Task 4C: Technical Expert Panel Report
Continuity Assessment Record & Evaluation

SOD #18

Electronic Specification of Clinical Quality Measures & Support
Contract # HHSM-500-2011-00104C
Task Order #CMS-9302011-EQ

TEP Dates: January 30-31, 2012

Prepared for:
Deborah Krauss
Division of Health Information Technology
Quality Measurement & Health Assessment Group
Office of Clinical Standards & Quality
Centers for Medicare & Medicaid Services
7500 Security Blvd., Bldg. S3-09-04
Baltimore, MD 21244-1850

Submitted by:
Lantana Consulting Group
PO Box 177
East Thetford, VT 05043

© 2012 Lantana Consulting Group
All rights reserved.

Lantana Consulting Group
brett.marquard@lantanagroup.com
zabrina.gonzaga@lantanagroup.com
liora.alschuler@lantanagroup.com
http://www.lantanagroup.com

Table of Contents

MEETING DATE AND PANEL COMPOSITION 4

PURPOSE AND OBJECTIVES 6

FINDINGS AND RECOMMENDATIONS 7

- CARE Data Element Analysis 7
- New Templates 8
- Provide Transparency in Design Decisions 8
- Supporting Adoption and Exchange 8
- CARE Interoperability Toolkit 9

SUMMARY 11

ACTION ITEMS 12

TEP QUESTIONS AND COMMENTS WITH RESPONSES 13

LIST OF ACRONYMS AND ABREVIATIONS 15

© 2012, all rights reserved

Meeting Date and Panel Composition

The Continuity Assessment Record and Evaluation (CARE) Technical Expert Panel (TEP) met January 30-31, 2012, in Baltimore, MD.

Twelve Technical Expert Panel members participated:

Dana Alexander, RN, MSN, MBA, FHIMSS, FAAN—VP and Chief Nursing Officer, GE Healthcare, Monument, CO

Maria Arellano, RN, MS—Nurse Informatics Specialist/Clinical Software Designer, American Health Tech, Broomfield, CO

Dan Cobb—Chief Technology Officer, HealthMEDX, Ozark, MO

Beth DeLaHunt, RN, BAN, CPEHR, CPHIT—Clinical Product Marketing Manager, MDI Achieve, Eden Prairie, MN

Larry Garber, MD—Reliant Medical Group (formerly known as Fallon Clinic), Worcester, MA

Yvonne Grant, PharmD, CGP—Pharmacist Care Manager, Kaiser Permanente, Panorama City, CA

Robert Jenders, MD, MS, FACP, FACMI—Staff Scientist, National Library of Medicine/National Institutes of Health and Georgetown University, Bethesda, MD

Norma Lang, RN, PhD, FAAN, FRCN—Howe Endowed Chair for Healthcare Transformation, University of Wisconsin-Milwaukee College of Nursing and Aurora Health Care, Cedarburg, WI

Maria Moen—Healthcare Applications Director, Brookdale Senior Living, Brentwood, TN

Terrence O'Malley, MD—Internist-Geriatrician, Partners Healthcare System, Inc., Boston, MA

William M. Russell, MD—Independent Consultant

John Sheridan—CEO, eHealth Data Solutions, Cleveland Heights, OH

eQuality team members and partners attending the meeting included:

Joy Kuhl—eQuality Project Director, Optimal Accords

Liora Alschuler—Lantana Consulting Group

Beau Bannerman—Lantana Consulting Group

Bob Dolin—Lantana Consulting Group

Gaye Dolin—Lantana Consulting Group

Barbara Gage—RTI International

Rick Geimer—Lantana Consulting Group

© 2012, all rights reserved

Jingdong Li—Lantana Consulting Group

Brett Marquard—Lantana Consulting Group, Task Lead

Linda Phillips—Telligen

Observers:

Debbie Krauss—eQuality COR, Office of Clinical Standards & Quality, CMS

Judy Tobin—Task Officer, Office of Clinical Standards & Quality, CMS

Jennie Harvell—Assistant Secretary for Planning and Evaluation, HHS

© 2012, all rights reserved

Purpose and Objectives

The CARE TEP was charged with reviewing the proposed e-specifications for CARE and providing information to the project team about how CARE data elements could fit into an electronic health record (EHR).

The CARE TEP focused on four key points of discussion:

1. Clinical utility and appropriateness of CARE data elements for use in Health Level Seven (HL7) Clinical Document Architecture (CDA), Continuity of Care Document (CCD), and the National Quality Forum (NQF) Quality Data Model (QDM)
2. Supporting adoption of CARE data elements for transitions of care, quality measurement, and payment
3. Developing information useful to implementers
4. Determining desirable components of the future CARE Interoperability Toolkit

© 2012, all rights reserved

Findings and Recommendations

The TEP reviewed the eQuality team's data analysis approach, defined requirements for new exchange templates, and provided input on documentation audiences and tooling requirements.

The TEP discussions began with an introduction to previous CARE projects.

- CARE-Health Information Exchange Project (C-HIEP)—a pilot project which mapped the CARE data elements to HITSP-C83
- CARE Open Source Solution (COSS)—a project that developed a toolkit to help vendors join a national CARE exchange and created a demonstration scenario to support exchange
- CARE user manual—a guide developed by CMS for the Post-Acute Care-Payment Reform Act demonstration conducted to address Section 5008 of the 2005 Deficit Reduction Act.
- HL7 Implementation Guide for CDA Release 2: CDA Framework for Questionnaire Assessments, Release 1—a framework for communicating questionnaire assessments with an example of how to communicate the Minimum Data Set in standard format. This standard is a potential framework for an implementation of CARE.
- Office of the National Coordinator (ONC) Standards and Interoperability (S&I) Long-Term Coordination of Care workgroups

The Centers for Medicare and Medicaid Services (CMS) has invested in multiple TEPs and much research to develop the CARE data set. Currently, three federally-mandated data sets are used: Minimum Data Set (MDS) used in nursing homes, Outcome & Assessment Information Set (OASIS) used in home health settings, and Inpatient Rehabilitation Facilities-Patient Assessment Instrument (IRF-PAI) used in inpatient rehabilitation facilities. CARE will standardize data across the legacy instruments.

CARE Data Element Analysis

The CARE analysis session reviewed the HL7 CDA and CCD and the NQF QDM. With those data frameworks as background, the TEP considered heuristics for prioritizing standardized elements for data exchange:

- Clinically relevant (such as in coordination of care)
- Useful from a quality measurement and/or risk adjustment perspective
- Likely to exist or should exist in coded form in an EHR
- No defined pattern in an existing interoperability specification (i.e. no CDA template yet exists)

The discussion on prioritization of data element considered the requirements of all actors, processes, and supporting documents.

The eQuality team proposed that some data elements need not be mapped to data standards using the rule, "if in doubt, leave it out." The TEP recommended, however, that the eQuality team review

© 2012, all rights reserved

and standardize for data exchange all CARE elements because they have already been vetted for relevance in previous development efforts of CMS.

New Templates

The TEP endorsed development of new templates to model CARE data not included or not adequately represented in existing standards. The CARE data element analysis session made it clear that the number of new templates designed in CDA and QDM for CARE will be greater than anticipated by the eQuality team. The eQuality team originally estimated only 180 data elements would require formal modeling, while the TEP requested over 400.

The TEP reviewed areas of the CARE data set that require new templates. While reviewing the CARE data set, the TEP members referenced the Discharge, Institutional Admission, and Long Term Care Hospital (LTCH) CARE forms which include examples of all CARE data elements.

The eQuality team will analyze the CARE data elements, and bring the new templates back to the TEP for review. After feedback from the TEP, the basic template design will be brought through HL7 ballot. eQuality will update the Consolidated Templates Draft Standard for Trial Use (DSTU), working with the HL7 Structured Documents Working Group and submitting it for the spring 2012 HL7 ballot. A full implementation of CARE will be developed with expected submission for the fall 2012 HL7 ballot.

Provide Transparency in Design Decisions

New and modified templates will be vetted with TEP members and stakeholders during the spring 2012 HL7 ballot.

The eQuality team will:

- Provide summaries of and access to previous work
- Enhance the CARE Element Analysis spreadsheet to identify relevant standards
- Vet new templates in the S&I framework

Supporting Adoption and Exchange

To support adoption and exchange, the TEP recommended developing a transition strategy that describes the steps needed to standardize data across legacy instruments for quality measurement and comparison of outcomes across settings and over time. The transition strategy may include an education plan, informational documents, a glossary of acronyms, overview definitions, and software tools such as the Care Interoperability Toolkit.

The TEP identified a list of entities requiring guidance for developing exchanges.

- Healthcare providers
    - Nursing homes and certified Medicaid nursing facilities (NFs), including those certified by Medicare as skilled nursing facilities (SNFs)
    - Acute care hospitals: inpatient, emergency rooms, and outpatient clinics (both freestanding and hospital based)

© 2012, all rights reserved

  - Long term care hospitals (LTCH)
  - Home health agencies
  - Inpatient rehabilitation facilities (IRFs) and rehabilitation hospitals
  - Senior dwelling locations (assisted living, Alzheimer care institutions)
  - Hospice
  - Behavioral health agencies
  - Psychiatric hospitals (community based and office based)
- Health Information Technology Vendors and Partners
  - Ambulatory, inpatient, enterprise, specialty, etc.
  - Those directly affected (currently using MDS, etc.)
  - Medical Neighborhood Health Information Exchanges (HIEs)
  - Payer Groups
  - Professional Associations (e.g. physician and nursing groups, advocacy groups, etc.)
  - Accountable Care Organizations
  - Research Groups (e.g. AMIA, health services researchers, major medical centers with research groups)
- Government
- Patients

The TEP suggested topics for informational documents that will support the transition from existing instruments to CARE.

- Intent of CARE overview—context within national strategy
- Report on CARE generation and submission work flow
- Relationship to Meaningful Use requirements
- Instructions for local validation testing
- Transition planning considerations
- Comprehensive interoperability strategy that highlights use of the long term care resources (architecture of interoperability)
- CDA-based CARE implementation guide with annotated examples

CARE Interoperability Toolkit

The TEP had a presentation on common interoperability tools and then discussed how the tools can aid exchange and adoption of CARE standards by communicating CARE data elements in CDA and creating CARE-based QDM and assemblage into eMeasures and QRDA.

Construction of a normative CDA requires knowledge of the HL7 Reference Information Model, HL7 data types, CDA templates in an Implementation Guide (IG), and terminology referenced in

© 2012, all rights reserved

those templates. **green**CDA is a methodology that minimizes amount of developer training needed by assigning easily understood business names to the HL7 RIM elements. Once assigned, a developer maps an application data store to the business names which are then transformed via XSLT to normative CDA messages. A **green**CDA solution for CARE, **green**CARE, may be included in the CARE Toolkit. The **green**CARE solution could provide a transformation for mapping CARE templates from a flat file source (e.g., comma delimited file) to CDA/CCD and creating reusable components for QDM patterns.

Schematron is a proposed validation component of the CARE Toolkit that tests for conformance to constraints defined in the IG or elsewhere. Schematron is provided with most HL7 CDA ballots to help implementers conform to the standard. For example, the Centers for Disease Control and Prevention (CDC) uses Schematron to validate Healthcare Associated Infections (HAI) CDA documents sent on their National Healthcare Safety Network (NHSN). Schematron can validate business rules, such as conditionally required items. Rules for conditionally required items are not normally included in Schematron because there is a the high probability that they will change. The TEP agreed the CARE business rules should remain separate.

The release of software tools raised concerns among the TEP about how technical support and maintenance will be handled, the versioning of tools to data elements, and how technology platform decisions are made. During the project contract, Lantana will work with CMS to support and keep the CARE Toolkit up-to-date. The TEP agreed that updating tools should be tied to updating CARE data elements. Platform considerations are addressed by using technology that remains platform agnostic through use of standard tools such as Java, Extensible Markup Language (XML), and Extensible Stylesheet Language Transformations (XSLT).

The TEP provided the following recommendations concerning the CARE Toolkit:

- Design for ease of use, implementation and integration
- Create and maintain a **green**CDA solution for CARE: **green**Care
- Explore transforming flat files to CDA (e.g., developing a transformation from comma delimited file to **green**Care)
- Keep tools up-to-date with the current CARE
- Use only platform-agnostic tools
- Consider standard release cycle and versioning
- Share the CARE Toolkit across providers and systems

© 2012, all rights reserved

Summary

The TEP provided the eQuality team valuable insight into our analysis approach, defined requirements for new exchange templates, and provided input on documentation audiences and tooling requirements. The TEP also generated interest among the members about CARE and interest in the project. The eQuality CARE TEP recommendations for analysis provide a segue for design work with the HL7 Structure Documents Work Group (SDWG). Projects developed through HL7 are candidates for future releases of Meaningful Use.

The eQuality team is developing new templates to support the exchange of CARE and will focus on tooling after they are submitted for ballot. The project will receive additional TEP input after the HL7 ballot submission in early April, 2012.

© 2012, all rights reserved

Action Items

Task	Description	Assigned To	Due Date
1	Provide access to previous work and summary explanations of the work.	Judy Tobin	Complete Report to Congress, C-HIEP, and COSS presentations were provided to the TEP.
2	Capture rationale for decisions (spreadsheet modification and population).	eQuality Team	All elements will be mapped to a standard and available for exchange. 9/15/2012
3	Provide crosswalks of CARE to existing instruments to TEP Members.	Judy Tobin	4/20/2012
4	Address the gaps in Cognitive/Behavior, Environmental, Med/Surg, and Medication Management, and make sure there are suitable templates for these categories. Team will analyze, answer TEP questions, categorize the templates, and then bring them back to the TEP for review.	eQuality Team	Proposal to HL7 by 6/8/2012
5	Host forum after CARE report to Congress has been published.	Judy Tobin	5/4/2012
6	Produce informative workflow document for generation and submission (input from the TEP).	eQuality Team	6/20/2012
7	HL7 Ballot for Spring 2012	eQuality Team	4/6/2012
8	Vet templates submitted for ballot and develop ballot comments.	TEP & eQuality Team	5/27/2012

© 2012, all rights reserved

TEP Questions and Comments with Responses

Throughout the TEP meetings, attendees were invited to write comments and questions on index cards to be placed in bags stationed along the meeting tables. This communication tool is called "Bag Its" and the questions left by the TEP attendees are answered here.

1. **Going forward, will CMS specifications be in a CDA/XML that uses links with C32/Meaningful Use data elements?**

   A CDA/XML representation for CARE, with Meaningful Use data elements, will be developed as part of the eQuality project.

2. **Cognitive and functional status elements are very dynamic, requiring aggregation and analysis, and may be misleading in a summary document without bigger assessment volumes.**

   CMS agrees. In a summary document we would identify whether we used standardized questions and answers and/or a particular standardized measurement scale and whether the receiving clinician should contact the assessing clinician.

3. **Cognitive – Should the CARE resource point out to the "reader" or author that added assessment should be viewed or included <u>in care plans</u>?**

   See #2.

4. **Functional – Will CARE require role-based assessments?**

   CMS does not prescribe roles for completion of assessments.

5. **CARE templates – In the category functional/impairment (self-care and <u>mobility</u>) – does "mobility" include mobility devices?**

   Mobility devices are identified under the Impairment items (Section V).

6. **One thing to think about in moving to adoption of CARE elements is aligning CMS information systems so that CMS payment, quality, and other systems can receive I/O documents from providers.**

   CMS agrees and is in the process of identifying resources at the enterprise level.

7. **Which of the 33+ quality measures published in the rural CMS ACO Rule supports transitions of care and care coordination? How does this impact the CARE tool?**

   We have not reviewed and flagged which of the 33+ are important for transitions of care.

8. **Can the CCD representation coordinate value sets using common value sets with, for example, <u>the Universal Bill</u>?**

   We will review the Universal Bill value sets.

9. **In the Health Quality Measures Format (HQMF) process, how will "Disclosure Accounting" mandated by the Health Insurance Portability and Accountability Act (HIPAA) be handled?**

   This is an important topic but is out of scope for this phase of the project.

© 2012, all rights reserved

10. **The UTF (Universal Transfer Form) medical summary document is required by Massachusetts and several other states.**

    We are aware of the UTF and will get additional input on the UTF and other transfers through national subject matter experts, as well as experts at the Office of National Coordinator (ONC) Standards and Interoperability (S&I) S&I framework.

11. **Can some quality measures be set in a domain called "Continuity of Care" measures, i.e. in new or worsening pressure ulcers or other "new infections" situations where the cause of the "issue" starts at a different provider than the current provider?**

    CMS is evaluating the CARE data set for possible future inclusion of a data element to identify conditions, such as pressure ulcers and infections, that are "present on admission" to the admitting setting.

12. **As long as we tie CARE to reimbursements (directly or through pay-for-performance) and do not connect to routine assessments, there will be biases in the data. What is the long-term plan to get to the clearest picture of the patient?**

    Historically, CMS has not been prescriptive with how providers assess patients. The long-term vision for collection of assessment data is that it will be generated from an Electronic Health Record capable of recording data from authoritative sources for specific data.

13. **CARE comment: To group Assisted Living, under which much Alzheimer/Dementia care falls, the "home" doesn't provide clinical clarity or settings for a true picture. How does Home Health or Hospice in a home or another setting get coded?**

    We will use standard clinical locations codes available in existing standards. List of currently available values: http://phinvads.cdc.gov/vads/SearchAllVocab_search.action?searchOptions.searchText=Healthcare+Service+Location+%28NHSN%29

14. **Help implement:**

    a) SNF – Can these be run synchronously CDA-MDS to CARE with crosswalks to MDS 3.0?

    b) LTCH

    c) Home Health

    d) Rehab Hospital

    e) Acute Hospital

    CMS will provide a crosswalk from CARE to existing standards.

15. **Reminder: Send report/materials to: Norma Lang** – nlang@uwm.edu

    Thank you. We will send to all TEP members.

© 2012, all rights reserved

List of Acronyms and Abreviations

ACO	Accountable Care Organization
C-HIEP	CARE-Health Information Exchange Project
CARE	Continuity Assessment Record and Evaluation
CCD	Continuity of Care Document
CDA	Clinical Document Architecture
CMS	The Centers for Medicare and Medicaid Services
COSS	CARE Open Source Solution
DSTU	Draft Standard for Trial Use
EHR	Electronic health record
HIE	Medical Neighborhood Health Information Exchange
HIPAA	Health Insurance Portability and Accountability Act of 1996
HL7	Health Level 7
HQMF	Health Quality Measures Format
IG	Implementation Guide
I/O	Input/Output
IRF-PAI	Inpatient Rehabilitation Facilities-Patient Assessment Instrument
IRF	Inpatient Rehabilitation Facility
LTCH	Long term care hospitals
MDS	Minimum Data Set
NF	Nursing facility, certified by Medicaid
NQF	National Quality Forum
OASIS	Outcome & Assessment Information Set
ONC	Office of the National Coordinator
QDM	Quality Data Measures
QDM	Quality Data Model
QRDA	Quality Reporting Document Architecture
S&I	Standards and Interoperability
SNF	Skilled nursing facility, certified by Medicare
TEP	Technical Expert Panel
UTF	Universal Transfer Form

© 2012, all rights reserved

XML	Extensible Markup Language
XSLT	Extensible Stylesheet Language Transformations

© 2012, all rights reserved