NATIONAL QUALITY FORUM

Driving measurable health improvements together

Measure Developer Webinar

December 16, 2019

Agenda

- Welcome
- Overview of the EHR Data Quality project
- Overview of the Diagnostic Error project

Welcome

Overview of the EHR Data Quality Project

Technical Expert Panel Roster

- JohnMarc Alban, MS, RN, CPHIMS
- Zahid Butt, MD FACG
- Cynthia Cullen, MS, MBA, PMP
- John Derr, RPh
- Karen Dorsey, MD, PhD
- Zabrina Gonzaga, RN
- Toby Heyn
- David Kendrick, MD, MPH (Federal Liaison)
- Angela Kennedy, DC, MBA
- Joseph Kunisch, PhD, RN-BC, CPHQ
- James Langabeer, PhD, MBA
- Jamie Lehner, MBA, CAPM
- Michael Lieberman, MD, MS
- Jacob Lynch, RN-BC
- Jana Malinowski
- James Mcclay, MD, MS, FACEP
- Shelly Nash, DO
- Shea Polancich, PhD, RN
- Stan Rankins, MSIT
- Albert Taylor, MD (Federal Liaison)
- Mike Sacca

Federal Liaisons

- Albert Taylor, MD
- David Kendrick, MD, MPH

Project Objectives

- Environmental Scan:
  - *Identify how developers assess EHR data quality prior to developing, testing, and implementing eCQMs*
  - *Present existing approaches and guidance used to mitigate data quality challenges*
  - *Establish what data is needed to support the development and testing of eCQMs*
- Make recommendations for best practices in assessing and improving EHR data quality to improve the reliability and validity, use and usability, and feasibility of eCQMs and increase their scientific acceptability and likelihood for NQF endorsement

Research Questions Used

- How do measure developers currently assess EHR data quality prior to developing, testing, and implementing eCQMs?
- What are the approaches currently used to mitigate data quality challenges? How do the approaches vary based on the specific data quality issue (i.e., validity, lack of structured data)?
- What data are needed to support development and testing of eCQMs?
- What are the structural and organizational attributes of institutions that have successfully implemented eCQMs supported by EHRs with validated data quality?
- How have data quality issues impeded endorsement of eCQMs submitted to NQF's Consensus Development Process?
- What guidance have standard-setting bodies already promulgated to help mitigate EHR data quality issues?

Keywords

- EHR data quality
- Reliability
- Validity
- eMeasure Data Quality
- eCQM Data Quality
- Electronic Clinical Quality Measure Data Quality
- "Electronic Health Record"+ "Data Quality" + "Structured Fields"
- "EHR"+ Data Quality + Feasibility
- EHR Data Quality + Reliability
- Certified EHR Technology
- Certified EHR Data Quality
- Common Data Sets
- Data Quality + Validity + Electronic Health Record
- Data Quality +Reliability+ Electronic Health Record

Literature Review

- Information Sources
  - *PubMed*
  - *Grey Literature (i.e., academic or policy literature that is not commercially published)*
    - » *Government publications (e.g., federal or state agency reports, rules and regulations, etc.)*
    - » *Reports or publications from foundations, associations, or nonprofit groups*
    - » *Conference papers, abstracts, or proceedings*
    - » *Key informant interviews*
  - *Measures Inventory*
    - » NQF

Literature Review: Assessing EHR Data Quality

- Several competing frameworks for assessing data quality
- Consistent quality constructs include:
  - *Completeness*
  - *Correctness*
  - *Concordance*
  - *Plausibility*
- Other quality constructs include:
  - *Uniformity*
  - *Time pattern*
  - *Granularity*
  - *Structuredness*

Literature Review: Approaches to Mitigate Data Quality Issues

- Wide array of strategies used to identify and mitigate data quality issues
  - *Gold standard: paper records, reconciliation with patient input, capture from multiple sources within the EHR*
  - *Data element agreement*
  - *Data element presence*
  - *Data source agreement*
  - *Distribution comparison*
  - *Validity check: assess for clinical plausibility of data*
  - *Log review: data entry logs to assess timeliness*
  - *Statistical methods to impute missing data*

Literature Review: Approaches to Mitigate Data Quality Issues

- Other Examples:
  - *One article described a validation strategy leveraging the strengths of a stakeholder workgroup to guide the development and testing process for eCQMs. The stakeholders identified threats to feasibility, reliability, and validity: for example, identifying errors in the measure logic evident in initial results generated at a test site.*
  - *A few articles described natural language processing programs. Authors described a manual abstraction and comparison approach for dealing with identified discrepancies.*
  - *Another article described the importance of automated tooling programs that detect data quality issues and the role of such programs in improving standards implementation and adoption, as well as identifying and resolving barriers to clinical document exchange.*

Literature Review: Data Needed to Support Development and Testing of eCQMs

- Common data quality terminology is needed to establish a universal understanding of the strengths and limitations of EHR data for quality improvement.
- Hospital EHR systems should include data as searchable data elements rather than free text to better implement eCQMs.

Literature Review: Approaches to Successfully Implement eCQMS

- Tailored approach to integrate with clinical care, revise workflows, and restructure data elements.

Literature Review: Guidance From Standard-Setting Bodies

- Literature emphasized the need and importance of regulatory bodies and accrediting organizations in setting standards for the quality of EHR data used for measurement.

Next Steps

Project Timeline

Meeting	Date/Time
TEP Web Meeting #2	January 14, 2020, 11:00 am – 1:00 pm ET
TEP Web Meeting #3	March 31, 2020, 1:30 pm – 3:30 pm ET
TEP Web Meeting #4	April 29, 2020, 1:00 – 3:00 pm ET
Final Environmental Scan Report	May 19, 2019
TEP Web Meeting #5	June 11, 2020, 11:00 am – 1:00 pm ET
TEP Web Meeting #6	September 9, 2020, 11:00 am – 1:00 pm ET
TEP Web Meeting #7	November 10, 2020, 1:30 pm – 3:30 pm ET
Final TEP Findings and Recommendations Report	December 24, 2020

Project Contact Information

- Email: EHRdataquality@qualityforum.org
- NQF phone: 202-783-1300
- Project page: http://www.qualityforum.org/EHR_Data_Quality.aspx
- SharePoint: http://share.qualityforum.org/Projects

Overview of Diagnostic Error

Committee Roster

- David Andrews
- David Newman-Toker, MD, PhD
- Flavio Casoy, MD, FAPA
- Karen Cosby, MD
- Sonali Desai, MD
- Jane Dickerson, PhD
- Andreea Dohatcu, PhD, DABR, MRSC, CMQ
- Mark Graber, MD
- Helen Haskell, MA
- Cindy Hou, DO
- John James, PhD
- Joseph Kunisch, PhD
- Prashant Mahajan MD, MPH, MBA
- Kathy McDonald, MM, PhD
- Lavinia Middleton, MD
- Craig Norquist, MD
- Shyam Prabhakaran, MD
- Ricardo Quinonez, MD, FAAP
- Roberta Reed
- Hardeep Singh, MD, MPH
- Colleen Skau, PhD
- Michael Woodruff, MD
- Ronald Wyatt, MD

Federal Liaisons

(Non-voting Committee Representatives)

- Andrea Benin, MD
- David Hunt, MD
- Marsha Smith, MD, MPH, FAAP

Project Objectives

- Environmental Scan:
  - *Update the measure inventory*
  - *Identify new measure concepts and high-priority areas for measure development*
  - *Revise the Diagnostic Process and Outcomes domain of the Framework and update applicable cross-cutting themes*
- Four Use Cases:
  - *Based in Diagnostic Process and Outcomes domain*
  - *Identify cause of the error*
  - *Propose a comprehensive resolution of the error*
  - *Include setting/population-specific considerations*
- Advance recommendations for the application of the conceptual framework, and to reduce diagnostic error and improve safety in a variety of systems and settings, with applications to multiple populations.

Approach

1. **Case Exemplars:** Brainstorming specific clinical case exemplars to thread through the rest of the questions
2. **Diagnostic Challenge/Causal Factors:** Identify at large the clinical context for the specific error occurring, and causal factors that contribute to the error
3. **Solutions:** Identify solutions to prevent and/or limit the incidence of the specific error
4. **Quality Measurement:** Identify opportunities for performance measures

High-Risk-for-Error Use Cases

- **Use Case 1: Cognitive Error** – atypical clinical presentations of dangerous diseases
- **Use Case 2: Communication Failure** – failure to "close the loop" on diagnostic test results
- **Use Case 3:** – information overload in complex, critically ill patients
- **Use Case 4** – prolonged diagnostic odyssey for chronic symptoms
- **Use Case 5** – delayed screening for early manifestations of disease

Next Steps

Next Steps for Reducing Diagnostic Error

Meeting	Date
Web Meeting 3: Identify and obtain input on high priority Use Cases 1 & 2	December 11, 2019
Web Meeting 4: Continued updates to Use Cases 1 and 2	January 14, 2020*
Web Meeting 5: Identify and obtain input on high priority Use Cases 3 and 4	March 12, 2020
Web Meeting 6: Continued updates to Use Cases #3 and #4	May 19, 2020*
Web Meeting 7: Finalize cross-cutting recommendations for measurement to reduce diagnostic error, improve patient safety	June 30, 2020
Web Meeting 8: Final Review of Report, Public Comments	September 1, 2020
Final Report	October 7, 2020

** Depicts a change in date from originally scheduled web meeting*

Project Contact Information

- Email: diagnosticerror@qualityforum.org
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- Project page: http://www.qualityforum.org
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Questions