Welcome!

HL7 Child Health Work Group Webcast

July 23, 2010
(770) 657-9270, code: 324598
Overview of Sessions

Child Health Work Group Meeting
July 23, 2010

- 9:00 AM-10:30 AM central
  Data Standards for EHR System Functionality

- 11:00 AM-12:30 PM central
  Data Standards and Quality

- 1:00 PM-2:30 PM central
  National Child Health HIT Efforts
Ground Rules

1. Use mute feature on phone
2. Avoid “hold”; Hang up if necessary
3. Introduce self when speaking
4. Stay on schedule
   • Stay on topic
   • Collect electronic questions
   • Use parking lot
Data Standards and Quality
11:00 AM-12:30 PM Central

- Agenda and Objectives
- Introductions
- Data Standards and Quality
- HL7 Neonatal Care Report
- Relationship of Standards
- Neonatal Derived Functional Model
- Discussion and Next Steps
Meeting Objectives

Data Standards and Quality: Neonatology Example

1. Clarity on role of Child Health WG
2. Through education, encourage adoption of standards
3. Shed light on process of working through HL7 to develop standards to inspire
4. Explore possible project to develop neonatal derived functional model
Introductions

Presenter
Gay Giannone, RN
Interim Chair, HL7 Child Health
Alschuler Associates, LLC

Presenter
Mike Padula, MD
Volunteer, HL7 Child Health
Children’s Hospital of Philadelphia

Presenter
Chris Longhurst, MD
Lucile Packard Children’s Hospital

Facilitator
Joy Kuhl
Admin Co Chair, Child Health
Alliance for Pediatric Quality
RSVPs

- Yvonne Bachert, Texas Children’s Hospital
- Andre Boudreau, Canadian Standards Collaborative WG
- Ted Carithers, College of American Pathologists
- Joe Carpenter, Vermont Oxford Network
- David Classen, MD, CSC
- Teresa Conway, RN, Intermountain Healthcare, GE Healthcare Consultant
- Ipsita Das, Booz Allen Hamilton
- Dinakar Desai, Texas Children’s Hospital
- Mohamed Gaffoor, MD, Maimonides Medical Center
- Gay Giannone, RN, Alschuler Associates, LLC
- Suzanne Gonzales-Webb, SAIC
- Mary Greene, Booz Allen Hamilton
- Marvin Harper, MD, Children’s Hospital Boston
- Craig Joseph, MD, Epic
- Eloise Kooima
- Susan Kressly, MD, Kressly Pediatrics
- Jacqueline Kueser, Child Health Corporation of America
- Patricia MacTaggart, GW Health Policy Department
- Greg Omlor, MD, Akron Children’s Hospital
- Aileen Sedman, MD, NACHRI
- Joseph Schulman, MD, The New York Presbyterian Hospital
- Geraldine Wade, MD, Clinical Informatics Consulting
- Carl Weigle, MD, Children’s Hospital Wisconsin
- Serafina Versaggi, Eversolve, LLC
HL7 Child Health Work Group

**Founded:** 2003

**Leadership:** David Classen, MD, Gay Giannone, RN, Andy Spooner, MD and Feliciano Yu, MD

**Participation:** Primarily CMIOs, physicians, medical informatics experts and vendor representatives

**Distribution:** 100+ previously on email; listserv unknown

**Operations:** One in person meeting and two webcast meetings in conjunction with HL7 work group meetings; Other calls and webcasts as needed
Emphasis To-Date

- **Functional Data Standards**
  - Standards for EHR systems include critical child health functions
  - Published EHR system standards for general pediatrics
  - Work was baseline for CCHIT child health certification criteria, other

- **Terminology Data Standards**
  - Explored improving terminology systems for pediatrics using AAP policy statements (e.g. SNOMED)
  - Funding not available to support further work

- **Messaging Data Standards**
  - Created immunization activity diagrams and story boards – now part of HL7 messaging standards
  - Provided incubation and leadership in HL7 to develop standard for reporting quality measure data – Quality Reporting Document Architecture using HL7 CDA
  - Provided support to create standards-based neonatal care report using HL7 CDA
Data Standards and Quality

Gay Giannone MSN, RN
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Nurse Informaticist Consultant
Alschuler Associates, LLC
Goals

- Provide brief overview of pertinent standards related to quality
- Provide update on these standards
- Discuss how a neonatal-derived functional model could inform these standards
The List: What We’ll Review

1. Health Quality Measures Format (HQMF)
2. HL7 Clinical Document Architecture (CDA) Release 2
3. HL7 Quality Reporting Document Architecture (QRDA)
4. Reuse of Templates from HL7 CDA Implementation Guides
5. HL7 Continuity of Care Document (CCD)
6. HITSP C32
7. HL7 Healthcare Associated Infections CDA IG
1. Health Quality Measures Format (HQMF)

- A standard for representing a health-quality measure as an electronic document
- Provides for consistency and unambiguous interpretation of quality measures via
  - Standardization of a measure's structure, metadata, definitions, and logic
  - Formal representation of the clinical, financial, and/or administrative concepts and logic within an eMeasure

- A document markup standard that specifies the structure and semantics of clinical documents for electronic health information exchange
- Use is expected to increase significantly in the next five years:
  
  Adoption by the U.S. Office of the National Coordinator for Health Information Technology (ONC)
3. Quality Reporting Document Architecture (QRDA)

- A conformance profile on CDA Release 2 for quality reporting at the patient level
- Provides a standard structure to report quality measure data
- Can reuse templates from other CDA conformance profiles as appropriate
- The DSTU close date is April 2011, at which time re-ballot could occur
4. Reuse of Templates from other CDA Implementation Guides

- Other CDA Implementation Guides important in the quality spectrum include
  - Continuity of Care Document (CCD)
  - Healthcare Associated Infections (HAI)
  - The Neonatal Care Report (NCR)
- Reuse templates in Quality Reporting
- Template reuse decreases work
5. Continuity of Care Document (CCD)

- From the perspective of CDA, the ASTM Continuity of Care Record (CCR) is a standardized data set that was used to constrain CDA specifically for summary documents.
- The resulting specification is known as the Continuity of Care Document (CCD).
- CCD templates are often reused or constrained to express quality data elements.
6. HITSP C32

- A Health Information Technology Standards Panel (HITSP) component
  - Adds additional constraints on HL7's CCD for exchanging summary documents in the U.S.
  - Points to other HITSP documents that constrain specific module fields and vocabulary recommended for the U.S.
7. Healthcare Associated Infections (HAI)

A conformance profile on CDA Release 2 to specify a standard for electronic submission of Healthcare Associated Infection (HAI) Reports

About 1 dozen report types - some examples:
- Central Line Infections
- Urinary Tract Infections
- Surgical Site Infections
Standards and a Neonatal Derived Functional Model

- The definition of a neonatal functional model would inform future projects
- Existing templates
  - can inform the development of the functional model
  - data elements could be more easily mapped into CDA
Office of the National Coordinator for Health Information Technology (ONC), Department of Health and Human Services

Ruling on July 13, 2010

... defines recommendations and expectations for interoperability through 2012
Impacts on Described Standards

- The final rule adopts both the CCR and CCD as patient summary record standards.
- The final rule now requires “HITSP C32” (version 2.5) as the implementation specification for CCD.
- The final rule recommends many vocabularies already used in CDA templates.
Impact on Described Standards

Quality Reporting

The final rule adopts the CMS Physician Quality Reporting Initiative (PQRI) 2009 Registry XML Specification for reporting to CMS eMeasure (HQMF)

The final rule did not mentioned eMeasure AMA (as well as National Committee for Quality Assurance (NCQA) and Quality Improvement Program (QIP)) measures are currently being retooled in HQMF format by NQF
Impact on Described Standards

Conclusion:

- ONC recognizes that gaps exist
- The Final Rule covers limited use cases, the “HITSP Replacement” contract has just been awarded and will be looking at the gaps and areas where the current standards need to be harmonized.
Mike Padula, MD

CHNC: HL7 NEONATAL CARE REPORT UPDATE
Relationship of Standards: A Neonatology Example

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Background

A White paper developed in conjunction with Child Health Corporation of America (CHCA) and Alschuler Associates:

“Report on eMeasure, Quality Reporting Document Architecture, and Neonatal Care Report Compatibility”

... a report on the flow, use, and reuse of data to improve Neonatal Care

...applicable to many healthcare domains
Explores the relationship among two HL7 CDA standard conformance profiles:

- Neonatal Care Report (NCR)
- Quality Reporting Document Architecture (QRDA)

and

- A complementary HL7 standard called eMeasure (HQMF)
Data collection, research, measure development

CHNC Database

Comparative effectiveness research

Submit evidence-based measures to endorsing organization (NQF)

Create meaningful quality eMeasures to query EHRs

CHCA Hospital EHR A

CHCA Hospital EHR B

CHCA Hospital EHR C

CHCA Hospital EHR D

NCR CDA

NCR CDA

CHNC Templates Database

Measure reporting, performance improvement

Create QRDAs

9 Measure Quality

Encourage evidence-based interventions

Neonatal care outcomes improve nationwide
The NCR, QRDA, and eMeasure all contain or specify data in standardized templates about interventions or results that are associated with patient outcomes.
## Standards Reuse and Quality Improvement

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>NCR</td>
<td>contains data compiled throughout an infant’s neonatal ICU encounter and thought to be related to outcomes of sick infants</td>
</tr>
<tr>
<td>eMeasure</td>
<td>defines quality measures for consistency and unambiguous interpretation</td>
</tr>
<tr>
<td>QRDA</td>
<td>reports data from EHRs about a specific quality measure or group of measures to organizations that measure quality</td>
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Standards Reuse and Quality Improvement

- NCR data-element definitions (templates) can be reused within neonatal quality measures
- Vetted measures can inform future iterations of NCR to establish template reuse between the NCR and QRDA
- New eMeasures can ensure capture of the correct data elements from the EHRs
Standards Reuse and Quality Improvement

This approach provides these potential win-win situations:

- Providers can reuse data structured for NCR when they report on quality measures using QRDA
- Researchers can use the collected NCR-compliant data to develop new measures
- Providers can assess and improve neonatal care nationwide
Project Notes

- Child Health Work Group was a co-sponsor on both NCR and QRDA
- Members of the work group helped develop and move these standards through the development process
Your Involvement Can Develop New Standards

- Identify project in your domain that would benefit by interoperability
- Develop achievable scope (incremental interoperability)
- Identify key stakeholders who can drive the project
- Identify appropriate HL7 workgroups (e.g., Structured Documents and Child Health)
- Obtain HL7 project approval
- Get to work!
Chris Longhurst, MD

NEONATAL DERIVED FUNCTIONAL MODEL DISCUSSION
Functional Standards: Relationships of Artifacts

EHR System Functional Model
- General Functional Requirements for all EHR Systems

Child Health Functional Profile for EHR Systems
- EHR-S FM + Unique Child Health Criteria and Constraints

Derived Functional Profiles for EHR Systems
- EHR-S FM + CHFP + Unique domain criteria and constraints
Standards and a Neonatal Derived Functional Model

- The definition of a neonatal functional model would inform future projects
- Existing templates
  - can inform the development of the functional model
  - data elements could be more easily mapped into CDA
DISCUSSION, NEXT STEPS
Decisions Made
Action Items
Parking Lot
QUESTIONS?

Press unmute your line. Please identify yourself.

or

Use the Q&A function on the menu bar.
WE LOST AUDIO CONNECTION

To Rejoin Dial:
(770) 657-9270, code: 324598
BACK UP SLIDES
Our Criteria
Conformance for Derived Profile

Quoted from Child Health Functional Profile for EHR Systems

- The workgroup contends that the Child Health-FP includes all the general functions that might be reasonably expected to be available in an EHR system used to care for children in the United States.
- We also recognize the value in the development of derived profiles applicable to certain subsets of EHR systems used to care for children.
- In fact, the workgroup strongly feels that the development of derived profiles will likely be essential to support the evaluation of systems designed to support subsets of child healthcare functions.
- For example, derived profiles for pediatric specialties, such as neonatology, could be developed to support certification in those niches.
- In order for a derived profile to claim conformance with the Child Health-FP, the profile **SHALL** include all of the Child Health-FP functions. The workgroup solicits feedback regarding functions encountered in the development of a derived profile not encountered in the Child Health-FP.
Function: “Manage Immunization Administration”

“Capture and maintain discrete data concerning immunizations…”

Statement: Capture and maintain discrete data concerning immunizations given to a patient including date administered, type, manufacturer, lot number, and any allergic or adverse reactions. Facilitate the interaction with an immunization registry to allow maintenance of a patient's immunization history.

Description: During an encounter, recommendations based on accepted immunization schedules are presented to the provider. Allergen and adverse reaction histories are checked prior to giving the immunization. If an immunization is administered, discrete data elements associated with the immunization including date, type, manufacturer and lot number are recorded. Any new adverse or allergic reactions are noted. If required, a report is made to the public health immunization registry.

1. The system **SHALL** provide the ability to recommend required immunizations, and when they are due, during an encounter based on widely accepted immunization schedules.

2. The system **SHALL** provide the ability to recommend required immunizations based on patient risk factors.

3. The system **SHALL** perform checking for potential adverse or allergic reactions for all immunizations when they are about to be given.

4. The system **SHALL** provide the ability to capture immunization administration details, including date, type, lot number and manufacturer.

5. The system **SHALL** provide the ability to capture other clinical data pertinent to the immunization administration (e.g. vital signs, adverse reactions).

6. The system **SHALL** record all data elements associated with any immunization.

7. The system **SHOULD** provide the ability to capture standard codes with discrete data elements associated with an immunization.

8. The system **SHALL** provide the ability to update the immunization schedule.
How to Get Started

- Contact HL7 Child Health WG Co Chairs for Support
- Develop Project Scope Statement
- Submit through HL7 for Approval
- Begin Work (open, collaborative effort); Prepare Materials for Ballot based on HL7 Publishing Schedule
- Revise as Needed Based on Ballot Feedback
Sample Project Scope Decisions

1. **Name**
   - E.g. Neonatology: Derived Functional Profile for EHR Systems

2. **Purpose**

3. **Scope, e.g.**
   - United States
   - Inpatient and Outpatient
   - Age range (0-18)
   - Receiving care in which settings
   - Etc.

4. **Major Categories of Functions Addressed**
   - Cancer, Transplant, AIDS, Paralysis, Neonatology Intensive Care, Cardiac Intensive Care, Ophthalmology, Pregnancy Under Age 18, etc.

5. **Participants**
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On behalf of Alliance for Pediatric Quality
AAP, ABP, CHCA & NACHRI