Leveraging CDI through Informatics: Taking CDI Program to the Next Level

Anna Orlova, PhD
Senior Director for Standards, AHIMA
• The Challenge
• CDI and Interoperability
• Enabling Interoperability through CDI, Standards and Trained Workforce
“The next challenge for healthcare industry is ensuring consistency in content and meaning of clinical information as it evolves from manual to an electronic practice.”

Clinical Documentation Supports

- Quality Care
- Accurate Reimbursement
- Regulatory Compliance
- Health Knowledge Generation
Clinical Documentation Improvement
Principles and Practice

Pamela Carroll Hess  MA, RHIA, CCS, CDIP, CPC

Published in 2015
Collaborative Intelligence

PHYSICIAN
CDI Alerts

NURSE
Concurrent Review

CODER/CDS
Concurrent Coding

ABSTRACTOR
Concurrent Abstraction

CONTENT SERVER

Signed Clinical Notes

Nurses Notes

Content Tagging

Medication Admission Records

Laboratory Results

Hess PC. 2015. URL: http://www.ahimapress.org/hess5023
Multidisciplinary Team Model

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Successes: Children’s Health, Dallas TX

- Natural language processing to auto-assign ICD and CPT codes
- Edits by professional coders
- Copy & Paste compliance

- Content verification
- Query notification
- Template queries
- Built into MDs workflow

- Content validation
- Query response rate
- Benchmarking

- Clinical Pathways Documents and
  Case Definition Templates

Lusk K. and Fackrell L. Technology Backbone – Clinical Documentation Improvement. AHIMA Convention. 2014. San-Diego, CA
29 Clinical Pathways documents and Case Definition Templates for documenting

• Malnutrition
• Morbid or Severe Obesity
• Anemia
• Respiratory Failure
• Types of Heart Failure
• Chronic Kidney Diseases
• Renal Failure and other conditions

Lusk K. and Fackrell L. Technology Backbone – Clinical Documentation Improvement. AHIMA Convention. 2014. San-Diego, CA
Collaborative Intelligence at CHILDREN’S

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Collaborative Intelligence at HOPKINS

- PHYSICIAN
  - CDI Alerts

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Hess PC. 2015. URL: http://www.ahimapress.org/hess5023
Collaborative Intelligence at MAYO CLINIC

- **Physician**
  - CDI Alerts
- **Nurse**
  - Concurrent Review
- **Coder/CDS**
  - Concurrent Coding
- **Abstractor**
  - Concurrent Abstraction

CONTENT SERVER

- Signed Clinical Notes
- Nurses Notes
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- Laboratory Results

Health information Manager (HIM) Perspectives

Content Managers (Specialists in Vocabulary and Terminology Services (Coders), Clinical Documentation Improvement (CDI), Decision Support, etc.)

Physician Perspectives

Content Managers (Specialists in Evidence-based Medicine, Patient Care, Translational Research, etc.)
Clinicians, patients and researchers need to share data!
To share data with the means of information and communication technology requires **interoperability** of health information systems.
“Interoperability” means the ability to **capture***, **communicate** and **exchange** data accurately, effectively, securely, and consistently with different information technology systems, software applications, and networks in various settings, and exchange data such that clinical or operational **purpose and meaning of the data are preserved and unaltered.” (HL7, 2007)


* AHIMA proposed addition to the HL7 definition of interoperability
“Today interoperability has proven to be very difficult to establish.” (US Senate, 2013)
• **Semantic** interoperability—shared content

• **Technical** interoperability—shared information exchange infrastructure

• **Functional** interoperability—shared rules of information exchanges, i.e., business rules and information governance ("the rules of the road")
Interoperability Example: Auto Industry

Semantic (content)

Technical (infrastructure)

Functional ("rules of the road")
Interoperability Example: Auto Industry

Semantic (content)

Technical (infrastructure)

Functional ("rules of the road")

Standards and Workforce
Semantic Interoperability

CONTENT

Guidelines → Use Cases → Information → Data Sets → Value Sets & Codes

INFORMATICS AND HIM

Clinical Documentation Improvement (CDI) → Coding

<table>
<thead>
<tr>
<th>Clinical Pathways</th>
<th>Case Definition</th>
<th>Quality Data</th>
<th>Coding</th>
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</thead>
<tbody>
<tr>
<td>Documents</td>
<td>Templates</td>
<td>Data Analytics</td>
<td></td>
</tr>
</tbody>
</table>

Healthcare Knowledge

Health Information Management (HIM) Practices
Semantic Interoperability Workforce

**Content Managers** (Specialists in Vocabulary and Terminology Services (Coders), Clinical Documentation Improvement (CDI), Decision Support, etc.)

**Content Managers** (Specialists in Evidence-based Medicine, Patient Care, Translational Research, etc.)

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**CONTENT**

- Guidelines
- Use Cases
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- Data Sets
- Value Sets & Codes

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**INFORMATICS AND HIM**
Functional Interoperability

RULES OF MANAGING CONTENT

Guidelines > Use Cases > Information > Data Sets > Value Sets & Codes

INFORMATICS AND HIM

Clinical Documentation Improvement (CDI)  Coding
Clinical Pathways Documents  Case Definition Templates  Quality Data

Healthcare Knowledge

Data Analytics

Health Information Management (HIM) Practices
Functional Interoperability

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INFORMATICS AND HIM

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Healthcare Knowledge

Health Information Management (HIM) Practices

Information Governance
Functional Interoperability Workforce

Information Governance Specialist (Specialists in Information Governance, e-Discovery, Information Brokerage, Consumer Advocacy, etc.)

RULES OF MANAGING CONTENT

Guidelines → Use Cases → Information → Data Sets → Value Sets & Codes

INFORMATICS, HIM AND LAW
Interoperability Standards

2005-2009  **Health Information Technology Standards Panel (HITSP)** – developed Interoperability Specifications (IS) for national use cases

2014-now  **ISO Technical Committee 215 Health Informatics** – is developing Reference Standards Portfolio (RSP) for healthcare domains, e.g., clinical imaging
Interoperability Standards Methodology

- PROPOSE: Use case
- DEFINE: Requirements
- SELECT AND HARMONIZE STANDARDS
- DEVELOP Reference Standards Portfolio (RSP)
- TEST RSP
- PUBLISH MAINTAIN ADOPT RSP
# Interoperability Standards Methodology

## Reference Standards Portfolio (RSP) for Selected Domain

### Use Case 1

**Clinical Pathways**

### Use Case 2

**Case Definition Templates**

### Use Case 3

### Use Case 4

### Use Case 5

## Requirements: Workflow and Data Flow

## Data Sets

### Data Elements and Other Content

## Health Information Technology (HIT) Standards

### Semantics

- **Terminology Standards**
  - HCPCS
  - CPT
  - SNOMED-CT
  - ICD 9/10
  - LOINC
  - NCCLS
  - UCUM
  - UB-92
  - URL
  - FIPS 5-2

- **Information Content Standards**
  - HL7 CDA
  - HL7 CCD
  - HL7 RIM
  - HL7 FHIR

### Technical

- **Information Exchange Standards**
  - HL7 V3
  - HL7 V2.5
  - IHE XDS*
  - IHE RFD

- **Identifier Standards**
  - NPIs
  - UDI

- **Privacy & Security Standards**
  - ATNA

### Functional

- **Business Guidelines**
- **Information Governance Standards**
- **Health IT Safety Standards**

### Conformance Criteria
Enabling Collaborative Intelligence in Healthcare through Interoperability Standards and Workforce
Next Steps

Join AHIMA in

1. Developing interoperability standards at ISO Technical Committee 215 Health Informatics

2. Building a workforce for interoperability by
   - Adopting Global Competencies for HIM, Informatics and HIT developed by AHIMA Foundation
   - Building partnerships with academic informatics programs (e.g., Johns Hopkins) to train
     - content managers (clinicians and HIM professionals) and
     - information governance specialists for interoperable HIT solutions