of the Day

Margaret Samuels-Kalow, Committee Co-chair, summarized the topics discussed throughout the day.

Chief Complaint-Based Quality of Emergency Care Committee In-Person Meeting Day 2

Welcome and Recap of Day 1 Key Takeaways

Ms. Wilbon welcomed the Committee. She reviewed the purposes and goals of the meeting for the day, which were to:

- Understand NQF criteria and guidance for eMeasures
- Identify challenges with developing chief complaint eMeasures
- Provide guidance and recommendations for addressing measure development challenges
- Rank concepts for measure development
- Provide recommendations and guidance for advancing chief complaint-based measurement and adoption of recommendations

Ms. Wilbon then reviewed the framework conversation from day 1 and presented five draft measurement frameworks that Committee members submitted prior to the day 2 meeting. The Committee agreed to build on the draft depicting chief complaints as a series of boxes split up based on provider and patient perspectives and incorporating measure domains in external lanes.

Challenges with Chief Complaint Measurement and Development

Dr. Pines led a discussion of three chief complaint-based performance measures that NQF reviewed and that ultimately lost endorsement to help the Committee further understand and identify current challenges with specifying and testing chief complaint-based measures. The three measures were:

- Pregnancy Test for Female Abdominal Pain Patients (NQF 0502)
- Aspirin on Arrival (NQF 0286)
- Patient(S) with an Emergency Medicine Visit for Non-Traumatic Chest Pain That Had an ECG (NQF 0665)

Each measure lost endorsement for different reasons, and the Committee discussed how these challenges might impact future chief complaint measure development.

Application of the NQF Evaluation Criteria to Chief Complaint-Based Measurement

Ms. Wilbon provided an overview of the NQF evaluation criteria and how they align with best practices for measure development.

Importance: Evidence, Opportunity for Improvement

Ms. Wilbon reviewed the first endorsement criterion: Importance to Measure and Report. She explained how importance is evaluated based on measure evidence and the opportunity for improvement. Ms. Wilbon then provided guidance on evidence grading at NQF. She then invited Committee discussion on the challenges that exist for supporting chief complaint measures with adequate evidence.

Given the limited research, guidelines, and direct evidence to support chief complaint-based care, the Committee agreed that providing adequate evidence to support chief complaint-based measure concepts will be a significant challenge. For future chief complaint-based measures that enter the NQF process, the Committee agreed that the evidence exception built into the current NQF evaluation criteria would need to be applied to these measures.

Scientific Acceptability: Reliability and Validity

Ms. Wilbon presented the second endorsement criterion: Scientific Acceptability, which includes reliability and validity. The Committee was then asked to assess key challenges with demonstrating reliability and validity of chief complaint-based measures.

The Committee noted the lack of external pressure to capture presenting problems, as an accurate representation of the patient's words could impact reliability. The Committee noted tests of inter-rater reliability among nurses could be conducted to address data element reliability; however, these methods are time and resource intensive. The Committee agreed that the most feasible way to demonstrate reliability of the chief complaint data elements was to assess the correlation or agreement between the chief complaints and the discharge diagnoses. The Committee expressed similar concerns with demonstrating validity but agreed that the current NQF criteria could be applied to chief complaint measures. The Committee discussed that the overarching challenge of demonstrating validity lies in the representation of the patient's own words in the measure construct (i.e., is the measure capturing patients that reported a chief complaint of abdominal pain?).

Feasibility

Jean-Luc Tilly, NQF Senior Project Manager, reviewed the third endorsement criterion: Feasibility. This criterion considers the extent to which required data are readily available, retrievable, and implementable. Mr. Tilly reviewed the eCQM Feasibility Scorecard, an NQF tool used to assess feasibility over several domains, including data availability; data accuracy, and completeness; data standards (access to structured and coded data); and workflow.

Committee members discussed the four feasibility scorecard domains and how they impact chief complaint-based measures. The Committee concurred with the existing standard for the feasibility of eCQMs as applied to chief complaint-based measures, noting that at least two test sites and feasibility assessments for each data element are essential components of ensuring the feasibility of the performance measure.

Usability

Mr. Tilly presented the fourth endorsement criterion: Usability and Use. This criterion guides evaluation of the extent to which potential audiences 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.

The Committee agreed that this criterion can be applied to chief complaint measures with an attention to the usability of measure results to patients, as the measure construct is based on the patient's reported symptoms.

Final Prioritization of Measure Gaps and Concepts

Committee members used green and yellow dot-stickers to vote for measure concepts that were discussed during the previous day's breakout session. This was done to prioritize the top 20 concepts for development across all domains. Green dots were placed next to concepts that Committee members considered important, feasible, and ready for development. Yellow dots were placed next to concepts that were considered important but not yet feasible. Preliminary results of the Committee prioritization activity are listed below. These lists will continue to undergo refinement on the upcoming webinar and with further NQF staff analysis.

The top five concepts considered important, feasible, and ready for development are listed below:

Ranking	Description	Measurement Domain
1	Prescription of opioids to patients with presenting problem of back pain	Appropriateness (treatment)
2	Prescription of over-the-counter or prescription cough medicine for patients with a presenting problem of cough	Appropriateness (treatment)
3	Patients with presenting problem of dizziness that receive a falls assessment	Shared decision making
4	Pediatric patients with presenting problems of cough and sore throat receiving antibiotics	Utilization/cost
5	Rate of missed stroke diagnosis among patients with presenting problems of headache and dizziness	Diagnostic accuracy

The top five concepts considered important but not yet feasible are listed below:

Ranking	Description	Domain
1	Patients presenting with a behavioral chief complaint (e.g., depression, attempted suicide) that are discharged with a structured suicide risk assessment	Appropriateness (work-up/evaluation)
2	Use of shared decision making to guide evaluation in patients with presenting problem of low-risk chest pain (low-moderate risk using tool)	Shared decision making
3	Shared decision making on the use of imaging for patients with presenting problem of head injury	Shared decision making
4	Episode-based cost for patients with presenting problem of a traumatic low-risk chest pain	Utilization/cost
5	Episode-based cost for patients with presenting problem of low-risk abdominal pain	Utilization/cost

Opportunity for Public Comment

Ms. Chaudhry opened the meeting to public comment. No public comments were offered.

Recommendations for Advancing Standardization, Measurement Development, and Implementation of Chief Complaint Measures

Dr. Samuels-Kalow facilitated discussion on ways to advance chief complaint-based standardization and measurement development. Several recommendations emerged around organizations that should be engaged to collaborate on advancing standardization and helping to drive implementation of the Committee's recommendations. Some of the potential

collaborators recommended by Committee members included the Office of the National Coordinator (ONC), Emergency Nurses Association (ENA), American College of Emergency Physicians (ACEP), and Health Level 7 (HL7). The Committee agreed that successful advancement of this work among emergency departments, health systems, and measure developers would require a systematic change to implement standardized capture of chief complaints within established infrastructure such as through EHR certification standards, the Quality Data Model (QDM), and HL7's Data Elements for Emergency Department Systems (DEEDS).

Opportunity for Public Comment

Ms. Chaudhry opened the meeting to public. No public comments were offered.

Next Steps

The meeting closed with an overview of the next steps and upcoming project milestones. The NQF team will be working to refine the framework for the Committee to discuss on its upcoming webinar on February 20, 2019. During that webinar, the Committee will provide feedback on the outline of the draft report. NQF staff will also share the results of the Committee's prioritization of measure concepts for development and seek final input on the list of concepts to be included in the report.