NATIONAL QUALITY FORUM

Chief Complaint-Based Quality of Emergency Care

Committee In-Person Meeting Day 1

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January 28, 2019

Welcome and Introductions

National Quality Forum Project Staff

- Ashlie Wilbon, Senior Director
- Jean-Luc Tilly, Senior Project Manager
- Ameera Chaudhry, Project Analyst
- Elisa Munthali, Senior Vice President
- Jesse Pines, Consultant

Welcome

- **Restrooms**
  - Exit main conference area, past elevators, on right.
- **Breaks**
  - 10:15am & 2:45pm – 15 minutes
  - 12:30pm – Lunch provided by NQF
- **Laptops and cell phones**
  - Wi-Fi network
    - User name: **guest**
    - Password: **NQFguest**
  - Please mute your cell phone during the meeting
- **Public comment period**
  - Dedicated times for public comment
  - Comment via chat box at any time, and comments will be shared during dedicated times

Committee

- Margaret Samuels-Kalow, MD, MPhil, MSHP (Co-Chair)
- Arjun Venkatesh, MD, MBA, MHS (Co-Chair)
- Nishant “Shaun” Anand, MD, FACEP
- Jennifer Bacani McKenney, MD, FAAFP
- Stephen Cantrill, MD, FACEP
- Emily Carrier, MD, MSc
- Patrick Dolan, MD
- Richard Griffey, MD, MPH, FACEP
- Helen Haskell, MA
- Steven Horng, MD, MMSc, FACEP
- John Keats, MD, CPE, CPPS, FACOG, FAAPL
- Naghma Khan, MD
- Kevin Klauer, DO, EJD, FACEP
- Joseph Kunisch, PhD, RN-BC Informatics, CPHQ
- Jamie Lehner, MBA, CAPM
- Michelle Lin, MD, MPH, MS
- James McClay, MD, MS, FACEP
- Abhishek Mehrotra, MD, MBA, FACEP
- Gregg Miller, MD, FACEP
- Sofie Morgan, MD, MBA
- David Morrill
- David Newman-Toker, MD, PhD
- David Thompson, MD, FACEP
- Anita Vashi, MD, MPH, MHS
- Andrew Zinkel, MD, MBA

Review of Agenda, Goals, Project Scope and Approach

Meeting Objectives

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

Scope and Approach

With the goal of advancing measurement science, development and implementation of chief complaint-based measures:

- What measures are needed to improve chief complaint-based quality measurement?
  - *Scan and catalogue existing chief complaint measures and concepts*
  - *Identify current chief complaint measurement gaps*
  - *Prioritize measure concepts for development*
- What data elements needed for chief complaint-based quality measurement?
  - *Consensus on terminology and definitions*
  - *Identify data elements and which should be standardized (i.e., how should they be collected)*
- How should those standardized data elements be used in chief complaint measures?
  - *Guidance and considerations for measure development*

Scope and Approach

With the goal of advancing measurement science, development and implementation of chief complaint-based measures:

- How should those data elements be standardized?
  - *Scan and catalogue existing approaches for standardization*
  - *Explore strengths and weaknesses of existing nomenclature/ontologies and approaches for standardizing chief complaints*
  - *Understand the barriers to implementing a standard nomenclature*
  - *Provide guidance for selecting an approach for standardizing chief complaints*
- What is the pathway to more widespread development and implementation of chief complaint-based measures?
  - *Develop a measurement framework*
  - *Recommendations for future work, research*

Purpose and Goals for Today

- Develop Chief Complaint Measurement Framework
  - *Identify and define measurement domains*
- Identify measure concepts for future development
- Establish criteria for prioritizing measure concepts for development

Chief Complaint Measurement Framework

Session Goals

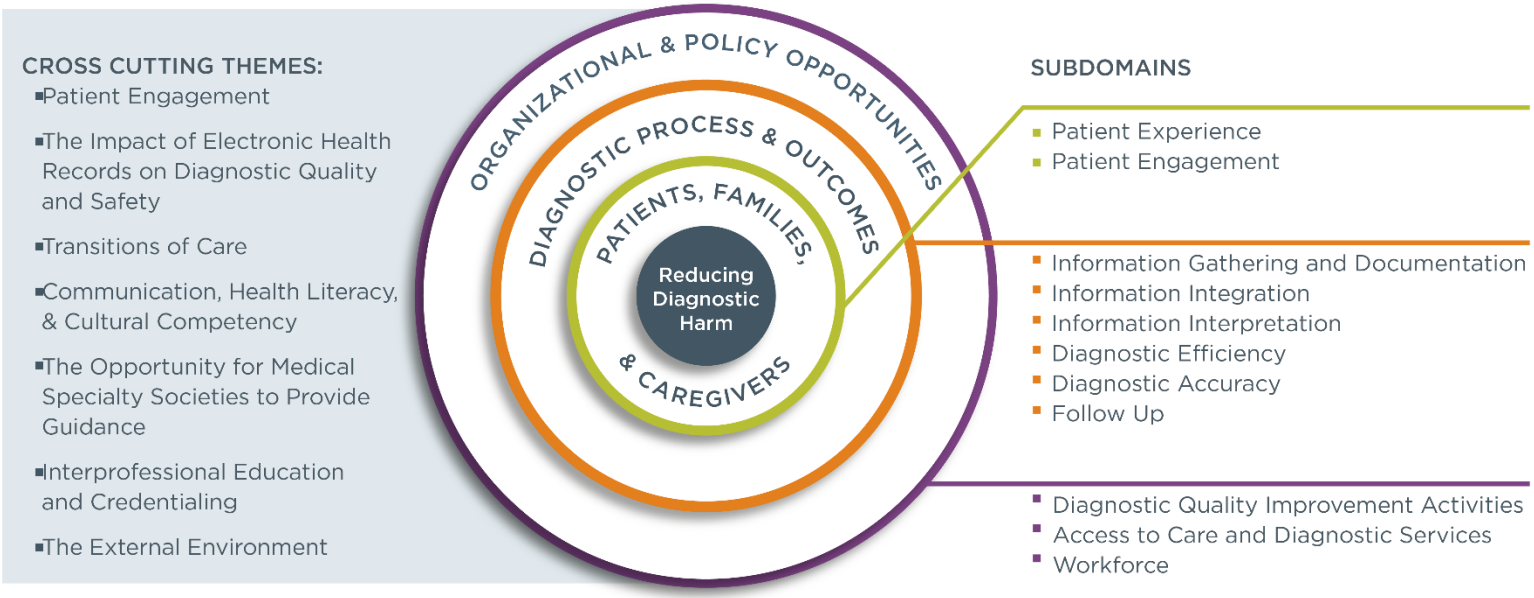
- Build and refine chief complaint measurement framework
  - *Identify and refine elements for inclusion in the framework model*
  - *Identify measurement domains*

What is a Measurement Framework?

- A conceptual model for organizing ideas about what is important to measure for a topic area and how measurement should take place
- A future-facing document containing both existing and aspirational components
- Built on existing literature and expertise, but not bound by current publications

Prior Related NQF Work: Diagnostic Accuracy Framework

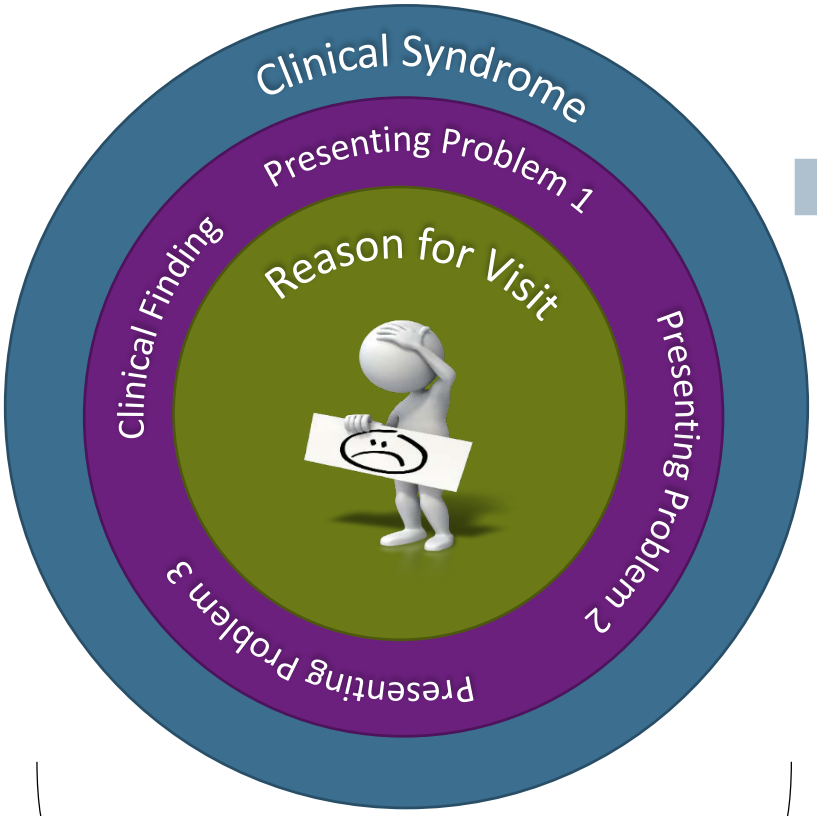
Diagnostic Quality and Safety Framework



Working Definitions

- **Chief complaint**
  - *A concise statement describing the symptom, problem, condition, diagnosis, or other factor that is the reason for the encounter, usually stated in the patient's words [CPT codebook]*
  - *The patient's reason for seeking care or attention in the emergency department, captured by a clinician at initial presentation [Haas, et al.]*
- **Reason for visit**
  - *The patient's motivation for seeking medical care and his perspective on the problem or reason for visit [NCHS]*
- **Presenting problem**
  - *A provider's clinical interpretation of the patient's reported symptoms [Horng, et al.]*
- **Clinical syndrome**
  - *A constellation of symptoms, combined with risk factors and demographic characteristics of a patient (e.g., age and gender) [Handbook of Biosurveillance]*
  - *The combination of presenting problems with patient demographics, other risk factors, and other clinical data (e.g., vital signs)*

Draft Chief Complaint Measurement Framework



Chief Complaint

Test Results; MD Eval

Evaluation and Workup → Diagnosis & Treatment → Discharge & Disposition

Measurement Domains		
	Process	**Utilization** **Appropriateness/overuse** **Shared decision making** **Care coordination**
	Outcome	**Hospital admission** **Return visit to ER** **Mortality** **Missed diagnoses** **Complications** **Costs of care** **Patient Experience** **Patient-reported outcomes** **Diagnostic accuracy** **Safety - (medical error)**

Data Elements	Capture	Data	ACS Example
Chief complaint/ reason for visit	Collect in free text field in patient's (parent's) own words	Unstructured/ structured	Patient's words: "My chest hurts and I'm having trouble breathing"
Presenting Problem	Captured by healthcare provider based on patient-reported symptoms	Structured selection from standard vocabulary list and/or mapped codes (ICD, SNOMED)	Nurse documents: • Chest pain • Shortness of breath
Clinical syndrome (e.g., presenting problem + presenting problem + age + gender + physical exam/vital signs, etc.)	Combine presenting problems with other data element as the basis for measure population (i.e., denominator) for quality measurement	Structured clinical data, demographic data, presenting problem codes	Clinical syndrome: Suspected ACS Denominator: Chest pain + shortness of breath + age >50 + male OR Denominator 2: Age >50+ male + troponin labs ordered + EKG

Chief Complaint Measurement Domains

- Process Measurement Domains
  - *Appropriateness (of treatment or work up)/Overuse*
  - *Shared decision making*
  - *Care Coordination*
- Outcome Measurement Domains
  - *Hospital Admission*
  - *Return visit to ER*
  - *Mortality*
  - *Missed diagnoses*
  - *Diagnostic accuracy*
  - *Diagnostic uncertainty*
  - *Costs of care/utilization*
  - *Patient Experience*
  - *Patient-reported outcomes/patient informed outcomes*
  - *Complications*
  - *Safety (medical error)*

Break

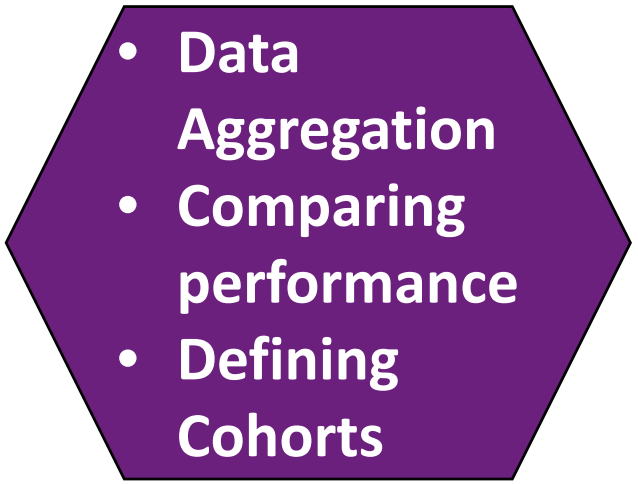
Chief Complaint Standardization

Session Goal

Build on environmental scan findings, existing recommendations, and prior related work to provide recommendations and guidance for implementing standardized chief complaint data capture

Standardized Chief Complaints—Use Cases

- Use cases for standardizing CC
  - *Primary*
    - » Emergency department documentation
    - » ED operations
    - » Clinical decision making
  - *Secondary*
    - » ***Performance improvement (accountability)***
      - Benchmarking
    - » Internal QI
    - » Syndrome surveillance
    - » Research
    - » Education



When is standardization needed?

1. At the point of entry (data clean-up)
    a. *Natural language processing*
    b. *Autocomplete*
2. Match to vocabulary on standard list
    a. *HaPPy*
    b. *CCC-EDS*
    c. *UMLS*
3. Map to standard code set
    a. *SNOMED-CT*
    b. *ICD-CM*

Current Landscape of Chief Complaint Standardization

- There is no standard nomenclature for capturing chief complaints for any use case
- Customer-driven, customized EHRs with variations practice for capturing (and using) chief complaint or reason for visit data
- Multiple technologies and approaches for standardizing CC data
  - *Commercial and open source systems available*
- SNOMED-CT vs. ICD-CM
  - *SNOMED: EHR code set*
  - *Potential for ICD-11 SMoL for Chief Complaints*

Challenges and Barriers to Adoption and Implementation of a Standard Nomenclature

- Lack of incentive for widespread adoption
- Chief complaint and reason for visit data is generally only used by providers for a short period of time and is specific to the ED
- Provider burden to complete additional fields
- Variation in institutional (and provider) practice and (customized) system use
- Building consensus on a standard nomenclature (and maintenance once implemented)
- Varying needs and tolerance for specificity of CC elements based on use case (i.e., triage, quality measurement, research, surveillance)

Prior Recommendations for Development, Implementation, and Maintenance of CC Vocabulary

1. *Develop a controlled vocabulary for CC*
2. *Obtain funding sources for development and maintenance*
3. Establish infrastructure and organization for supporting development and maintenance of a vocabulary
4. **Work with standard setting organizations (HL7, DEEDS)**
5. **Address required CC vocabulary characteristics needed by all users**
6. Create collection of CC data for use by vocabulary researchers
7. *Validate the vocabulary*
8. Establish beta test sites for new vocabulary
9. **Plan publicity, marketing, cooperation, and adoption of the vocabulary**

[Haas, et al. *Academic Emergency Medicine*. 2008;15:476–482]

Suggested Characteristics of a CC Vocabulary

1. Controlled concepts
2. Have face validity, reliable (reproducible, generalizable, practical, sharable, clinically relevant)
3. Facilitates clinical work flow
4. Scalable, extensible, interoperable
5. Sufficient granularity
6. Easily adoptable (usability, affordability)
7. Add minimal data entry requirements
8. Be based on established vocabulary principles

[Haas, et al. *Academic Emergency Medicine*. 2008;15:476–482]

Suggested Criteria for Selecting a Chief Complaint Classification System

- Accuracy of the algorithm
- Validity of algorithm
- Comprehensiveness of algorithm
- Correct identification of patients
- Utility of classification scheme
- Ability to integrate additional clinical data

Husk G, Akhtar S. Chief complaints, emergency department clinical documentation systems, and the challenge of dealing with the patient's own words. *Acad Emerg Med*. 2007;14(1):69-73.

Committee Discussion: Guidance for the Path to Chief Complaint-Based Quality Measurement

- How should a health system go about choosing the right vocabulary for their purposes (including quality measurement)?
  - *Are there additional considerations for selecting a vocabulary?*
  - *Are there certain vocabularies that best support quality measurement?*
- SNOMED vs. ICD:
  - *For the purposes of quality measurement, does SNOMED or ICD lend itself to better measurement for chief complaint-based quality?*
  - *Should one code set be preferred over another for specifying chief complaint-based measures?*
  - *Are there any feasibility considerations for specifying measures with SNOMED vs. ICD?*
- What is the feasibility of selecting and implementing a single vocabulary for universal adoption? Is it necessary to select a single vocabulary?

Public Comment

Lunch

Lunch Activity

Sign up for a breakout group!

Discussion of Measurement Gap Areas and Prioritization Criteria

Session Goals

- Assess chief complaint measure gaps using environmental scan findings
- Use breakout groups to focus on specific domains of measurement: identify and prioritize concepts for future development

Measure Gaps

Topics with No Measures Found in Scan	Number of New Measure Concepts Collected
Cold/Flu/Upper Respiratory Symptoms	1
Cough	1
Vomiting/Nausea/Diarrhea	1
Ataxia/Difficulty Walking	1
Eye Problems (including double vision/vision loss)	1
Ear Pain	0
Fever	5
Vertigo	0
Pregnancy Symptoms	3
Generalized Weakness/Malaise/Fatigue	1
Focal Weakness/Numbness	0
Extremity Pain	1
Urinary Symptoms	1

Review of Measure Concepts

- 69 total new measure concepts collected
- Number of concepts by domain

Domain	Number of New Measure Concepts Collected
Care Coordination*	6
Diagnostic Accuracy*	5
Disparities	1
Efficiency	1
Appropriateness	Treatment - 12
	Evaluation/work-up - 26
Patient Outcomes* (Discharge/Disposition)	4
Patient-Reported Outcome*	4
Shared Decision Making*	5
Utilization/Cost*	5

*Domains with fewer than five measures found in the environmental scan

Review of Measure Concepts

- Chief Complaints with the Most Measures Identified in the Environmental Scan

Chief Complaint	Number of Measures Found in the Scan	Number of New Measure Concepts Collected
Back Pain	14	3
Chest Pain	10	20
Head Injury	5	0
Abdominal Pain	3	5
Altered Mental Status	3	1

Review of Measure Concepts

- Which of the topics represented in the measure gaps should be prioritized for further concept development?
- Are there certain gap areas or other chief complaint topic areas that should be prioritized for children? Other special populations?
- What are the challenges/barriers for addressing these measure gaps (e.g., lack of evidence/consensus on best practice, small numbers/low incidence, low severity)
- Should chief complaints related to acute exacerbations of chronic disease (e.g., hypertension, diabetes) in the ED be included in this exercise of prioritizing chief complaint-based measure concepts? (Versus undifferentiated complaints)

Concept Review and Prioritization Activity

- Review concepts identified within assigned domains
- Identify additional concepts as relevant
  - *Additions should be guided by prioritization criteria*
- For each new concept
  - *Identify target population*
  - *Provide assessment of evidence (as needed) to support measure concept (NOTE: outcome measures do not need evidence)*
- Rank concepts within each domain
  - *Use prioritization criteria as guidance*

Each group should select:
- **Scribe (to take notes)**
- **Speaker (to report out to Committee)**

Group Report-Outs

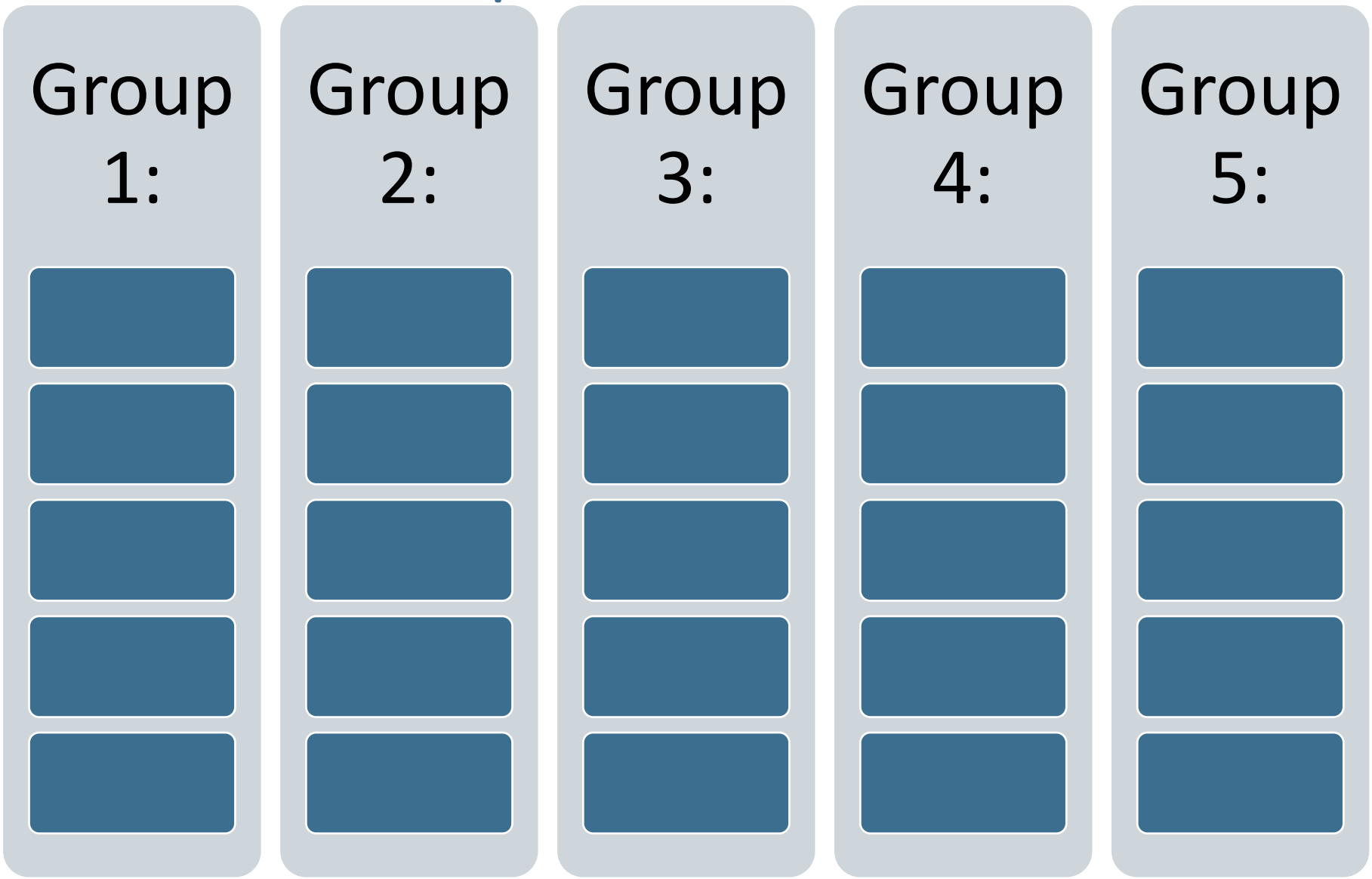
- Summary of concepts in each domain
  - *Total number of concepts reviewed and identified*
  - *Which chief complaints have the most concepts and why?*
  - *Which chief complaints have the least and why?*
- Describe the top 5 concepts within each domain and rationale for ranking
- Key themes, challenges, and takeaways

Prioritization of measure concepts

- Identify prioritization criteria:
  - *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
    - » 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*
  - *Undifferentiated complaints/conditions vs known mechanism of injury (e.g., substance use, trauma)*
  - *Conditions/complaints with clinical guidelines, data, and adequate research to support quality measurement*
  - *High frequency conditions*

What other criteria should be considered for prioritizing measure concepts?

Breakout Groups



Breakout Groups: Locations

- Group 1
- Group 2
- Group 3
- Group 4
- Group 5

Break

Breakout Groups

Group Report-Outs

Group Report-Outs

- Summary of concepts in each domain
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Public Comment

Summary of the Day

Questions?

NATIONAL QUALITY FORUM

Chief Complaint-Based Quality of Emergency Care

Committee In-Person Meeting Day 2

Ashlie Wilbon
Jean-Luc Tilly
Ameera Chaudhry
Jesse Pines

January 29, 2019

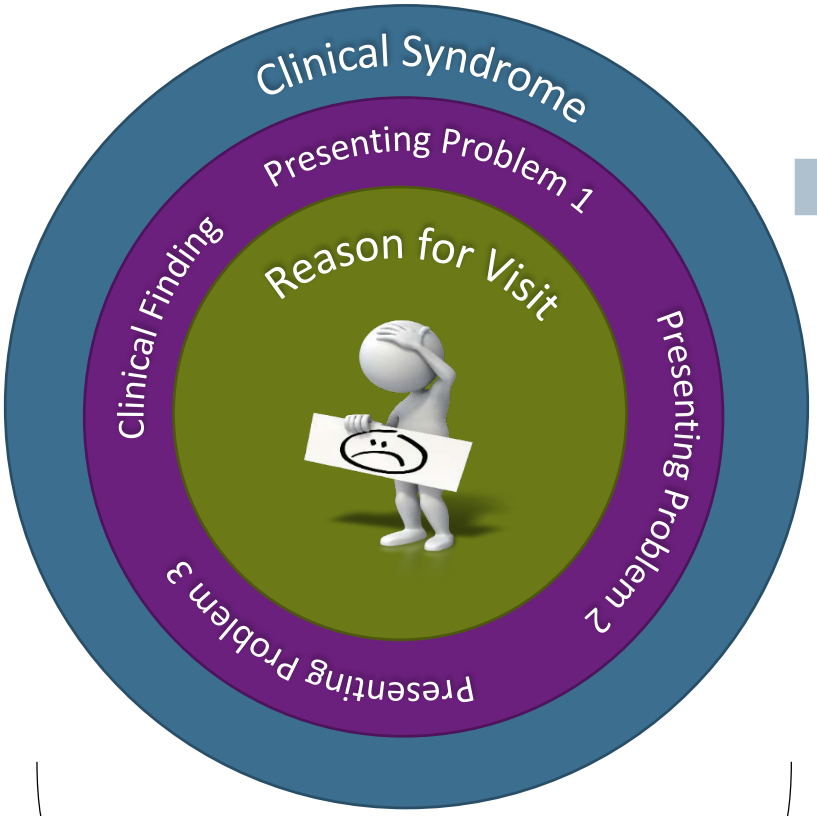
Welcome

Purpose and Goals for Today

- Understand NQF Criteria and guidance for eMeasures
- Identify challenges with developing CC 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

Recap Day 1

Draft Chief Complaint Measurement Framework



Chief Complaint

Test Results; MD Eval

Evaluation and Workup → Diagnosis & Treatment → Discharge & Disposition

Measurement Domains		
	Process	**Utilization** **Appropriateness/overuse** **Shared decision making** **Care coordination**
	Outcome	**Hospital admission** **Return visit to ER** **Mortality** **Missed diagnoses** **Complications** **Costs of care** **Patient experience** **Patient-reported outcomes** **Diagnostic accuracy** **Safety - (medical error)**

Challenges With Chief Complaint Measurement And Development

Session Goals

- Review real measures (submitted to NQF) to understand and identify current challenges with specifying and testing chief complaint-based measures
- Consider guidance for mitigating these challenges in future measure development

Chief Complaint Measure Review: Case Studies

- Previously endorsed measures
  - *Endorsement removed for different reasons*
- All are based on administrative claims (using discharge diagnosis)
- Topic areas
  - *Abdominal pain*
  - *Chest pain*
  - *Low back pain*

Example Chief Complaint Measure – Pregnancy Test for Female Abdominal Pain Patients (NQF 0502)

- Numerator: Number of patients in the denominator who have a pregnancy test (urine or serum) ordered in the ED
- Denominator: All women, ages 14 – 50 years old, who present to the ED with a chief complaint of abdominal pain.
- Endorsement Removed:
  - *Little data on performance gap*
  - *No data on how many ectopic pregnancies are identified by routine urinary pregnancy testing in the ER*
  - *Conflicting information on reliability and validity*

Example Chief Complaint Measure – Aspirin on Arrival (NQF 0286)

- Numerator: Emergency department AMI or chest pain patients (with probable cardiac chest pain) who received aspirin within 24 hours before ED arrival or prior to transfer
- Denominator: Emergency department AMI or chest pain patients (with probable cardiac chest pain) without aspirin contraindications
- Endorsement removed:
  - *Topped out with a minimal opportunity for improvement*
  - *Concerns about the reliability of capturing the 11 required data elements and specifically identifying patients with "probable chest pain"*

Example Chief Complaint Measure – Chest Pain (NQF 0665)

- Numerator: Patients who have an emergency medicine visit for nontraumatic chest pain, who had an electrocardiogram (ECG) during the event
- Denominator: Patients 40 years of age or older who have an emergency medicine encounter with a diagnosis of chest pain
- Endorsement removed:
  - *the developer elected not to maintain endorsement, as the measure was not in use*

Committee Discussion

- Based on the issues identified in these case studies, what are some examples of how these challenges might be addressed?
  - *What are some of the challenges that can be mitigated using standardized chief complaint data?*

Chief Complaint eMeasure Guidance

Session Goals

- Understand the elements necessary to define and build an eCQM
- Review NQF evaluation criteria as a framework for assessing challenges with chief complaint measure development
- Develop guidance for mitigating challenges based on NQF criteria

Chief Complaint Measures as Electronic Clinical Quality Measures (eCQMs)

- Chief complaint data is captured electronically by most EDs
- EHR enables systematic data aggregation and measure implementation, integration of other clinical data
- eCQMs enable lower provider and data collection burden when data elements are captured as processes of care

Overview of eCQMs

- A measure that is specified in the accepted standard health quality measure format (HQMF) and uses the Quality Data Model (QDM) and value sets vetted through the National Library of Medicine's Value Set Authority Center (VSAC).
- For all eMeasures: Reliance on data from structured data fields is expected; otherwise, unstructured data must be shown to be both reliable and valid

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

NQF Evaluation Criteria

- **Importance to measure and report**: Goal is to measure those aspects with greatest potential of driving improvements; if not important, the other criteria are less meaningful (**must-pass**)
- **Reliability and Validity-Scientific Acceptability of measure properties**: Goal is to make valid conclusions about quality; if not reliable and valid, there is risk of improper interpretation (**must-pass**)
- **Feasibility**: Goal is to, ideally, cause as little burden as possible; if not feasible, consider alternative approaches
- **Usability and Use** (Use **must-pass** for maintenance measures): Goal is to use for decisions related to accountability and improvement; if not useful, probably do not care if feasible

Importance: Evidence, Opportunity for Improvement

Criterion #1: Importance to Measure and Report

1. Importance to measure and report - Extent to which the specific measure focus is evidence-based and important to making significant gains in healthcare quality where there is variation in or overall less-than-optimal performance.

*1a. **Evidence**: the measure focus is evidence-based*

*1b. **Opportunity for Improvement**: demonstration of quality problems and opportunity for improvement:*

- *data demonstrating considerable variation*
- *overall less-than-optimal performance, in the quality of care across providers*
- *disparities in care across population groups*

NQF Evidence Guidance

- **Health outcome**: a rationale supports the relationship of the health outcome to processes or structures of care.
- **Process/intermediate clinical outcome**: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence that the measured process/intermediate clinical outcome leads to a desired health outcome.
- **Patient-reported outcome-based performance measures (PRO-PMs):** in addition to evidence required for any outcome measure, evidence should demonstrate that the target population values the measured PRO and finds it meaningful

Evidence — Committee Discussion

- What challenges exist for supporting chief complaint measures with adequate evidence? Demonstrating variation in practice, disparities in care, or poor performance?
  - *How might these challenges be mitigated?*

Scientific Acceptability: Reliability and Validity

Criterion #2: Reliability and Validity– Scientific Acceptability of Measure Properties

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of healthcare delivery

2a. Reliability

- *2a1. Precise specifications including exclusions*
- *2a2. Reliability testing—data elements or measure score*

2b. Validity

- *2b1. Validity testing—data elements or measure score*
- *2b2. Justification of exclusions—relates to evidence*
- *2b3. Risk adjustment—typically for outcome/cost/resource use*
- *2b4. Identification of differences in performance*
- *2b5. Comparability of data sources/methods*
- *2b6. Missing data*

Reliability Testing

- The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability.
- Demonstrates that the measure data elements are repeatable, producing the same results a high proportion of the time when assessed in the same population in the same time period and/or that the measure score is precise.
- Reliability of the **measure score:**
  - *The proportion of variation in the performance scores due to systematic differences across the measured entities in relation to random variation or noise (i.e., the precision of the measure).*
  - *Example – Statistical analysis of sources of variation in performance measure scores (signal-to-noise analysis)*
- Reliability of the **data elements:**
  - *Refers to the repeatability/ reproducibility of the data and uses patient-level data*
  - *Example – inter-rater reliability*

Validity Testing

- Demonstrates that the measure data elements are correct and/or the measure score correctly reflects the quality of care provided, adequately identifying differences in quality.
- **Patient-level data element validity:**
  - *Typically analyzes agreement with another authoritative source of the same information*
- **Performance measure score validity:**
  - *Example: Correlation of measure scores with another valid indicator of quality for the specific topic*

Threats to Validity

- Conceptual
  - *Measure focus is not a relevant outcome of healthcare or not strongly linked to a relevant outcome*
- Unreliability
  - *Generally, an unreliable measure cannot be valid*
- Patients inappropriately excluded from measurement
- Differences in patient mix for outcome and resource use measures
- Measure scores that are generated with multiple data sources/methods
- Systematic missing or “incorrect” data (unintentional or intentional)

Reliability/Validity: Committee Discussion

- What are the key challenges with demonstrating **reliability** of chief complaint-based measures?
  - *What are some approaches to addressing these challenges?*
- What are the key challenges with demonstrating **validity** of chief complaint-based measures?
  - *What are some approaches to addressing these challenges?*

Break

Feasibility

Criterion #3: Feasibility

Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement.

3a: Clinical data generated during care process
3b: Electronic sources
3c: Data collection strategy can be implemented

eCQM Feasibility Scorecard

- NQF tool for assessing feasibility across several domains:
  - *data availability including heterogeneity across different EHR systems and mapping requirements;*
  - *data accuracy and completeness;*
  - *data standards (access to structured and coded data);*
  - *workflow*
- Define measure concept→ identify data elements → solicit feasibility assessment from vendors and end users
- Measure complexity increases with more data elements

Feasibility Scorecard

- ***Data Availability*** – Is the data readily available in structured format?
  - *Scale:*
    - 3 – Data element exists in structured format in this EHR.
    - 2 – Not defined as this time. Hold for possible future use.
    - 1 – Data element is not available in structured format in this EHR.

Feasibility Scorecard

- ***Data Accuracy –*** Is the information contained in the data element correct? Are the data source and recorder specified?
  - *3 – The information is from the most authoritative source and/or is highly likely to be correct. (e.g., laboratory test results transmitted directed from the laboratory information system into the EHR).*
  - *2 – The information may not be from the most authoritative source and/or has a moderate likelihood of being correct. (e.g., self-report of a vaccination).*
  - *1 – The information may not be correct. (e.g., a check box that indicates medication reconciliation was performed).*

Feasibility Scorecard

- ***Data Standards –*** Is the data element coded using a nationally accepted terminology standard?
  - *3 – The data element is coded in nationally accepted terminology standard.*
  - *2 – Terminology standards for this data element are currently available, but is not consistently coded to standard terminology in the EHR, or the EHR does not easily allow such coding.*
  - *1 – The EHR does not support coding to the existing standard.*

Feasibility Scorecard

- ***Workflow –*** To what degree is the data element captured during the course of care? How does it impact the typical workflow for that user?
  - *3 – The data element is routinely collected as part of routine care and requires no additional data entry from clinician solely for the quality measure and no EHR user interface changes. Examples would be lab values, vital signs, referral orders, or problem list entry.*
  - *2 – Data element is not routinely collected as a part of routine care and additional time and effort over and above routine care is required, but perceived to have some benefit.*
  - *1 – Additional time and effort over and above routine care is required to collect this data element without immediate benefit to care*

Feasibility: Committee discussion

- Of the 4 domains in the feasibility scorecard, which are of particular importance and present challenges for chief complaint-based measures?
  - *data availability*
  - *data accuracy and completeness*
  - *data standards (access to structured and coded data)*
  - *workflow*
- What are some strategies for mitigating feasibility challenges with collecting chief complaint data to facilitate measure development?

Usability

Criterion #4: Usability and Use

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.

Use (4a) Must-pass for maintenance measures

4a1: Accountability and Transparency*: Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement.*

4a2: Feedback by those being measured or others*: Those being measured have been given results and assistance in interpreting results; those being measured and others have been given opportunity for feedback; the feedback has been considered by developers.*

Criterion #4: Usability and Use

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.

Usability (4b)

***4b1: Improvement**: Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated.*

***4b2: Benefits outweigh the harms**: The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).*

Usability

- What are the key challenges with demonstrating usability of chief complaint-based measures?
  - *What are some approaches to addressing these challenges?*

Final Prioritization Of Measure Gaps And Concepts

Session Goals

- Based on earlier discussions of NQF criteria and prior prioritization activities, prioritize and rank the high-priority measures in each domain
- Prioritize measure concepts for development to signal the field of where measure development should be focused
- Determine top 20 priority concepts for development (across all domains)

Concept Prioritization Activity

- Each committee member will be given 10 green dots and 10 yellow dots to place next to measure concepts
  - *Dots can be used individually on single concepts OR multiple dots on one concept can be placed to demonstrate a strong preference*
  - ***Green dots:***
    - » Important AND feasible concepts ready for development NOW
  - ***Yellow dots:***
    - » Important but not yet feasible concepts that should be the focus of future development

Prioritization of measure concepts

- Identify prioritization criteria:
  - *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
    - » 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*
  - *Undifferentiated complaints/conditions vs known mechanism of injury (e.g., substance use, trauma)*
  - *Conditions/complaints with clinical guidelines, data, and adequate research to support quality measurement*
  - *High frequency conditions*

Public Comment

Lunch

Recommendations for Advancing Science, Development, and Implementation of Chief Complaint Measures

Session Goal

- Provide the field and relevant stakeholders with tangible next steps and recommendations to advance and promote:
  - *The work and recommendations of this Committee*
  - *Chief complaint data standardization*
  - *Chief complaint-based measurement science*
  - *Chief complaint-based measure implementation*

Prior Recommendations for Development, Implementation, and Maintenance of CC Vocabulary

1. *Develop a controlled vocabulary for CC*
2. *Obtain funding sources for development and maintenance*
3. Establish infrastructure and organization for supporting development and maintenance of a vocabulary
4. **Work with standard setting organizations (HL7, DEEDS)**
5. **Address required CC vocabulary characteristics needed by all users**
6. Create collection of CC data for use by vocabulary researchers
7. *Validate the vocabulary*
8. Establish beta test sites for new vocabulary
9. **Plan publicity, marketing, cooperation, and adoption of the vocabulary**

[Haas, et al. *Academic Emergency Medicine*. 2008;15:476–482]

Challenges and Barriers to Adoption and Implementation of a Standard Nomenclature

- Lack of incentive for widespread adoption
- Chief complaint and reason for visit data is generally only used by providers for a short period of time and is specific to the ED
- Provider burden to complete additional fields
- Variation in institutional (and provider) practice and (customized) system use
- Building consensus on a standard nomenclature (and maintenance once implemented)
- Varying needs and tolerance for specificity of CC elements based on use case (i.e., triage, quality measurement, research, surveillance)

Proposed Recommendations from Prior Discussions

- A standardized list of chief complaints should be implemented in emergency medicine practice (e.g., through HL-7).
- Recommendations should guide the selection of an existing standardized nomenclature list, instead of suggesting the creation of a new one.
- Committee recommendations should be included in measure developer resources (like the CMS Measures Management System Blueprint) to encourage measure developers to use similar standardized nomenclature when creating measures.

Committee Discussion

- What are some strategies for improving incentives for EDs to capture these data and implement chief complaint measurement strategies?
- How might registries like CEDR promote the collection of these data?
- What research/literature is needed to better support chief complaint-based measurement?
- Which entity(s) might be considered for adopting the maintenance and implementation of standardized chief complaint vocabulary?
- In addition to HL7 and ONC, what other stakeholders should be considered for collaboration to advance these goals (e.g., ACEP, DEEDS)? What would their roles be?
- Who should be responsible for determining/selecting THE standard vocabulary for national adoption?
- What future work from NQF would be helpful to advance this measurement area?

Recap Days 1 and 2, Final Comments and Questions

Public Comment

Next Steps

Next Steps

- In-person meeting follow up
- Draft report
  - *Outline to be reviewed by Committee on February webinar*
  - *Draft report will be distributed for Committee review ~ March 13*
  - *Finalized for commenting by March 28*

Project Timeline

Activity	Date/Time
Orientation Web Meeting	*October 17, 2018, 12-2 pm ET*
Web Meeting #2	*November 28, 2018, 12-2 pm ET*
In-Person Meeting	*January 28-29, 2019*
Web Meeting #3	February 20, 2019, 12-2 pm ET
30-Day Comment Period	March 29-April 29, 2019
Web Meeting #4	May 22, 2019, 12-2 pm ET
Final Report	June 24, 2019

Questions?

Project Contact Info

- Email: ChiefComplaint@qualityforum.org
- NQF phone: 202-783-1300
- Project webpage: http://www.qualityforum.org/Chief_Complaint-Based_Quality_for_Emergency_Care.aspx
- SharePoint: http://share.qualityforum.org/Projects/ChiefComplaint-BasedQualityEmergencyCare/SitePages/Home.aspx


THANK YOU

Review of Measure Concepts

- Number of Pediatric, Adolescent, and Adult Measure Concepts

Population	Number of Concepts
Adolescents	2
Adolescents, Adults, Female, Male, Pediatrics	1
Adolescents, Adults, Pediatrics	2
Adults	28
Adults, Adolescents	1
Adults, Elderly, Female,Male	2
Adults, Pediatrics	1
All	12
All, discharges	1
Elderly, All	1
Female	3
Patients with known asthma	1
Pediatrics	14