EHR Data Quality Best Practices for Increased Scientific Acceptability: Challenges and Recommendations

eCQMs in Inpatient and Outpatient Settings

Challenges

- Raw data (from data collection/point of care) must align with eCQM data criteria
- eCQM reporting depends on interoperability of all source systems (multiple EHR systems, Laboratory Information Systems, etc.)
- eCQM standards and measure specifications are a moving target for EHR system vendors

Recommendations

- Identify an independent authority on vocabulary standards, information models and value sets to provide guidance.
- Make recommendations from this project to inform the CMS ValueSets MetaData workgroup

EHR Data in PAC Settings

Challenges

- Lack of alignment of incentives for providers and vendors causing:
    - Lower EHR system adoption in PAC settings compared to other setting
    - Lack of availability of EHR based measures for PAC settings

Recommendations

- Develop electronic clinical quality measures which can be used across settings.
- Provide support for EHR deployment in PAC settings.
- Provide incentives for PAC settings to report on cross-cutting measures.

Unstructured EHR Data

Challenges

- How to balance the ease and patient-focus of unstructured data with analytic value of structured data
- Data quality issues associated with natural language processing (NLP)
- Burden of manually validating NLP
- Unrealized opportunities for expanded use of standard tools such as C-CDA to reduce unstructured data
- Improve tools for clinical data capture to support measure implementation

Recommendations

- Use FHIR to develop an app where patients can enter their own information as structured data
- Improve tools for clinical data capture

NQF Endorsement

Challenges

- Availability of data
    - EHR data needed to support the testing required for scientific acceptability are not always readily available
    - Test sites need to implement measures in advance of formal inclusion in a CMS federal program for developers to meet NQF testing requirements
        - Financially, operationally, and logistically challenging
    - EHR systems within health care organizations would need to be willing and able to participate in testing scientific acceptability
    - Identifying test sites that are currently collecting all required data elements can be difficult and/or not conducive to advancing eCQMs that inherently require new data elements or workflow.
    - Stakeholder specialty membership societies would need to be willing and able to participate in testing
- NQF endorsement criteria and processes
    - Endorsement criteria are occasionally unclear or challenging to meet
    - Lack of consistency among Standing Committees in the application of the measure endorsement criteria
    - Clarity needed regarding the acceptable use of centralized and/or normalized data originating *from* multiple providers and EHR system(s) to support measure testing vs. the need to test the full implementation of an eCQM *at* multiple local provider sites
    - Willingness and ability for stakeholder specialty membership societies to participate in testing.

Recommendations

- Identify a value proposition for testing to communicate with CFOs.
- CMS could provide incentives to Health systems and other provider organizations for testing perhaps through MIPS and Promoting Interoperability Programs
- ONC/CMS could provide incentives for participation in measure testing to Health IT vendors through the Health IT Certification program
- Create clear, precise testing criteria for NQF endorsement
- NQF could provide explicit descriptions of what is most appropriate for testing, e.g. MIPS datasets
- Both NQF staff and Standing Committees could be provided with clear delineation of the criteria, particularly around testing.
- Clarify what data is needed for normalized datasets vs live EHR systems.
- The feasibility score card should be made easier to apply to measures
- Develop a test set in a standardized format such as the PCORnet CDM, the OMOP data model to obtain the EHR data needed to support the testing required for scientific acceptability.
- Creation of a standard intermediate data format (OMOP, PCORnet, etc.)

Frameworks for Assessing EHR Data Quality and Guidance from Standard-Settings Bodies

Challenges

- Inconsistency among frameworks
- Few frameworks support generalizable and standard approaches
- Misalignment with NQF eCQM Feasibility Scorecard
- Need for greater contribution from regulatory bodies and accrediting organizations in setting EHR data quality standards

Recommendations

- Recognize a convening body charged with reaching consensus on data quality measures by harmonizing existing frameworks

Other Recommendations

Recommendations

- Testing of framework infrastructures
    - this would include the standards and frameworks discussed
- A core group for testing and functionality development
    - Part of the ROI discussion could be explored, provide incentives to the few organizations and vendors who want to do some of the harder work of standardization within a development framework
- Create a pilot, but limited framework and model (using one standard such as FIHR and a standard nomenclature for certain value sets, etc.)
- Create these measures within a hybrid model using chart review elements and electronic elements together (based on the bullet above, what can be addressed with limited challenges)