Value Set Harmonization

Value Set Harmonization Committee Meeting

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Kathryn Streeter
Ann Phillips

November 10, 2015

NATIONAL QUALITY FORUM

Welcome

Welcome

- Restrooms
  - Exit main conference area, past elevators, on right.
- Breaks
  - 10:45 – 15 minutes
  - 12:30 – Lunch provided by NQF
  - 3:30 – 15 minutes
- Laptops and cell phones
  - Wi-Fi network
    - User name “guest”
    - Password “NQFguest”
  - Please mute your cell phone during the meeting

NQF Project Staff

- Jason Goldwater
  - Senior Director
- Kathryn Streeter
  - Senior Project Manager
- Ann Phillips
  - Project Manager
- Chris Millet
  - Consultant

Value Set Harmonization Committee

- Zahid Butt, MD, FACG (co-chair)
- Michael Lieberman, MD MS (co-chair)
- Chengjian Che, MD
- Christopher Chute, MD, DrPH
- Cynthia Cullen, MS, MBA, PMP
- Ellen Harper, DNP, RN-BC, MBA, FAAN
- Yan Heras, PhD
- Wendy Hofner, RN
- Stan Huff, MD
- Matt Humphrey
- Rute Martins, MS
- Robert McClure, MD
- Marjorie Rallins, DPM
- Joseph Schneider, MD, MBA, FAAP
- Ann Smith, RN, BSN, MSHA
- James Tcheng, MD, FACC, FSCAI, FESC
- Nancy Walker, MHA, RHIA

Setting the Stage

Meeting Agenda
Morning Session

- 8:30 - Welcome and Introductions of Staff and Co-Chairs
- 8:40 – Setting the Stage
- 8:45 – Pilot Test Results: Test #3 Encounters
- 9:30 – Pilot Test Lessons Learned
- 10:45 – Committee Discussion – Value Set Development
- 11:00 – Value Set Selection Analysis
- 12:30 - Committee Lunch

Meeting Agenda
Afternoon Session

- 1:00 – Committee Discussion – Review Governance Models
- 4:00 – Public Comment
- 4:20 - Next Steps
- 4:30 - Adjourn

Committee Charge

Meeting Goals

- **Evaluate Pilot Harmonization Process**
  - Medication Value Sets
  - Behavioral Health Value Sets
  - Value Sets for Encounters
- **Finalize Recommendations on Governance**
  - Core Principles for Governance
  - Operationalizing Governance
  - Incorporating Governance in the Measure Endorsement Process

Committee Charge

Ground Rules

- To identify the basic issues surrounding value sets and devise methods to potentially correct those problems
- The focus is on a proposed solution which is important to ONC, CMS and NLM
- By the end of this discussion, it is vital that we construct proposed polices and procedures
- The co-chairs are here to facilitate the discussion, identify additional information that may be useful to the Committee and keep the project on track

Pilot Test #3 – Encounters

Pilot Test #3 - Encounters

- Purpose of the pilot was to ask the Technical Expert Panel (TEP) to create two intensional value sets from two extensional ones: HIV Visit and Blood Pressure
- The focus was on coming up with recommendations to take a grouping of code sets and make them more algorithmically defined.
- Specifically, the TEP was asked to make recommendations on how an encounter could be better captured; should their be sub-value sets to Telehealth, Urgent Care and LTPAC, and should the face-to-face interaction value set be specified for both inpatient and ambulatory care encounters?

Pilot Test Results
Pilot Test #3 - Encounters

- How can an encounter be better captured?
  - Rather than changing the codes for the clinical encounter, it may be more effective to change the value set name to reflect the type of encounters included in the value set.
  - HIV Visit and Blood Pressure are grouping value sets made up of multiple extensional value sets. The grouping approach to the logic of these measures was noted as the best approach to represent the clinical intent of the measure.
  - There should be smaller value sets that are building blocks for all encounters are stratified by level of service.
  - It may be difficult to create value sets that describe care for certain condition. An encounter may be the same (such as strep throat test), but the procedure and diagnosis may be different.

Pilot Test Results
Pilot Test #3 – Encounters (con't)

- Should there be sub-value sets for Telehealth, Urgent Care and LTPAC facilities, or should they be standalone value sets?
  - Value sets that are building blocks to meet the need of the measure may be appropriate.
  - The building blocks can be incorporated into the eMeasure logic, depending on the intent of the measure.
  - Value sets should include all settings rather than creating individual ones (we would be creating silos rather than breaking them down).
  - Setting qualifiers can be used in value set headers to identify the practice setting where the encounter took place.

Pilot Test Results
Pilot Test #3 – Encounters (con't)

- Should Face-to-Face interaction value sets be specified for both inpatient and outpatient encounters?
  - It depends on the measure in which it is being used.
  - Again, having smaller building blocks to develop value sets that can be used as needed within a measure is appropriate.
  - Value sets need to be identified by the outcome they are measuring.
  - Face-to-face interactions can be used in the value set headers.

Questions for the Value Set Committee

- Based on what was presented, how do you think value sets can best represent clinical encounters?
- Is their concurrence that using smaller value sets as building blocks is a reasonable idea? How could that be accomplished?
- Throughout this project, there has been a number of discussions on creating intensional value sets – is that appropriate for clinical encounters?
- If needed, how could the process of creating value sets be configured to better represent clinical encounters?

Pilot Test #1
Harmonization of Medication Value Sets

- Jaccard analysis was performed on Medication value sets from AMI and VTE measures
- Eight value sets were identified as having a Jaccard index of over .49
- A worksheet was developed for the Technical Expert Panel that identified the measures containing those value sets, the intent of the measures, the value sets, the intent of the value sets and which ones were potentially overlapping.
- NQF will take on the role of identifying classes of Medications for those overlapping value sets.

Summary of Results from Medication Pilot Test

- Each of the value sets have different uses
- Most of the value sets were distinct from one another and did not require harmonization
- Their were smaller subsets of these value sets which could be reused across measures
- Some of the value sets were intended to be more granular than the others
- As a result, the Technical Expert Panel felt harmonization was not needed for the AMI and VTE medication value sets

Pilot Test #2
Harmonization of Behavioral Health Value Sets

- The worksheet on value set harmonization for behavioral health included:
  - Behavioral health value sets included in measures under meaningful use, and other measures that included behavioral health value sets such as emergency department arrival and discharge and VTE
  - The steward of the measure and its intent
  - Value sets that may potentially be overlapping (based on the analysis conducted by NQF)
  - Object Identifier (OID), along with its description, its steward and its intent - when available
  - Published value sets within the Value Set Authority Center (VSAC) and not ones that were listed as either draft or proposed
  - A list of the value sets that may be overlapping and the measures they correspond to

Measures Containing Value Sets Associated with Behavioral Health

- CMS2v5 Preventive Care and Screening: Screening for Clinical Depression and Follow-Up Plan - CMS
- CMS108v4 Venous Thromboembolism Prophylaxis - TJC
- CMS190v4 Intensive Care Unit Venous Thromboembolism Prophylaxis - TJC
- CMS136v5 ADHD: Follow-Up Care for Children Prescribed Attention-Deficit/Hyperactivity Disorder (ADHD) Medication - NCQA
- CMS128V4 Anti-depressant Medication Management - NCQA
- CMS161v4 Adult Major Depressive Disorder (MDD): Suicide Risk Assessment – AMA PCPI
- CMS177v4 Child and Adolescent Major Depressive Disorder (MDD): Suicide Risk Assessment – AMA PCPI

Summary of Results from Behavioral Health Pilot Test

- Significant redundancy in the SNOMED-CT value set for bipolar disorder
- Various types of bipolar disorder, such as Organic bipolar disorder were excluded from the value sets without reason
- A number of the bipolar concepts can be harmonized without the value set losing meaning
- Value sets for mental health patient, mental health disorders and mental health diagnoses should be harmonized.
- There is overlap between mental health disorders and substance abuse
- The TEP felt these value sets should be harmonized

Pilot Test Results
Lessons Learned

- There are differing views on when there is overlap and where there is not. What methodology should be applied?
- When is harmonization “successful?”
- It is challenging to devise a iterative harmonization process using SNOMED-CT codes (such as behavioral health value sets)
- In some cases, value sets should be smaller and in others they should expand.

Pilot Test Results
Lessons Learned (con't)

- Extrapolating the results from the pilot tests into a repeatable process for harmonization is difficult.
- How do we prioritize those value sets that need to be harmonized?

Break

Governance Discussion

What is a High Quality Value Set?

Value Set Quality Criteria
From the NLM website

- **Clinical Validity:** Value set authors should assure that all included codes correspond to the intent and purpose from a clinical perspective.
- **Metadata Completeness:** Authors must provide correct and complete metadata and add any missing metadata as defined by the data model they use or program under which the authors work
- **Non-redundancy:** Ideally, a given data element should be presented by one and only one value set for a given code system. Multiple value sets with the same codes should be eliminated to facilitate maintenance and prevent inconsistency over time. assure the value sets are as complete as possible.

Value Set Quality Criteria
From the NLM website

- **All Value Set Codes Are Valid in the Code System:** The authors should consider only currently valid codes for inclusion into a value set.
- **Descriptors Match Code System Descriptors:** Authors should make sure any descriptors they add manually to value sets match the descriptors in the code system to which the codes belong.
- **Code List Completeness:** A value set should contain all the relevant codes for a particular data element. The coverage of codes should be correct. Authors should make sure the lists are lean and they should scrutinize large value sets. Authors should describe such rules and tests in the required value set Purpose statement.

Value Set Quality Criteria
From the NLM website

- **Logical Correctness:** A value set should contain only the relevant codes for a particular data element and the codes contained in the value set should strictly align with the described Purpose.
- **Proper Terminological Hierarchies (terminological correctness):** Only root codes and their descendants should be present in the value set.
- **Concept Property Similarity:** Value set member concepts should not vary in respect to their properties and attributes, such as semantic type, term type, etc.

Value Set Criteria
From the NLM Website

Value Set Purpose

Designed to provide a clear and comprehensive description of the membership of the value set. This important metadata element must take into account how the members will be used in a clinical measure or in any other intended application. The Purpose Statement cannot be validated automatically, so authors should spend time to make this text as informative as possible for human readers to understand the intent of the value set, and how the value set is put together. **To avoid redundancy, there should be only one value set for a given purpose.** The Purpose Statement includes four separate fields that the value set author needs to complete:

Value Set Criteria
From the NLM Website

Clinical Focus - a free text statement describing the general focus of the value set as it relates to the intended semantic space. This can be the information about clinical relevancy, or the statement about the general focus of the value set, such as a description of types of messages, payment options, geographic locations, etc.).

Data Element Scope - a free text statement describing how the Data Element in the intended information model defines the concepts to be selected for inclusion in the value set.

Inclusion Criteria - Defines what concepts or codes should be included and why.

Exclusion Criteria - Defines what concepts or codes should be excluded and why.

Principles for High Quality Value Sets

- Understand the scope and limitations of the relationship between value sets and the quality data model (QDM), when value sets are constructed to describe measure logic, as opposed to using the capabilities of the QDM.
- Value sets should be consistent with the model of clinical information found in the patient record.
- Terminology updates, expansions and changes must be integrated into value sets.
- High quality value sets should meet a specific set of requirements.

Principles for High Quality Value Sets

- There needs to be a clearly defined process for expirations or challenges to value sets and how it would affect NQF endorsement measures that used those value sets.
- Unpublished value sets used in quality measures, even those not currently in federal programs should be published in order to avoid future duplication.
- Only approved and published value sets need to be included in the development of quality measures.

Lunch

Review Governance Models

Governance “Ground Rules”

- How to Define and Use High Quality Value Sets
- Methodology for Development of Value Sets
- Principles to Maintain High Quality Value Sets
- Maintain Value Set
- Encourage use of High Quality and Harmonized Value Sets
  - Relationship to Measure Development
  - Recommendations for NQF Endorsement
  - Relationship to CMS Programs

Compare Proposals Using Ground Rules

	Clean-Up	Starter-Set
Define High Quality Value Set		
Maintains Value Set Harmonization		
Supports Measure Development		
Recommendations for Endorsement		
Use in CMS Programs		

Proposal 1 -
“Portfolio Clean Up Proposal”

Defining High Quality Value Sets

Objective Criteria

- Automatically Checked by VSAC
  - Proper Technical Use of Code Systems
  - Value Set Purpose is Present and Complete

Defining High Quality Value Sets

Subjective Criteria

- Code System Fit
  - Does the Value Set use code systems consistent with the latest ONC Standards advisory?
  - Is the code system being used properly for Value Set purpose? *(i.e. using drug class vs. brand name in RxNorm for Medications)*
- Is the Value Set Purpose Clearly Described?
- Are Value Set Members Consistent with the Value Set Purpose?
- Does the Value Set Conflict with Other High Quality Value Sets?

Defining High Quality Value Sets

Subjective Criteria

- Evaluated by a TEP
  - TEP meets monthly to review
    - *existing value sets in the VSAC*
    - *newly submitted value sets*
    - *expired High Quality VS (in the future)*
  - Provides ample opportunity to support new Value Set/eCQM development

Defining High Quality Value Sets

Subjective Criteria

- Evaluated by a Technical Expert Panel
  - Technical Expert Panel comprised of:
    - *Experts in domain area of all Value Sets being reviewed*
    - *Experts in all code systems used in Value Sets being reviewed*

Defining High Quality Value Sets

Approval Process for New Value Sets

- Stewards Submit Value Sets for “High Quality Value Sets” Approval in VSAC
  - Value Set Stewards
    - Can be CMS, measure stewards, speciality societes etc.
    - Most likely will be eCQM stewards and developers

Defining High Quality Value Sets

Maintenance of High Quality Value Sets

High Quality Approval Expires:

- Automatically
  - When underlying code system updates impact value set members*
  - Manually when a “challenge” is submitted to VSAC

**should not matter if Value Set is intentional or extenstional*

Maintaining VS Harmonization

Limit Comparison to High Quality Value Sets

- Ensures Comparisons Are Between “Like” Value Sets
- Occurs During Monthly Value Set Reviews
- Comparison Process
  - TEP determines the Value Set purpose is duplicative w/ another high quality Value Set
  - VSAC determines there is a high enough overlap in Value Set members

Supports Measure Development

- High Quality Value Sets Distinguishable in VSAC for Measure Developers
- Measure/Value Set Developers Can Submit Value Set for “High Quality Approval”
- Measure Developers Can Challenge High Quality Approval
  - Challenges Must be Based on an Approval Criterion that is Not Met

Recommendations for Endorsement

eCQMs Evaluated for NQF Endorsement or Trial Approval must use High Quality Value Sets

- All Value Sets must *have Submitted, Expired*, or *Challenged* Status
- Value Sets Remain in *Expired* or *Challenged* Status During Measure Review; Measure Developers Present to NQF Committees on Status Impacts to Feasibility

Promoted by CMS Programs

Use of eCQMs in CMS Programs

- Rely on NQF Endorsement to check for use of High Quality Value Set and Value Set Harmonization issues
- Prevents re-evaluating acceptability of Value Sets instead of whether or not eCQM is a good fit for a program

Proposal 2 -
“Starter Set Proposal”

Defining High Quality Value Sets

Objective Criteria

- Automatically Checked by VSAC
  - Proper Technical Use of Code Systems
  - Value Set Purpose is Present and Complete

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Committee Discussion: Governance

Framework for governance:

- What are the core principles for governance?
- How should governance be operationalized?
- How should governance be incorporated in to measure development and endorsement?

Break

Project Contact Information

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Public Comment

Next Steps

Public Comment on Draft Report

- December 1, 2015

Post Comment Call

- January 21, 2016

THANK YOU!