IMPACT, Standards, and Interoperability: The Road Ahead

Tuesday, August 25, 12 PM ET / 9 AM PT

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McKnight's SUPER TUESDAYS

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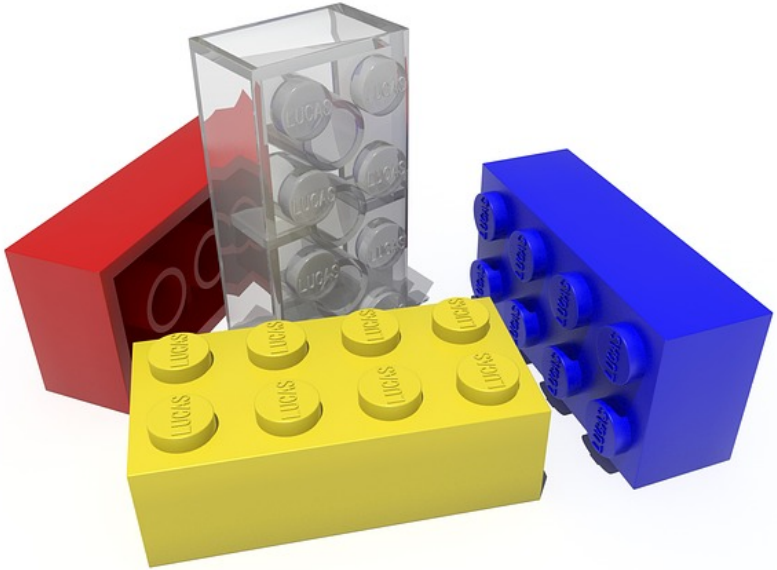

BUILDING BLOCKS TO INTEROPERABILITY

In Post-Acute Care

Lynn Perrine, MSN, RN
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August 25, 2015

Speakers

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Objectives

- Understand IMPACT Act requirements

  Improving **M**edicare **P**ost-**A**cute **C**are **T**ransformation Act of 2014
- Identify quality measure domains
- Realize how existing and emerging standards promote interoperability
- Recognize how standards support/facilitate compliance

POLICIES

Improving Medicare Post-Acute Care Transformation (IMPACT) Act of 2014

- Bi-partisan bill introduced in March, 2014 U.S. House and Senate
  - Passed on September 18, 2014
  - Signed into law by President Obama October 6, 2014
- Requires standardized patient assessment data for:
  - Assessment and Quality Measures
  - Quality care and improved outcomes
  - Discharge Planning
  - Interoperability
  - Care coordination

See References slide for links.

Scope

PAC Settings	Standardized Assessment Instruments/Data Sets
Home health agencies (HHA)	Outcome and Assessment Information Set (OASIS)
Skilled nursing facilities (SNF)	Minimum Data Set (MDS)
Inpatient rehabilitation facilities (IRF)	Inpatient Rehabilitation Facility-Patient Assessment Instrument (IRF-PAI)
Long-term care hospitals (LTCH)	Long Term Care Hospital CARE Data Set (LCDS)

IMPACT Act Requirements

PAC providers must report:

- Standardized assessment data
- Data on quality measures
- Data on resource use and other measures

PAC assessment instruments must be modified to:

- Enable the submission of standardized data
- Compare data across all applicable providers
- Revise or replace duplicative data elements

Reporting Requirements

Standardized Assessment Data:

- Functional status
- Cognitive function and mental status
- Special services, treatments, and interventions
- Medical conditions and co-morbidities
- Impairments

Reporting Requirements

Quality measure domains:

- Skin integrity
- Functional status
- Medication reconciliation
- Major falls
- Patient preference

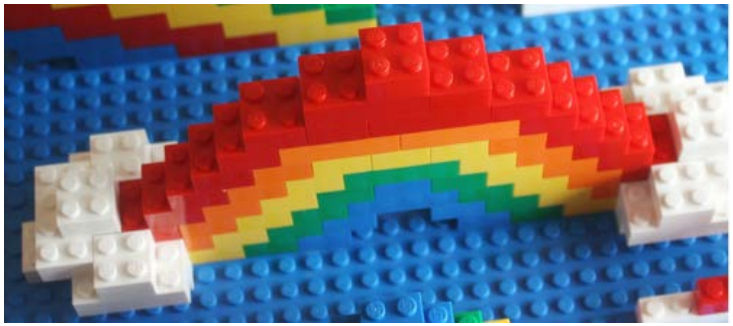
Current State to Future State

Multiple incompatible data sources

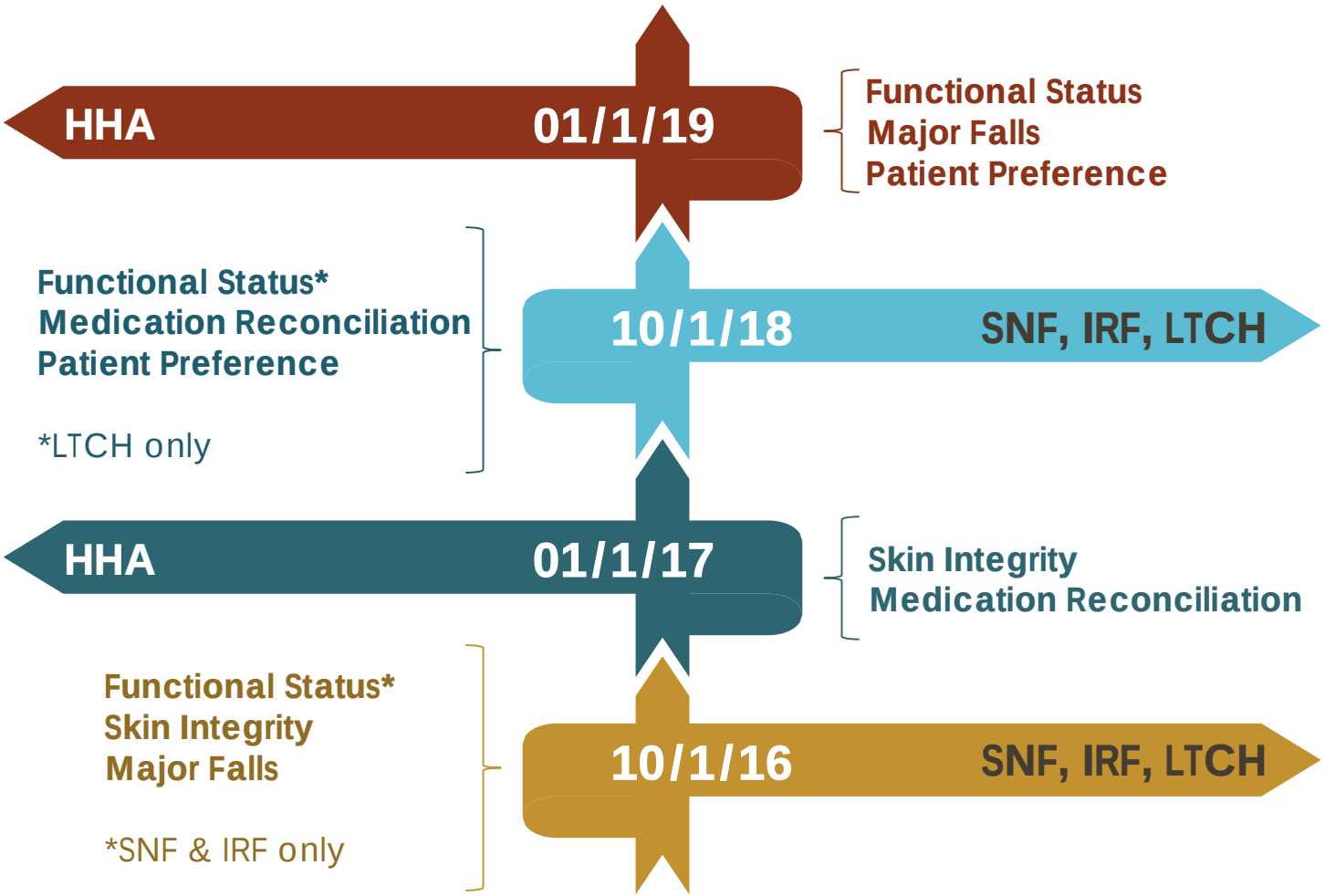
- Not standard across settings
- Lack uniformity
- Not interoperable
- Communication issues
- Duplicative documentation
- Quality measures are setting-specific

Uniform assessment data elements

- Exchange patient-centered health information
- Promote high quality care
- Support care transitions
- Reduce documentation burden
- Enable data use/reuse
- Expand QM automation
- Support Survey & Certification process
- Generate CMS payment



IMPACT Act Timeline



21st Century Cures Act

- Passed on July 10, 2015 by the House of Representatives
- Increases funding to National Institutes of Health
- Electronic health information components:
  - Secure transfer
  - Accessibility
- Defines six categories of standards required for interoperability:
  - Vocabulary and terminology
  - Content and structure
  - Transport of information
  - Security
  - Service
  - Querying and requesting health information for access, exchange, and use

Source: HCI *Healthcare Informatics*. See References slide for links.

INTEROPERABILITY

Why do we want interoperability?

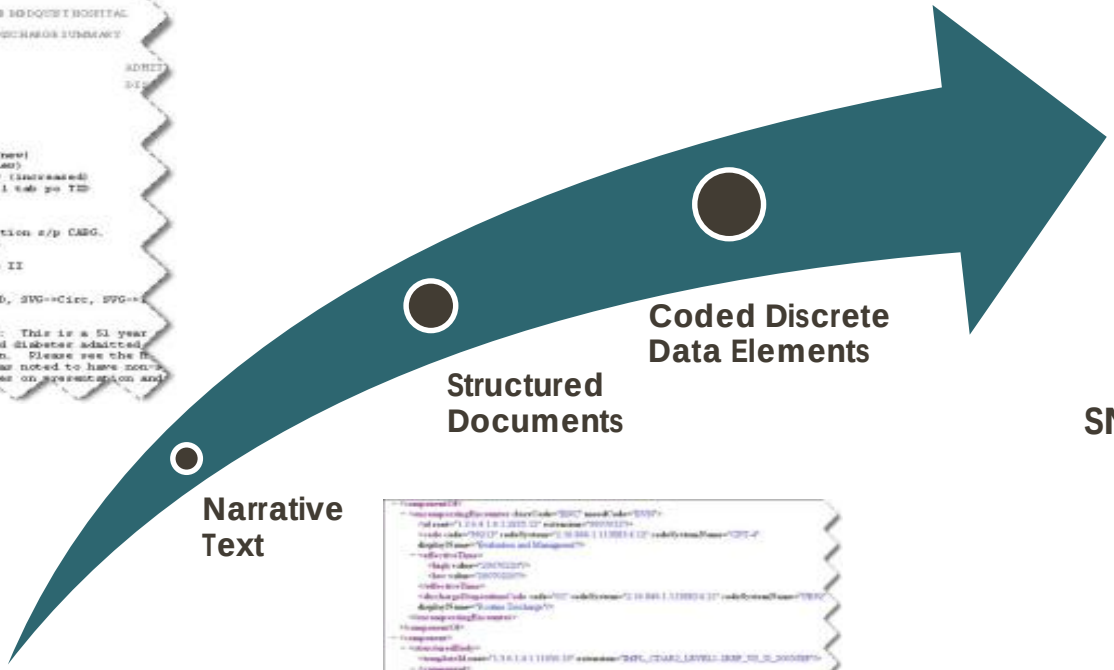
Main driver: Improve patient safety and service quality.

- Ensure precision of clinical information
- Reduce incidence of medical errors
- Save costs by avoiding fraud and duplication of services
- Save time for practitioners and patients
- Create a longitudinal, unique, shared, life-long electronic health record (EHR)

Usually a combination of these goals drives the need for interoperability in a given setting.

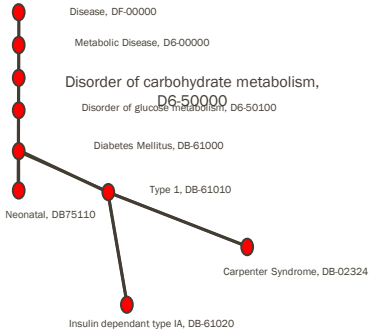
Incrementalism

1. Get the data flowing.
2. Incrementally add structure where it is valuable to do so.

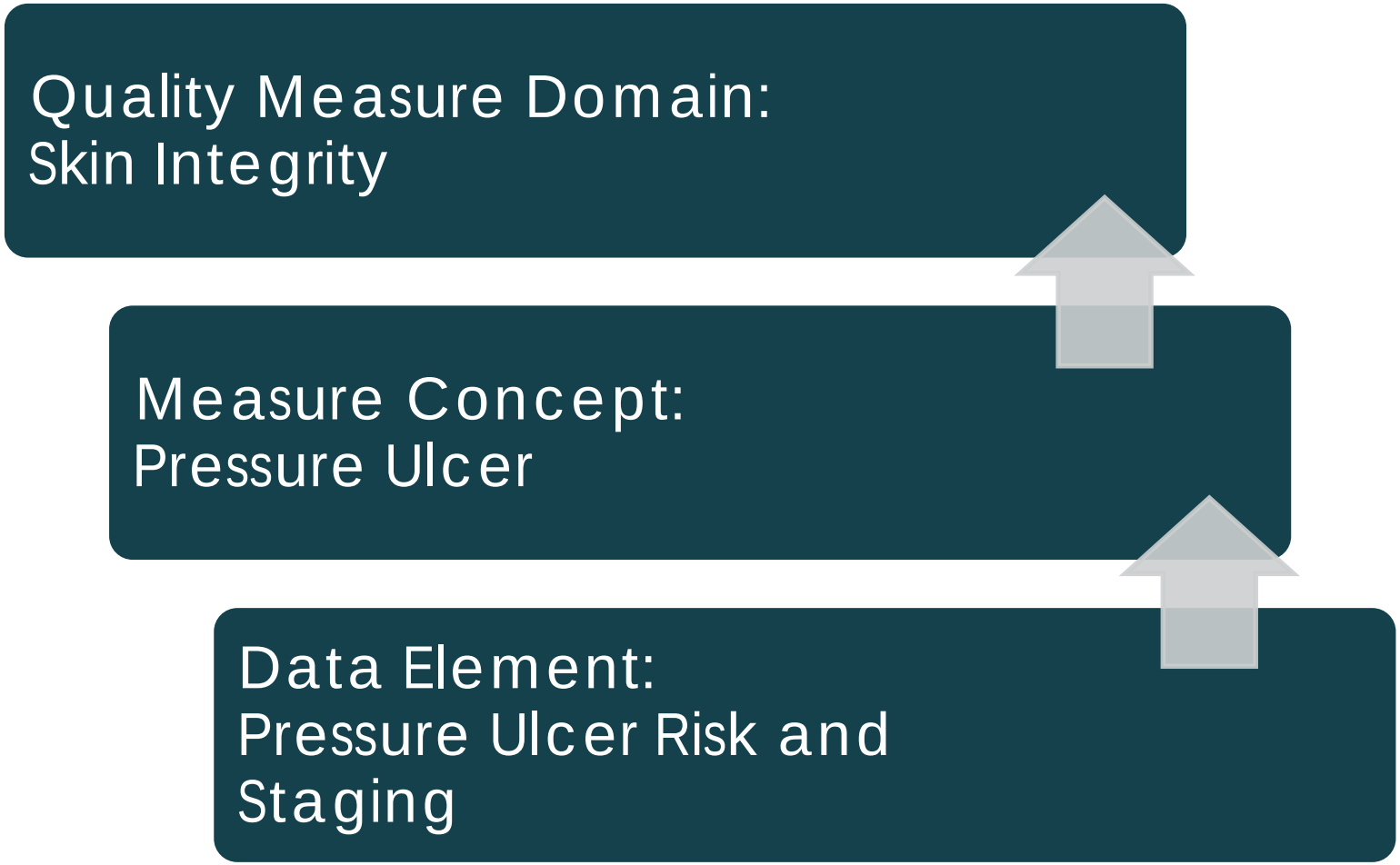


- Quality Reporting
- Decision Support
- Clinical Applications
- Meaningful Use

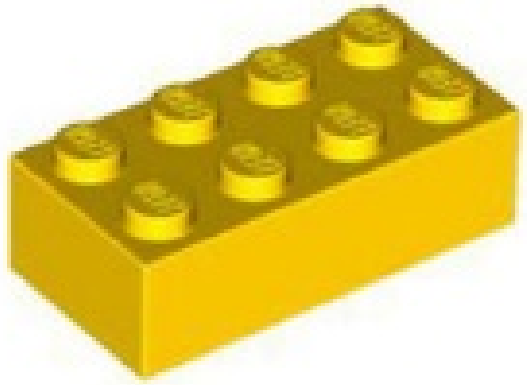
SNOMED CT



Example: PAC Incrementalism



STANDARDIZATION



Standards are a Prerequisite to Functionality

- Enable communication and trade
- Measurement tools not required
- Consensus process

Where do standards come from?

Document Standards

- **Health Level Seven (HL7):** Clinical Document Architecture (CDA)

Messaging Standards

- **HL7:** Version 2.x (V2), Version 3 (V3), Fast Healthcare Interoperability Resources (FHIR)
- **National Council for Prescription Drug Programs (NCPDP)**
- **ASC X12**: X12
- **National Electrical Manufacturers Association (NEMA):** Digital Imaging and Communications in Medicine (DICOM)

Vocabulary

- **Regenstrief:** Logical Observation Identifiers Names and Codes (LOINC®)
- **International Health Terminology Standards Development Organisation (IHTSDO):** Systematized Nomenclature of Medicine-Clinical Terms (SNOMED CT®)
- **National Library of Medicine (NLM)**

Transport Standards

- **World Wide Web Consortium (W3C):** Hypertext Transfer Protocol (HTTP), Simple Mail Transfer Protocol (SMTP)

Integration Standards

- Integrating the Health Enterprise (IHE)

Documents & Messaging Standards Development

HL7 International

- The global authority on interoperability standards
- An American National Standards Institute (ANSI)-accredited Standards Developing Organization (SDO)
- A not-for-profit organization of volunteers
- Members in over 55 countries

Scope:

- Data exchange standards
- Clinical and administrative data domains

HL7 Standards

Clinical Exchange Standards

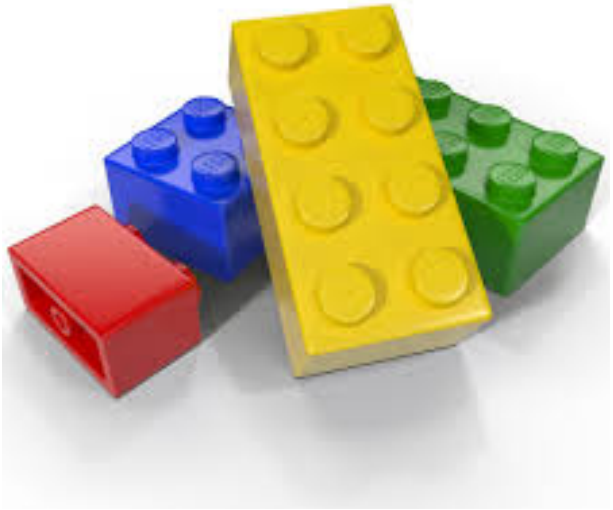
- Clinical Document Architecture (CDA)
- Consolidated CDA (C-CDA)
- Fast Healthcare Interoperability Resources (FHIR)

Quality Measurement Standards

- Quality Data Model (QDM)
- Health Quality Measure Format (HQMF)
- Quality Reporting Document Architecture (QRDA)

CLINICAL DOCUMENT ARCHITECTURE

CDA



What is CDA?

- International standard to communicate clinical information
- Uses a document markup standard called XML
- Characteristics of clinical document:
  - Persistence
  - Stewardship
  - Context
  - Wholeness
  - Human readability
  - Potential for authentication
- Supports incremental interoperability

Why CDA?

- Defines a generic pattern for clinical concepts
- Clinical concepts to be entered and stored in any format and then transformed into a CDA document
- Provides a standard wire format for exchanging clinical information between settings
- Concepts can be assembled into document types (e.g. Discharge Summary, Consult Note)
- CDA supports a wide spectrum of use cases
  - Primary Care (Continuity of Care Document, Referral Note)
  - Quality Reporting (Quality Reporting Document Architecture [QRDA])
  - Public Health (Healthcare Associated Infection [HAI] Reporting)

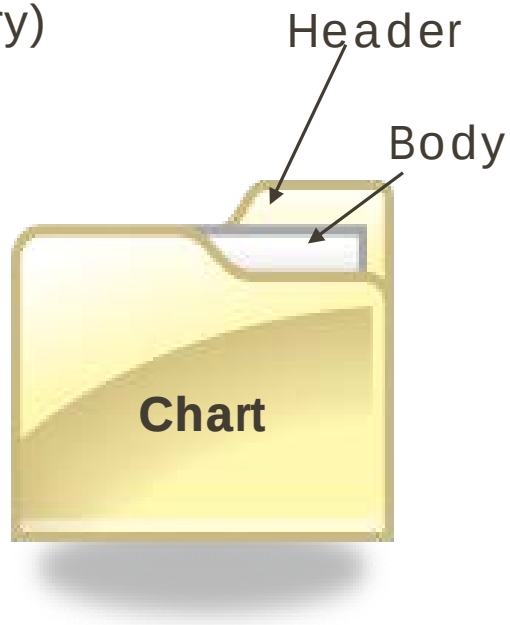
CDA Structure

Header identifies

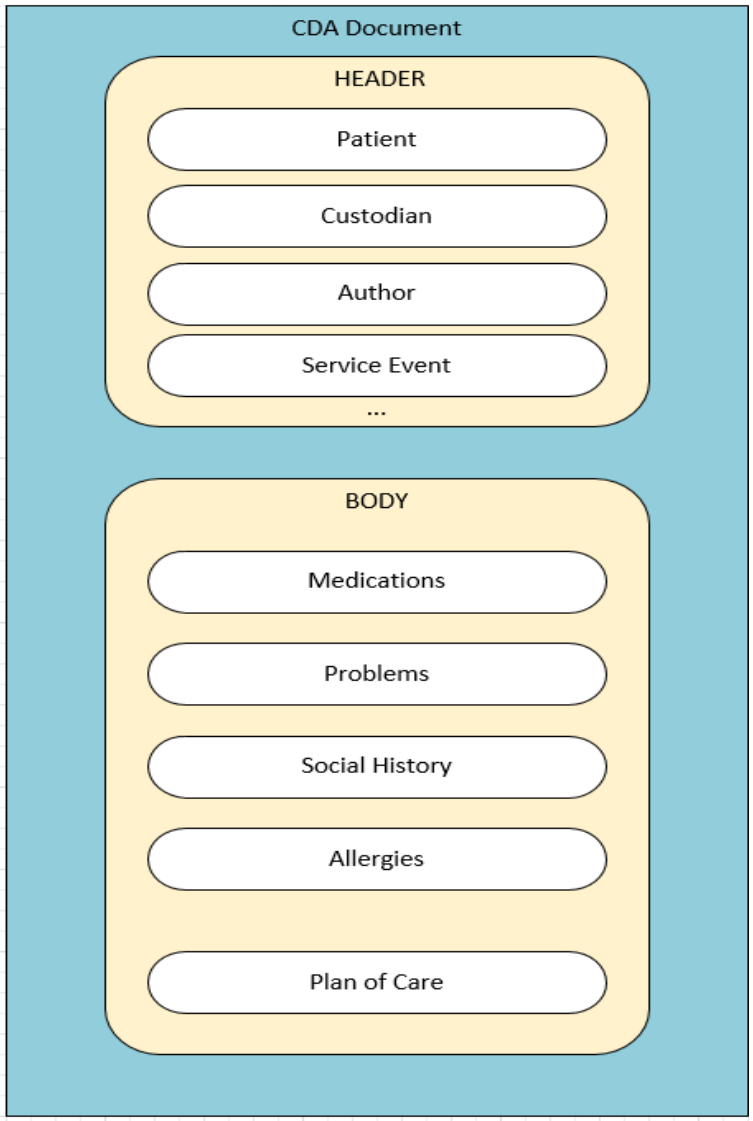
- Patient
- Author
- Encounter information
- Type of document (e.g., Discharge summary)

Body contains

- Contains the clinical content
- Must contain narrative content
- May contain coded content
- Supports both
  - StructuredXMLBody includes
    - Section(s) – human-readable
    - Entry(s)– discrete clinical statements for machine processing
  - NonXMLBody examples
    - PDF
    - JPEG



CDA XML Example




```
        <patientRole>
        <id extension="444-22-2222" root="2.16.840.1.113883.4.1"/>
        <!-- Example Social Security Number using the actual SSN OID. -->
        <addr use="HP"> [8 lines]
        <telecom value="tel:+1(555)555-2003" use="HP"/>
        <!-- HP is "primary home" from HL7 AddressUse 2.16.840.1.113883.5.1119 -->
        <patient>
            <!-- The first name element represents what the patient is known as -->
            <name use="L">
                <given>Eve</given>
                <family qualifier="SP">Betterhalf</family>
            </name>
            <!-- The second name element represents another name associated with the patient -->
            <name use="SRCH"> [3 lines]
            <administrativeGenderCode code="F" displayName="Female" [1 line]
            ...
<!-- ****************** CDA Body ******************** -->
<component>
    <structuredBody>
        <!-- ***************** ALLERGIES ************** -->
        <component>
            <section>
                <!-- *** Allergies section with entries required *** -->
                <templateId root="2.16.840.1.113883.10.20.22.2.6.1.2"/>
                <code code="48765-2" codeSystem="2.16.840.1.113883.6.1"/>
                <title>ALLERGIES AND ADVERSE REACTIONS</title>
                <text>
                    <paragraph>No known drug allergies</paragraph>
                </text>
                <entry typeCode="DRIV">
                    <act classCode="ACT" moodCode="EVN">
                        <!-- ** Allergy concern act ** -->
                        <templateId root="2.16.840.1.113883.10.20.22.4.30.2"/>
```

Human Readable CDA

Summary of Patient Chart

Patient	Eve Betterhalf		
Date of birth	May 1, 1975	**Sex**	Female
Race	White	**Ethnicity**	Not Hispanic or Latino
Contact info	Primary Home: 2222 Home Street Beaverton, OR 97867, US Tel: +1(555)555-2003	**Patient IDs**	444-22-2222 2.16.840.1.113883.4.1
Document Id	TT988 2.16.840.1.113883.19.5.99999.1		
Document Created:	September 15, 2012, 10:30, PST		
Performer (primary care provider)	Patricia Primary, M.D. of The DoctorsTogether Physician Group		
Author	Patricia Primary, M.D.		
Contact info	1004 Healthcare Drive Portland, OR 99123, US Tel: +1(555)555-1004		
Next of kin	Boris Betterhalf		
Contact info	Primary Home: 2222 Home Street Beaverton, OR 97867, US Tel: +1(555)555-2008		
Emergency contact	Boris Betterhalf		
Contact info	Primary Home: 2222 Home Street Beaverton, OR 97867, US Tel: +1(555)555-2008		

PROCEDURES

Procedure	Date
Colonic polypectomy	1998

RESULTS

Result Type	Result Value	Relevant Reference Range	Interpretation	Date
Urea nitrogen, Serum	Pending	Pending	Pending	March 20, 2008

SOCIAL HISTORY

Social History Observation	Description	Dates Observed
Current Smoking Status	Unknown if ever smoked	September 10, 2012
Tobacco Use	Moderate cigarette smoker, 10-19/day	February, 2009 - February, 2011

VITAL SIGNS

Date / Time:	Sept 10, 2012	Sept 1, 2011
Height	177 cm	177 cm
Weight	86 kg	88 kg
Blood Pressure	132/88	128/80

CDA: A Document Exchange Specification

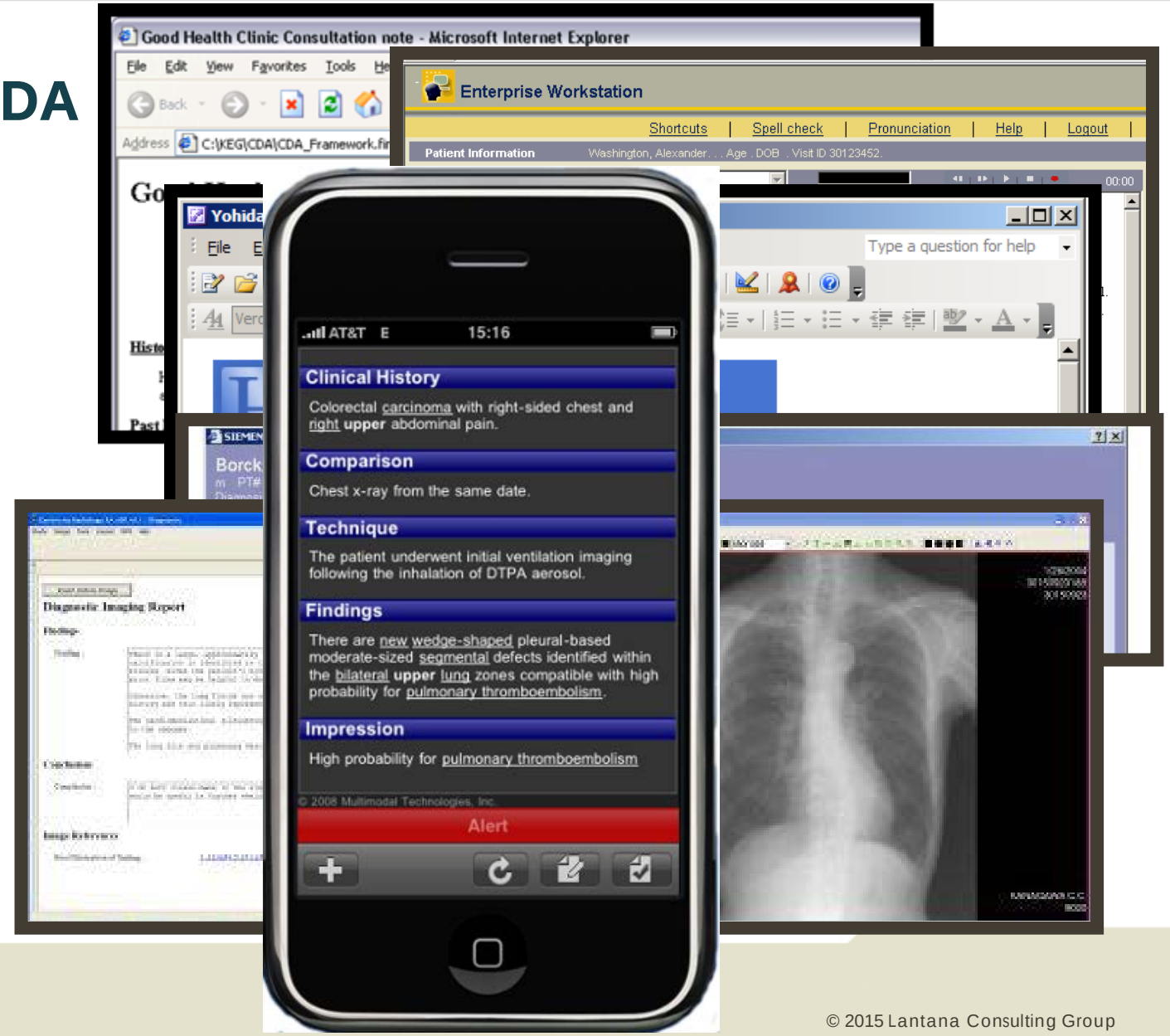
This is a CDA

and this

and this

and this

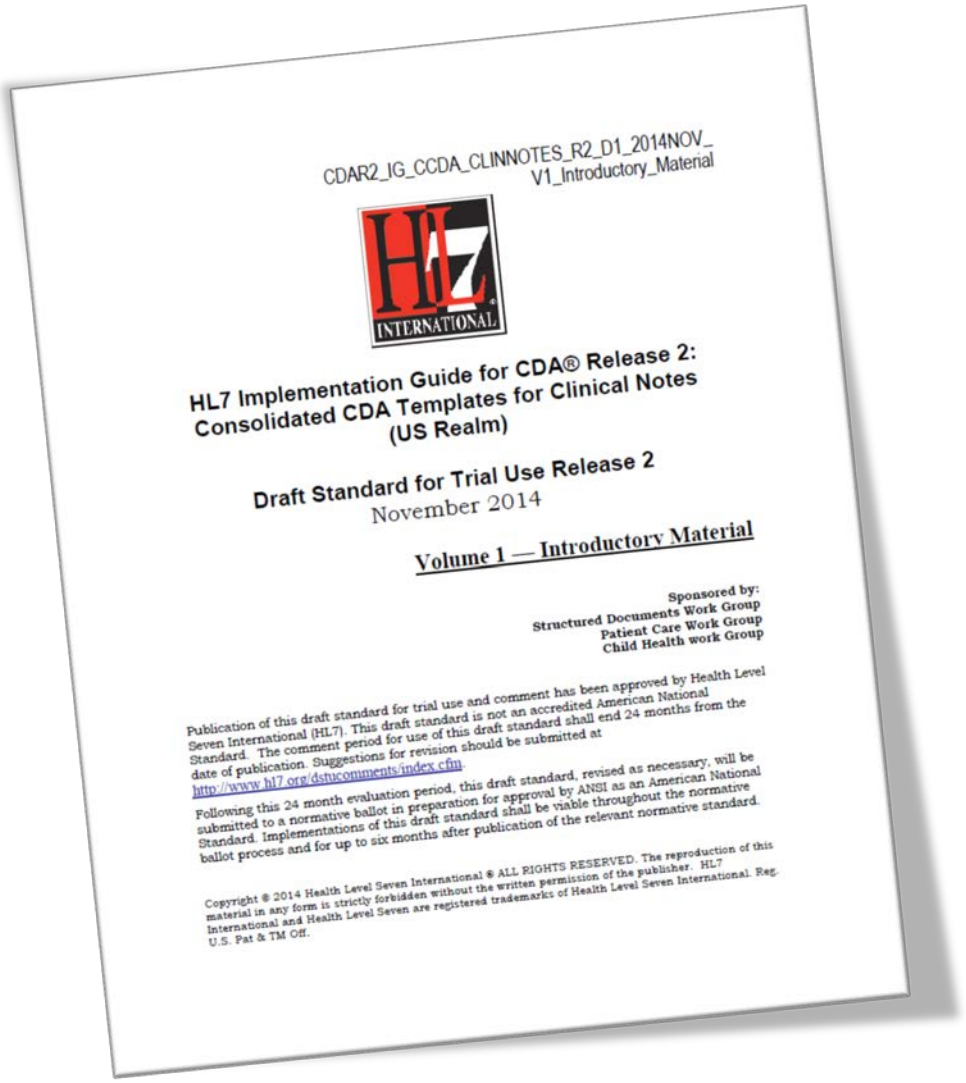
and this



Consolidated CDA (C-CDA)

Document Templates

- Continuity of Care Document
- Consultation Note
- Diagnostic Imaging Report
- Discharge Summary
- History and Physical
- Operative Note
- Procedure Note
- Progress Note
- Unstructured Document
- **Care Plan**
- **Referral Note**
- **Transfer Summary**
- **Patient Generated Document**



CDAR2_IG_CCDA_CLINNOTES_R2_D1_2014NOV_
V1_Introductory_Material

HL7 Implementation Guide for CDA® Release 2:
Consolidated CDA Templates for Clinical Notes
(US Realm)

Draft Standard for Trial Use Release 2
November 2014

Volume 1 — Introductory Material

Sponsored by:
Structured Documents Work Group
Patient Care Work Group
Child Health work Group

Publication of this draft standard for trial use and comment has been approved by Health Level Seven International (HL7). This draft standard is not an accredited American National Standard. The comment period for use of this draft standard shall end 24 months from the date of publication. Suggestions for revision should be submitted at http://www.hl7.org/dstucomments/index.cfm.

Following this 24 month evaluation period, this draft standard, revised as necessary, will be submitted to a normative ballot in preparation for approval by ANSI as an American National Standard. Implementations of this draft standard shall be viable throughout the normative ballot process and for up to six months after publication of the relevant normative standard.

CDA Templates

- Structured, patterned representations in a common form
- Reusable building blocks
- Templates are computable artifacts
- Core component of CDA's "incremental interoperability" strategy

Fast Healthcare Interoperability Resources

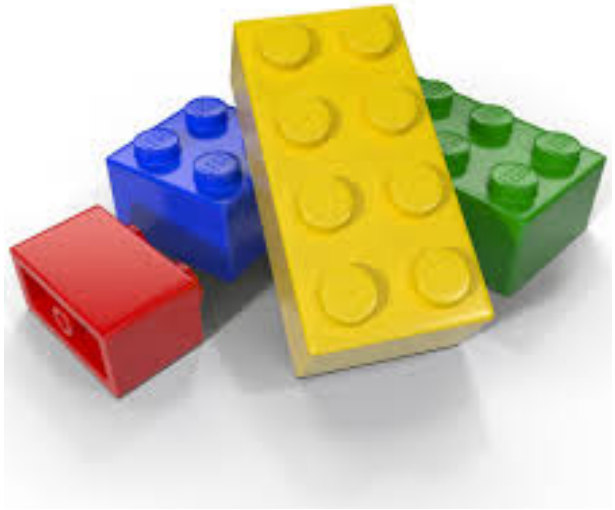
- Emerging standard that is gaining adoption
- Fast to design and implement
- Combines query retrieval and messaging
- Can be used with CDA

"CDA addresses interoperability for clinical documents, mixing narrative and structured data. FHIR provides granular access to data, a contemporary, streamlined approach to interoperability, and is easy to implement. FHIR can be the future of CDA, but it is not there yet."

- Lantana Position statement, written with Grahame Grieve

QUALITY DATA MODEL

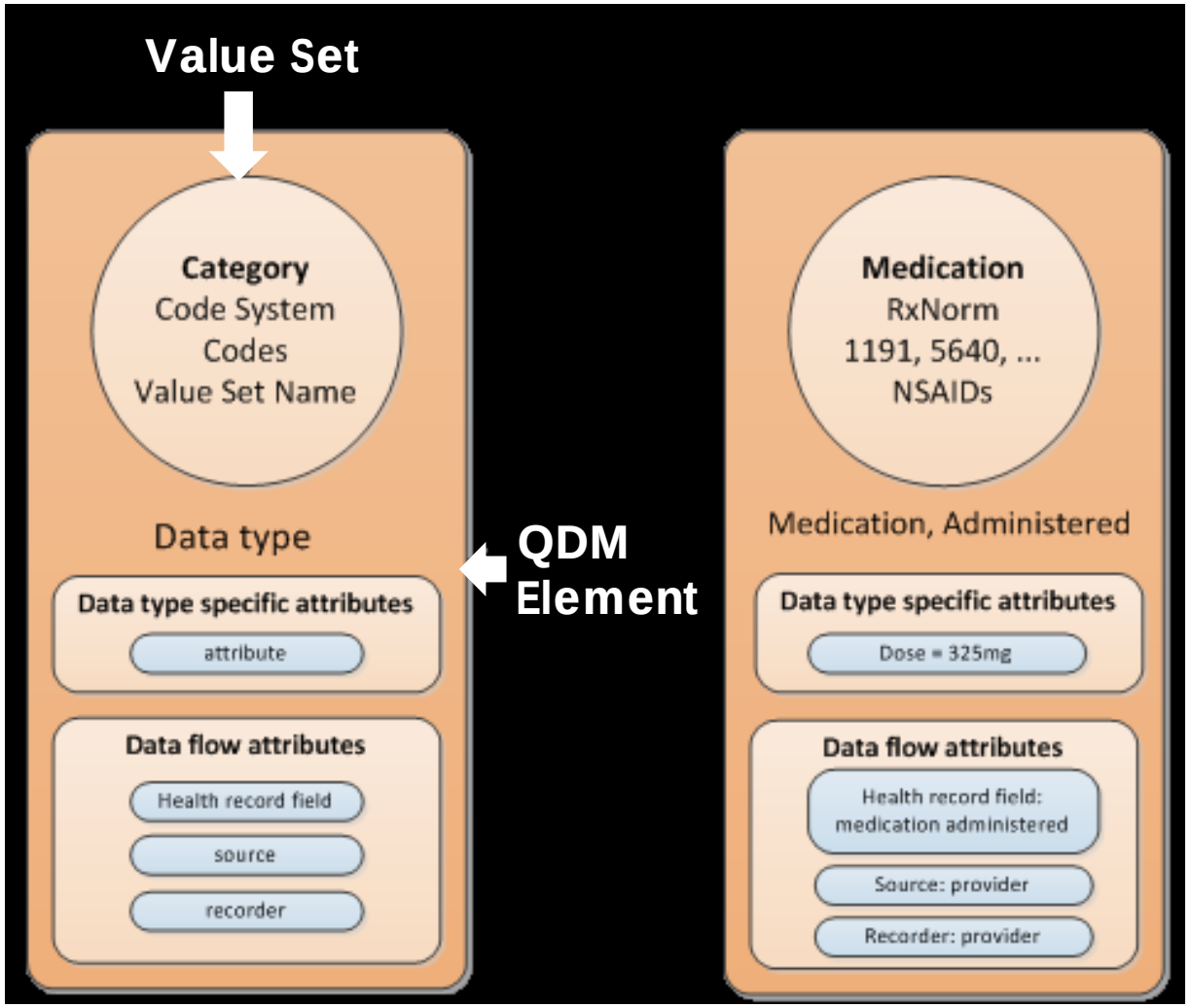
QDM



Quality Data Model (QDM)

- An information model for electronic measures
- Enables automation of structured data
- Maintains context for a concept

QDM Element Structure



Source: CMS/ONC, *Quality Data Model*, v.4.1.2. See References slide for links.

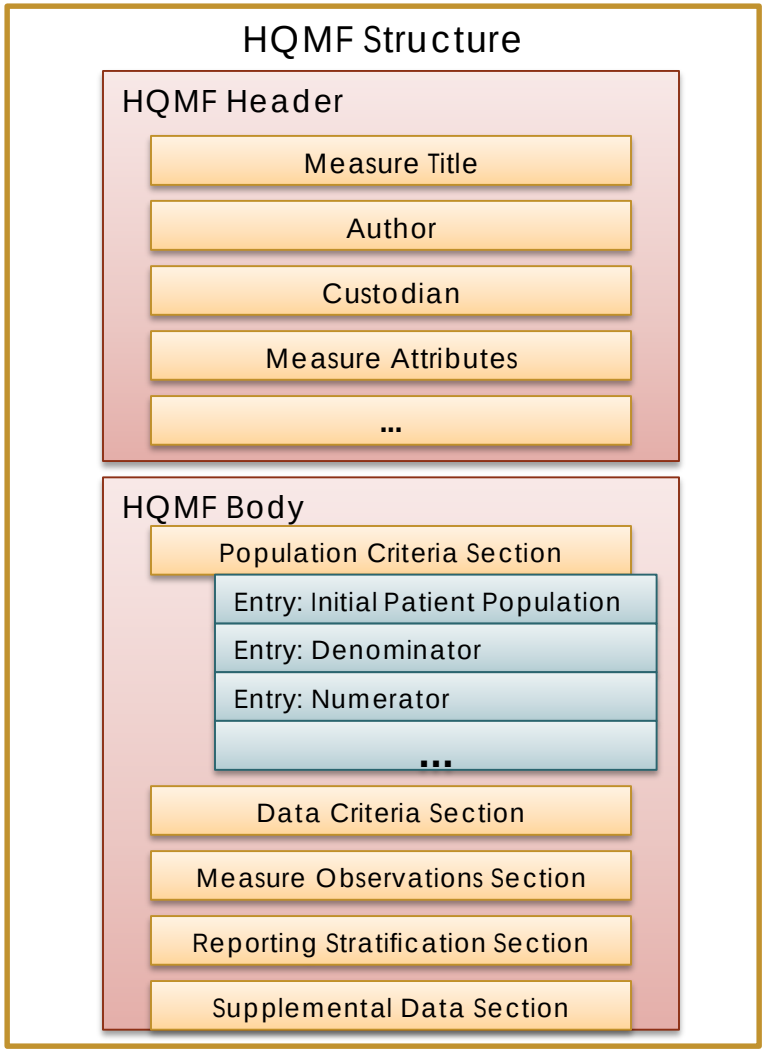
HEALTH QUALITY MEASURE FORMAT

HQMF

What is HQMF?

- Standard structure for constructing an electronic quality measure
- HL7 standard in draft for trial use
- Provides for quality measure consistency and unambiguous interpretation
- Defines a **header** for classification and management of the quality measures and metadata that describes the measure
- Contains a **body** that caries content of quality measure

HQMF Structure




```
<QualityMeasureDocument>
  <id/>
  <code/>
  <title/>
  <text/>
  ……
  <author>
  ……
  </author>
  ……

  <section>
     <code code="57026-7"
codeSystem="2.16.840.1.113883.6.1"
displayName="Population criteria"/>
     ……
     <entry>
       ……
     </entry>
     <entry>
       ……
     </entry>
  </section>

  <section>
  </section>

</QualityMeasureDocument>
```

eMeasure Header: Human Readable Example

eMeasure Title	Aspirin Prescribed at Discharge		
eMeasure Identifier (Measure Authoring Tool)	100	**eMeasure Version number**	3.0.000
NQF Number	0142	**GUID**	bb481284-30dd-4383-928c-82385bbf1b17
Measurement Period	January 1, 20xx through December 31, 20xx		
Measure Steward	Oklahoma Foundation for Medical Quality		
Measure Developer	Oklahoma Foundation for Medical Quality		
Endorsed By	National Quality Forum		
Description	Acute myocardial infarction (AMI) patients who are prescribed aspirin at hospital discharge		
Copyright	Measure specifications are in the Public Domain. LOINC (R) is a registered trademark of the Regenstrief Institute. This material contains SNOMED Clinical Terms (R) (SNOMED CT(c)) copyright 2004-2010 International Health Terminology Standards Development Organization. All rights reserved.		
Disclaimer	None		
Measure Scoring	Proportion		
Measure Type	Process		
Stratification	None		
Risk Adjustment	None		
Rate Aggregation	None		
Rationale	Aspirin therapy in patients who have suffered an acute myocardial infarction reduces the risk of adverse events and mortality. Studies have demonstrated that aspirin can reduce this risk by 20% (Antiplatelet Trialists' Collaboration, 1994). National guidelines strongly recommend long-term aspirin for the secondary prevention of subsequent cardiovascular events in eligible older patients discharged after AMI (O'Gara, 2013; Jneid, 2012; and Smith, 2011).		
Clinical Recommendation Statement	National guidelines strongly recommend long-term aspirin for the secondary prevention of subsequent cardiovascular events in eligible older patients discharged after AMI		
Improvement Notation	Higher score indicates better quality		
Reference	Anderson JL, Adams CD, Antman EM, Bridges CR, Califf RM, Casey DE Jr, et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non–ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise the 2002 Guidelines for the Management of Patients With Unstable Angina/Non–ST-Elevation Myocardial Infarction):		

eMeasure Body: Human Readable Example

Population criteria

- **Initial Patient Population =**
  - AND: "Diagnosis, Active: Hospital Measures - AMI (ordinality: 'Principal')" starts during "Occurrence A
  - AND: "Patient Characteristic Birthdate: birth date" >= 18 year(s) starts before start of "Occurrence A
  - AND: "Occurrence A of Encounter, Performed: Encounter Inpatient (length of stay <= 120 day(s))"
  - AND: "Occurrence A of Encounter, Performed: Encounter Inpatient" ends during "Measurement Period
- **Denominator =**
  - AND: "Initial Patient Population"
- **Denominator Exclusions =**
  - AND:
    - OR:
      - AND: "Occurrence A of Encounter, Performed: Eme
        Performed: Encounter Inpatient"
      - AND: "Occurrence A of Intervention, Performed: Cc
        Department Visit"
    - OR:
      - AND: "Occurrence A of Intervention, Performed: Cc
      - AND NOT: "Occurrence A of Encounter, Performed:
        Encounter, Performed: Encounter Inpatient"
    - OR:
      - AND NOT: "Occurrence A of Patient Characteristic C
        Encounter, Performed: Encounter Inpatient"
      - AND: "Occurrence A of Patient Characteristic Clinica
        Encounter, Performed: Encounter Inpatient"
    - OR:
      - AND: "Occurrence A of Encounter, Performed: Eme
        Performed: Encounter Inpatient"
      - AND NOT: "Occurrence A of Patient Characteristic C
        Encounter, Performed: Emergency Department Visi
      - AND: "Occurrence A of Patient Characteristic Clinica
        Encounter, Performed: Emergency Department Visi
    - OR: "Occurrence A of Encounter, Performed: Encounter In
    - OR: "Occurrence A of Encounter, Performed: Encounter In
    - OR: "Occurrence A of Encounter, Performed: Encounter In
    - OR: "Occurrence A of Encounter, Performed: Encounter In
    - OR: "Occurrence A of Encounter, Performed: Encounter In
- **Numerator =**
  - AND: "Medication, Discharge: Hospital Measures-Aspirin" starts d
- **Denominator Exceptions =**
  - AND:
    - OR:
      - AND: "Medication, Administered not done: Hospital
        Performed: Encounter Inpatient"

Data criteria (QDM Data Elements)

- "Diagnosis, Active: Hospital Measures - AMI" using "Hospital Measures - AM
- "Encounter, Performed: Emergency Department Visit" using "Emergency D
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient SI
- "Intervention, Performed: Comfort Measures " using "Comfort Measures SN
- "Medication, Administered not done: Hospital Measures - Hold" using "Hosp
- "Medication, Administered: Hospital Measures-Aspirin" using "Hospital Mea
- "Medication, Allergy: Aspirin Allergen" using "Aspirin Allergen RXNORM Val
- "Medication, Discharge not done: Medical Reason" using "Medical Reason S
- "Medication, Discharge not done: Patient Refusal" using "Patient Refusal SN
- "Medication, Discharge: Aspirin ingredient specific" using "Aspirin ingredien
- "Medication, Discharge: Hospital Measures-Aspirin" using "Hospital Measur
- "Medication, Discharge: Other Anticoagulants for AMI" using "Other Anticoa
- "Medication, Discharge: Warfarin" using "Warfarin RXNORM Value Set (2.1
- "Medication, Order not done: Medical Reason" using "Medical Reason SNOM
- "Medication, Order not done: Patient Refusal" using "Patient Refusal SNOM
- "Medication, Order: Aspirin ingredient specific" using "Aspirin ingredient sp
- "Patient Characteristic Birthdate: birth date" using "birth date LOINC Value
- "Patient Characteristic Clinical Trial Participant: Clinical Trial Participant" us
- Attribute: "Discharge status: Discharge To Another Hospital" using "Discha
- Attribute: "Discharge status: Discharged to Health Care Facility for Hospice
  (2.16.840.1.113883.3.117.1.7.1.207)"
- Attribute: "Discharge status: Discharged to Home for Hospice Care" using '
- Attribute: "Ordinality: Principal" using "Principal SNOMEDCT Value Set (2.1
- Attribute: "Discharge status: Patient Expired" using "Patient Expired SNOM
- Attribute: "Discharge status: Left Against Medical Advice" using "Left Again

Reporting Stratification

- None

Supplemental Data Elements

- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity CDCREC Value
- "Patient Characteristic Payer: Payer" using "Payer SOP Value Set (2.16.840
- "Patient Characteristic Race: Race" using "Race CDCREC Value Set (2.16.8
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administr

Measure Set	Acute Myocardial Infarction (AMI)

QUALITY REPORTING DOCUMENT ARCHITECTURE

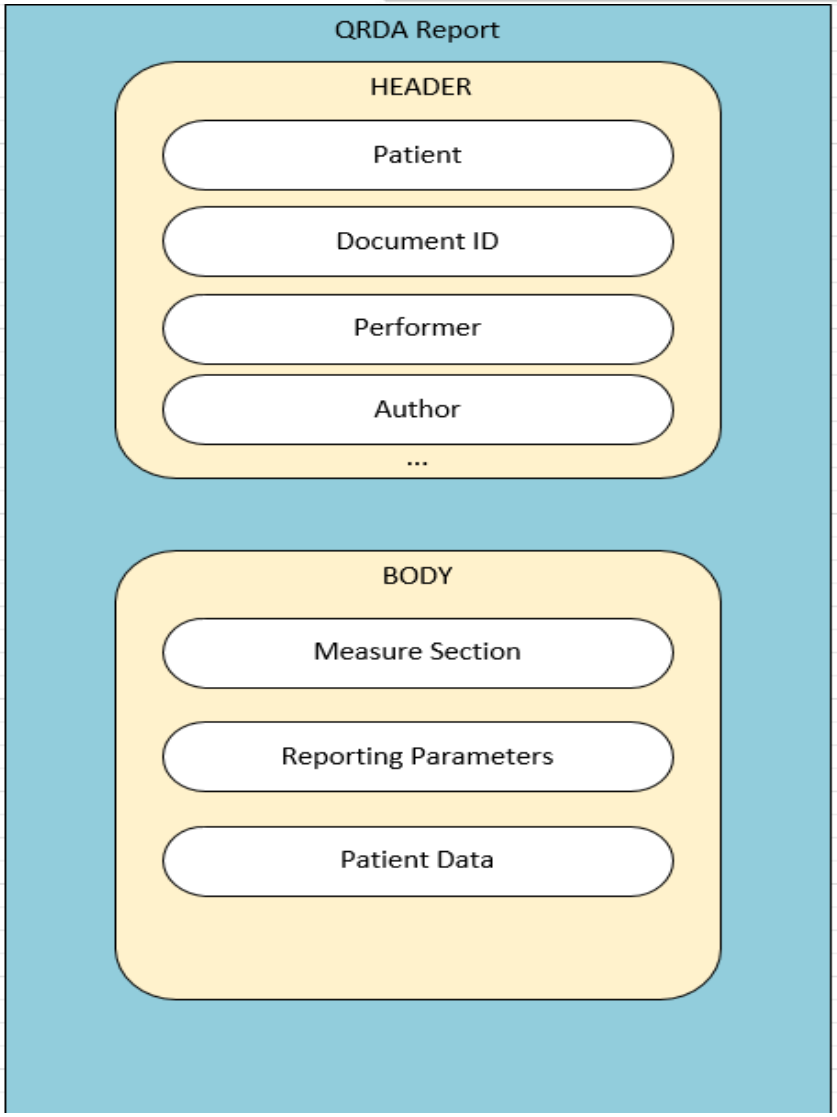
QRDA

What is QRDA?

- Specifies how to assemble and submit reports to quality or other organizations
- QDM-based QRDA standard is written to tightly align with HQMF
- Creates a document with a header and body
- QRDA categories:
  - ***QRDA Category I (QRDA-I): Single-Patient Report**
  - QRDA Category II (QRDA-II): Patient List Report
  - ***QRDA Category III (QRDA-III): Aggregate Report**

*Draft Standards for Trial Use (DSTUs)

QRDA Category I Structure




```
<realmCode code="US"/>
<typeId root="2.16.840.1.113883.1.3" extension="POCD_HD000040"/>
<!-- QDM-based QRDA templateId -->
<templateId root="2.16.840.1.113883.10.20.24.1.2"/>
<id root="5b010313-eff2-432c-9909-6193d8416fac"/>
<code code="55182-0" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
<title>QRDA Incidence Report</title>
<effectiveTime value="20111231"/>
<confidentialityCode code="N" codeSystem="2.16.840.1.113883.5.25"/>
<languageCode code="en-US"/>
    <!-- reported patient -->
    <recordTarget>
        <patientRole>
            ......
        </patientRole>
    </recordTarget>
    <!-- Example of an author-->
    <author>... </author>
<custodian> ... </custodian>
    <legalAuthenticator> ...</legalAuthenticator>
    <documentationOf typeCode="DOC">...</documentationOf>

<!--  QRDA BODY -->
    <component>
        <structuredBody>
            <component>
                <section>
                    <!--Measure Section -->
                <section>
                    ...
                </section>
            </component>
            <!--
                Reporting Parameters Section
                -->
            <component>
                <section>
                    <!--Reporting Parameters Section-->
                </section>
            </component>
            <!--Patient Data Section-->
            <component>
                <section>
```

QRDA Category I – Single-Patient Report

QRDA Incidence Report

Patient	Eve Everygirl
Date of birth	February 1, 2002
Sex	Female
Race	White
Ethnicity	Not Hispanic or Latino
Contact info	2222 Home Street Burlington, MA 02368, USA Tel: (781)555-1212
Patient IDs	111223333A 2.16.840.1.113883.4.572
Document Id	5b010313-eff2-432c-9909-6193d8416fac
Document Created:	December 31, 2011
Performer	

Measure Section

eMeasure Title	Version neutral identifier	eMeasure Version Number	NQF eMeasure Number
Children's Asthma Care (CAC-1) Relievers for Inpatient Asthma	dc78ee5d-1487-4d79-84c3-1dfdaff0781c	1	0143

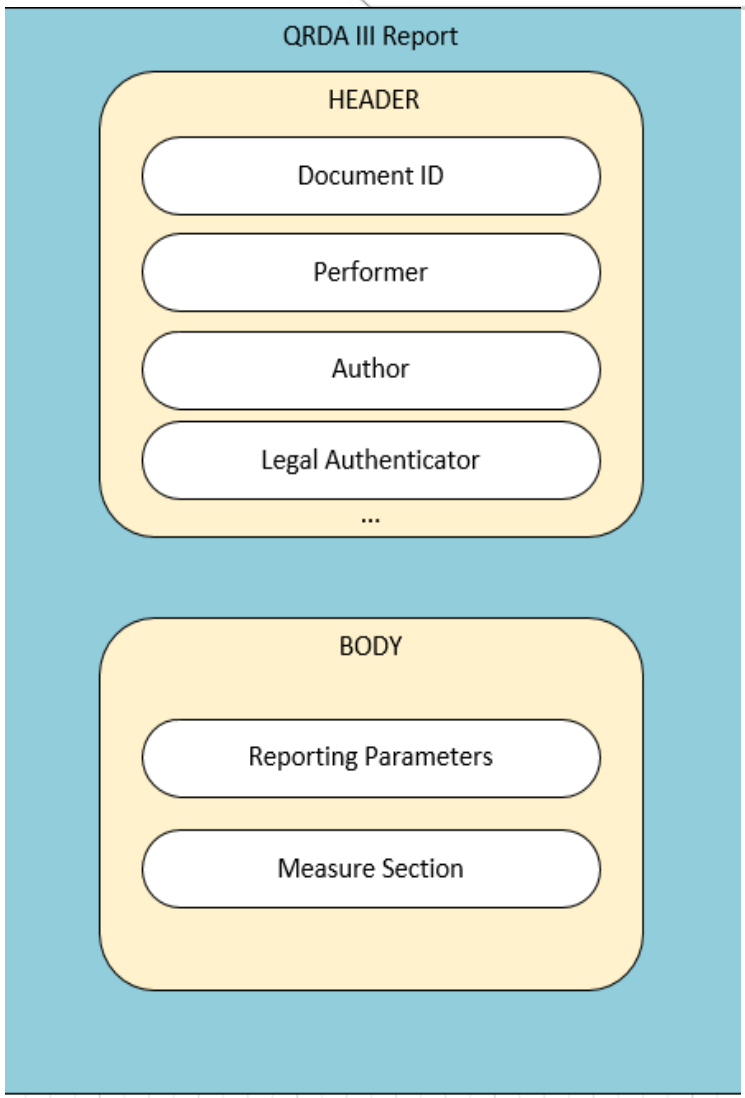
Reporting Parameters

- Reporting period: 01 Jan 2011 - 31 Dec 2011

Patient Data

Data Element	Value
Encounter, Performed: Emergency Department Visit	Emergency Department visit
Encounter, Performed: Encounter Inpatient	Hospital admission
Diagnosis, Active: Asthma	Asthma
Medication, Administered: Asthma Reliever	Albuterol 1.25 MG (albuterol sulfate 1.5 MG) per 3 ML Inhalant Solution
Patient Characteristic Clinical Trial Participant	True
Patient Characteristic Payer	Medicare

QRDA Category III Structure




```
<!-- HEADER-->
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="urn:hl7-org:v3 ../../CDASchema/CDA.xsd" xmlns="urn:hl7-org:v3"
    xmlns:voc="urn:hl7-org:v3/voc">
    <realmCode code="US"/>
        <!-- SHALL QRDA III document type code -->
    <code code="55184-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
        displayName="Quality Reporting Document Architecture Calculated Summary Report"/>
    <!-- SHALL Title, content optional -->
    <title>QRDA Calculated Summary Report for NQF 0436 and NQF 0496</title>
    <!-- SHALL  -->
    ...
        <patientRole>
            <id nullFlavor="NA"/>
        </patientRole>
    </recordTarget>
    <!-- SHALL have 1..* author. -->
    <author>...</author>
    <custodian>...</custodian>
    <legalAuthenticator> ...</legalAuthenticator>
    <authorization> ...</authorization>

    <!-- BODY-->
    <component>
        <structuredBody>
            <!-- QRDA Category III Reporting Parameters -->
            <component>
                <section>
                    <!-- QRDA Reporting Parameters Section template -->
                    <templateId root="2.16.840.1.113883.10.20.17.2.1"/>
                    <!-- QRDA Category III Reporting Parameters templateId -->
                    <templateId root="2.16.840.1.113883.10.20.27.2.2"/>
                    <code code="55187-9" codeSystem="2.16.840.1.113883.6.1"/>
                    <title>Reporting Parameters</title>
                    <text>  ... </text>
                    <entry typeCode="DRIV"> ... </entry>
                </section>
            </component>
            <!-- Measure Section-->
            <component>
                <section> ...</section>
            </component>
        </structuredBody>
    </component>
</ClinicalDocument>
```

QRDA Category III – Aggregate Report

QRDA Calculated Summary Report for NQF 0436 and NQF 0496

Document Id	26a42253-99f5-48e7-9274-b467c6c7f623
Document Created:	May 13, 2012
Performer	
Author	SOME Data Aggregator Transform Tool KP00017dev
Author	Henry Seven, Good Health Hospital
{$classCode='RGPR'?}	medical record, device
Legal authenticator	Good Health Hospital signed at August 11, 2012
Document maintained by	Good Health Hospital

Reporting Parameters

- Reporting period: 01 January 2012 - 31 March 2012
- First encounter: 05 January 2012
- Last encounter: 24 March 2012

Measure Section

eMeasure Title	Version neutral identifier	eMeasure Version Number	NQF eMeasure Number	eMeasure Identifier (MAT)	Version specific identifier
Anticoagulation Therapy for Atrial Fibrillation/Flutter	03876d69-085b-415c-ae9d-9924171040c2	1	0436	71	8a4d92b2-3887-5df3-0139-013b0c87524a

Member of Measure Set: Clinical Quality Measure Set 2011-2012 - b6ac13e2-beb8-4e4f-94ed-fcc397406cd8

- **Performance Rate**: 83% (Predicted = 62%)
- **Reporting Rate**: 84%
- **Initial Patient Population**: 1000
  - **Male**: 400
  - **Female**: 600
  - **Not Hispanic or Latino**: 350
  - **Hispanic or Latino**: 650
  - **Black**: 300
  - **White**: 350
  - **Asian**: 350
  - **Payer - Medicare**: 250
  - **Payer - Medicaid**: 550
  - **Zipcode 92543**: 15
- **Denominator**: 500
  - **Male**: 200
  - **Female**: 300

SUMMARY

Key Concepts

Putting it all together

Review

Policy and HIT standards

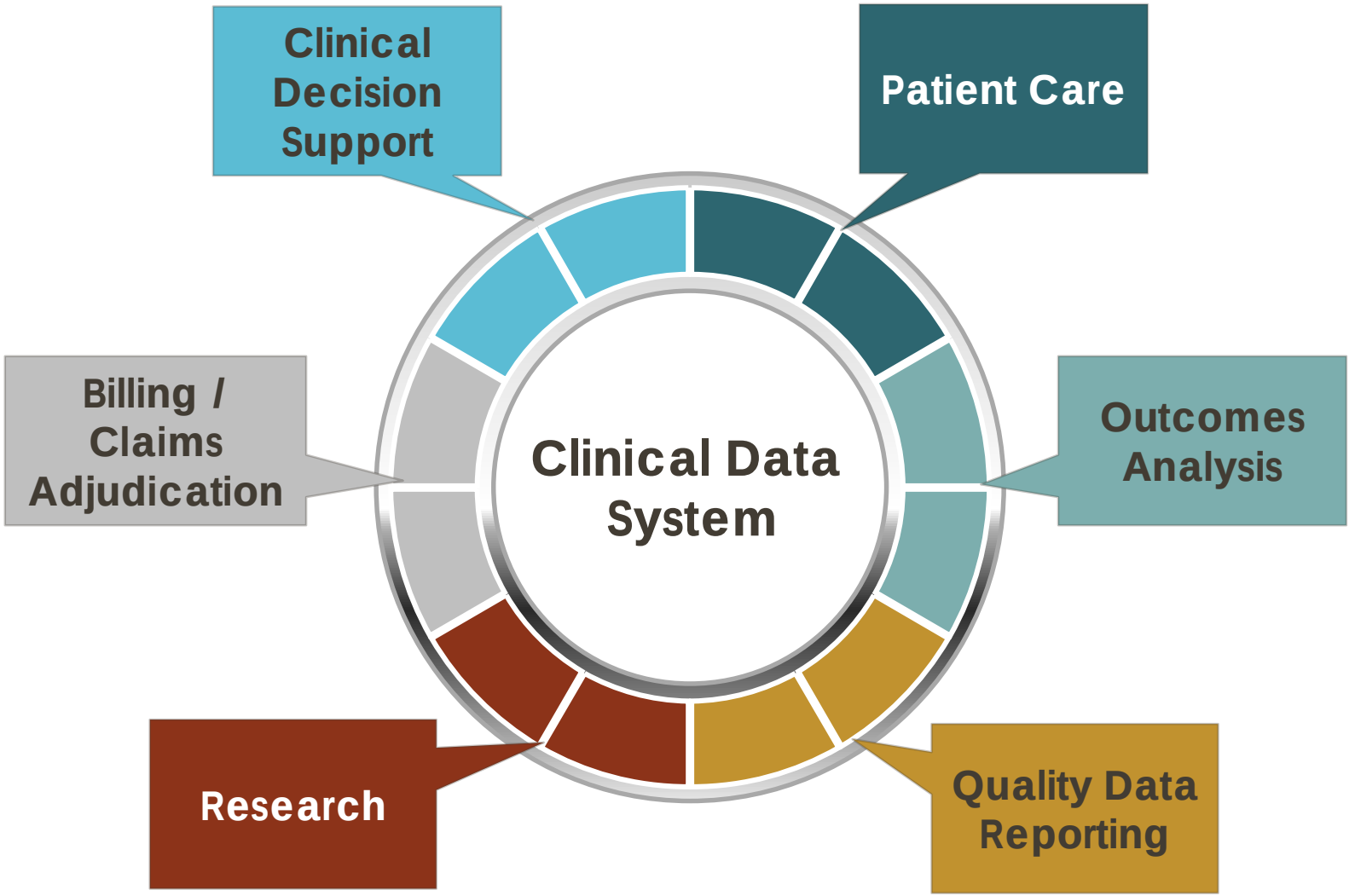
- Exchange and reporting
- IMPACT Act - Standardized data

Electronic Measure Standards

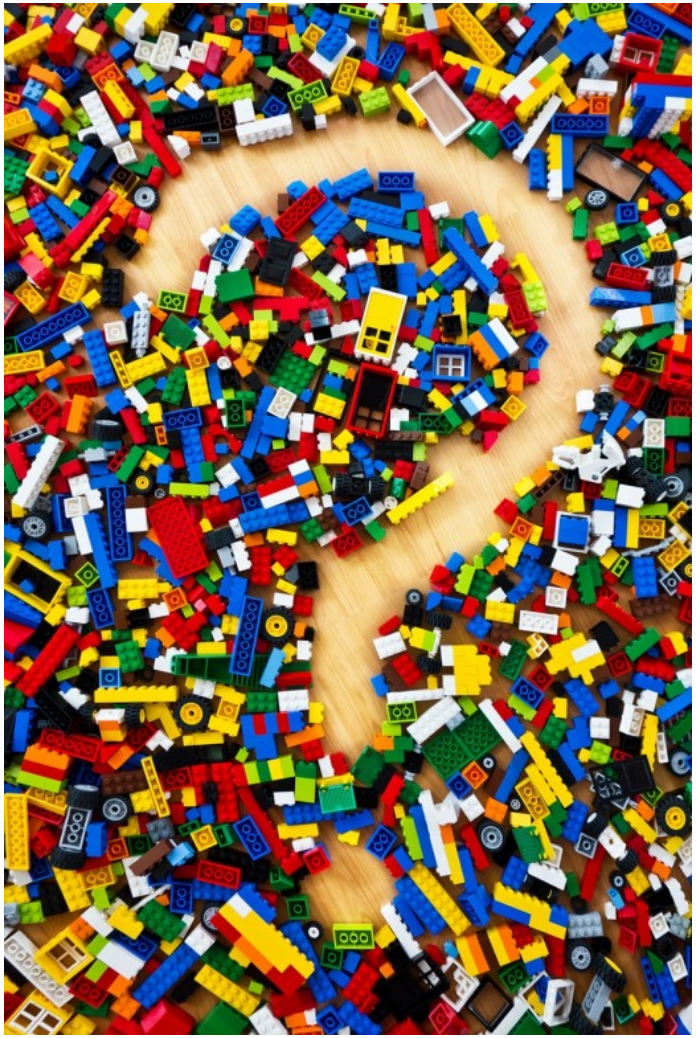
- CDA – basic architecture
- QDM – categorize EHR information
- HQMF – electronic measures
- QRDA – reporting

Incremental interoperability

Data Reuse



Thank you!



References - Policies

CMS, "IMPACT Act of 2014 & Cross Setting Measures"

- http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/IMPACT-Act-of-2014-and-Cross-Setting-Measures.html

HCI Healthcare Informatics

- "Washington Debrief: House Passes 21st Century Cures Act, Includes Interoperability, Patient ID Provisions," Leslie Krigstein (July 13, 2015). http://www.healthcare-informatics.com/article/washington-debrief-house-passes-21st-century-cures-act-includes-interoperability-patient-id-?utm_source=SilverpopVG&utm_medium=eml&utm_campaign=HCI%20eNews%207-17-15&utm_content=&spMailingID=49122401&spUserID=MTAxODYwMzE4MDM2S0&spJobID=722191864&spReportId=NzIyMTkxODY0S0

IMPACT Act of 2014

- https://www.govtrack.us/congress/bills/113/hr4994

References - Standards

CDA on FHIR

- **Blog:** http://www.lantanagroup.com/2014/08/01/cda-experts-on-fhir/
- **White Paper: Position Statement: Clinical Documents & FHIR** https://dev.lantanagroup.com/wp-content/uploads/Lantana-Position-Statement-CDA-FHIR.pdf

CDA R2

- http://www.hl7.org/implement/standards/product_brief.cfm?product_id=7#ImpGuides

C-CDA

- **HL7 Implementation Guide for CDA® Release 2: Consolidated CDA Templates for Clinical Notes** http://www.hl7.org/implement/standards/product_brief.cfm?product_id=379

CDA: HAI Report

- **HL7 Implementation Guide for CDA® Release 2: Healthcare Associated Infection (HAI) Reports**
- http://www.hl7.org/implement/standards/product_brief.cfm?product_id=20

FHIR DSTU1 (v-.0.82)

- https://www.hl7.org/fhir/overview.html

References – Standards (continued)

HL7 International

- http://www.hl7.org/index.cfm?ref=nav

HQMF

- **HL7 Version 3 Standard: Representation of the Health Quality Measure Format (eMeasure) DSTU, Release 2**
  http://www.hl7.org/implement/standards/product_brief.cfm?product_id=97

QDM

- https://ecqi.healthit.gov/qdm
- https://ecqi.healthit.gov/system/files/qdm/qdm_4_1_2.pdf

QRDA Category I

- **HL7 CDA® R2 Implementation Guide: Quality Reporting Document Architecture - Category I (QRDA I) DSTU Release 3 (US Realm)**
  http://www.hl7.org/implement/standards/product_brief.cfm?product_id=35

QRDA Category III

- **HL7 Implementation Guide for CDA® Release 2: Quality Reporting Document Architecture - Category III (QRDA III), DSTU Release 1**
  http://www.hl7.org/implement/standards/product_brief.cfm?product_id=286

Acronyms (1)

ANSI	Adopted by American National Standards Institute
C-CDA	Consolidated CDA
CDA	Clinical Document Architecture
DICOM	Digital Imaging and Communications in Medicine
DSTU	Draft Standard for Trial Use
EHR	electronic health record
FHIR	Fast Healthcare Interoperability Resources
HHA	Home health agencies
HL7	Health Level Seven
HQMF	Health Quality Measure Format
HTTP	Hypertext Transfer Protocol
ICD-9	International Classification of Diseases, 9th Revision
IHE	Integrating the Health Enterprise
IHTSDO	International Health Terminology Standards Development Organisation
IMPACT Act	Improving Medicare Post-Acute Care Transformation Act of 2014
IRF	Inpatient rehabilitation facilities
IRF-PAI	Inpatient Rehabilitation Facility-Patient Assessment Instrument
ISO	International Organization for Standardization
LCDS	Long Term Care Hospital CARE Data Set

Acronyms (2)

LOINC®	Logical Observation Identifiers Names and Codes
LTCH	Long-term care hospitals
MDS	Minimum Data Set
NCPDP	National Council for Prescription Drug Programs
NEMA	National Electrical Manufacturers Association
NLM	National Library of Medicine
OASIS	Outcome and Assessment Information Set
ONC	Office of the National Coordinator for Health Information Technology
PAC	Post-Acute Care
QDM	Quality Data Model
QRDA	Quality Reporting Document Architecture
R1	Release 1
RIM	Reference Information Model
SDWG	Structured Documents Working Group
SMTP	Simple Mail Transfer Protocol
SNF	Skilled nursing facilities
SNOMED CT®	Systematized Nomenclature of Medicine-Clinical Terms
V2	Version 2.x
V3	Version 3

Acronyms (3)

W3C	World Wide Web Consortium
X12	ASC X12
XML	Extensible Markup Language

Questions

Session Q & A

Send in your questions now!

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