



Show me!

Clinical Document Architecture

International Healthcare Interoperability Conference

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About Me & Us

- Volunteer standards work
 - Health Level Seven Board of Directors (2005–2008)
 - Co-chair Structured Documents Technical Committee
 - Co-editor Clinical Document Architecture (CDA)
- Alschuler Associates, LLC: Consultants in standards-based solutions for healthcare information
- Clients
 - CDA4CDT: CDA for Common Document Types
 - Co-founder & Project Management and Technical Support
 - US Military Health System
 - Enterprise-wide documents, files, images (DFIEA); Healthcare Artifact & Images Healthcare Solution (HAIMS)
 - Centers for Disease Control and Prevention
 - Implementation Guide for infectious disease reporting (NHSN HAI)
 - Implementation Guide for public health case reporting (NCPHI)
 - North American Association of Central Cancer Registries
 - Implementation Guide for cancer abstracts
 - Department of Health and Human Services
 - Subcontracts on Health IT Standards Panel (HITSP) and Health Information Standards for Privacy and Confidentiality (HISPC)
 - Office of the Assistant Secretary for Planning and Evaluation developing CDA prototypes for the Minimum Data Set
 - Private, commercial clients: Fortune 100 and startups

www.alschulerassociates.com



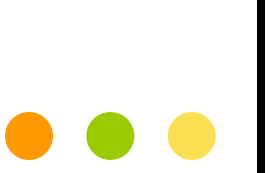
CDA in Review

- Primary Usage: Collaborative Care
- Secondary Usage: Derivative Analysis
- Prospects for International Collaboration
- and a short Preview of CDA to Come and perhaps a brief look back at where we've been (Cologne, 2006)



Primary Usage: Collaborative Care

- Sharing information in the process of collaborative care
 - 1st generation of regional/national exchanges
 - Germany, Finland, Greece, Japan
 - Now, in 2nd/3rd generation of development and deployment
 - 2008 IHIC says, “Show Me!”
 - Your Hip Joint Replacement (Hanselman, et al; Switzerland)
 - Your Cardiac Discharge Letter (Riegler, et al; Austria)
 - Your Remote Monitoring follow up (Xanthopoulakis, Netherlands)
 - Your Minimum Health Data Set (Yuksel, Turkey)
 - Mappable CDA (Obayashi, Japan)



Secondary Usage: Analysis, Reporting

- Public Health
 - Lab Reports (Renly; Israel, Jordan, Palestine)
 - Healthcare Associated Infection Reporting (US CDC, HL7 ballot)
 - Notifiable Disease (Oemig, Germany)
- Quality Reporting
 - Quality Reporting Document Architecture (US, HL7 ballot)



Prospects for International Collaboration

- Berlin, 2002: is there a need?
 - Cross-border treatment
 - Patients cross borders
 - Applications cross border
 - Yes, we should leverage each others work, we're just not quite ready for global consensus



Prospects for International Collaboration

- Where do we stand in 2008?
- Requirements for global consensus on CDA profiles
 - Reasonable experience in broad range of implementations
 - Define “reasonable”, define “broad”
- Reasonable: multi-generational architectures
- Broad: has to include the US



Prospects for International Collaboration

- Where does the US stand?
 - With notable exceptions (Mayo, UPMC), US has *not* leveraged CDA for the low hanging fruit
 - US usage of CDA has been data-driven to the exclusion of simple information exchange
- This will change, we hope (CDA4CDT)



Prospects for International Collaboration

- 1st International Realm CDA Implementation Guide
 - Diagnostic Imaging Reports, passed, Sept. 2008
- 2nd International Realm CDA Implementation Guide
 - Personal Healthcare Monitoring Report, passed, Sept. 2008
- How will these “universal realm” IGs be integrated into national practice?
- Core clinical notes: how soon can we initiate consensus process on the established documents types in use in the most mature implementations?
 - Discharge Summary
 - Consult Note
 - History & Physical



CDA Preview

- CDA R3
- Schedule
 - Requirements gathering: 2008
 - Ballot: 2009
 - Publish: 2010
- Issues
 - Adopt Clinical Statement model
 - Sufficiently tested? Mature? Implemented?
 - Will the CS model be adopted by the HL7 domain committees?
 - Adopt the RIM
 - How to maintain consistency and simplicity?
 - Backward compatibility
 - Same principles as R1–R2
 - Larger body of existing work
 - Now, includes detailed clinical data



Lessons so far?

- Reasons for adoption:
 - Low technical threshold
 - Incremental increase in coded data
 - Gets you the full clinical record
 - Ease of rendering
 - Architecturally neutral
 - Works w/IHE XDS, HL7 Vx, and any other exchange framework
 - *What else?*

The World (2006)



& CDA

What?

Where?


How?

Why?

What next?

In the world? (2006)

CDA: fundamental to national/regional exchange

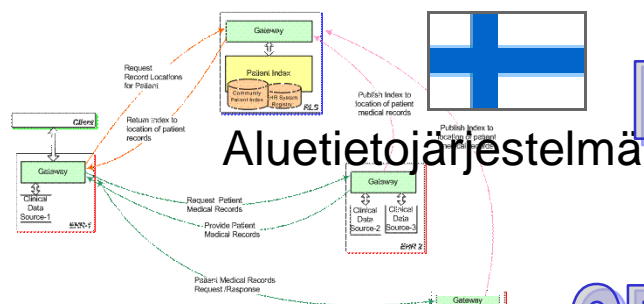
- Germany  SCIPHOX
- Finland  Aluetietojärjestelmä
- Greece  HYGEIAnet/WebOnColl
- Japan  MERIT-9 (MML)
- Canada  e-MS
- France  Dossier Médical Personnel
- Italy  TeleMed Escape
- US  CHI, HITSP, IHE
- Argentina  Hosp. Italiano de Buenos Aires

How? do I use my CDA? (2006)



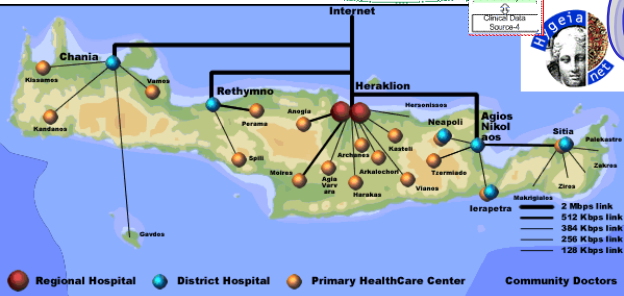
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- CDA is adaptable across multiple exchange architectures



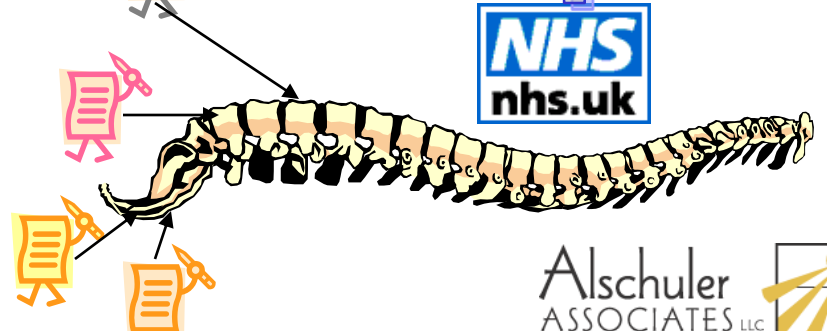
RLS

Aluetietojärjestelmä



CEN/LDAP

national spine



PHR/HRB

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Clinical Document Architecture

1. CDA vs. EHR/EMR
 - Narrative documents are not necessary evil, they are essential
2. CDA vs. MyCode
 - Proprietary “works”: short term
3. CDA vs. OtherStandards
 - Other standards are *not* the challenge (see above)
4. CDA vs. IHE
 - IHE is cool but it’s only one way to do things
 - Re-packaging should not obscure the brand
5. CDA vs. HL7
 - CDA is *not* the ugly step-child of V3 messaging
 - CDA *is* the vanguard of RIM-based interoperability
 - HL7 needs a cohesive architecture for interoperability
6. CDA vs. CDA Release 3
 - How much, how soon?
7. CDA vs. CDA
 - What are the limits of semantic interoperability?

The World

& CDA

What?

Where?

How?

Why?

What next?

Questions?





Questions?

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Challenges for CDA: 2008

The following slides were developed
during an interactive session at the
conclusion of the Show Me Your CDA!
Workshop
IHIC 2008, Crete

- Internationalization of common document types
 - Code system standardization
 - Document type classification
 - Not a simple list
 - A hierarchy, poly-hierarchy
- OID management
 - For identification of objects
 - For classification of objects (discover)
 - Interoperable/international OID-registries
 - Conformance issues (business rules, best practice)
- How to support trial implementation (codes, OIDs)
- Registration & management of “reusable bits”
 - Three necessary steps:
 - Clinical experts define requirements
 - Technical experts translate to type of model
 - Result is made processible (Schematron, other, multiple)
 - Template registry/repository
 - Use/include openEHR archtypes
 - Matching validation scripts to rule sets; setting standards for “testable”; w/versions
- Interoperability of narrative block/stylesheets which are human language-specific
 - How to handle narrative text today, not fully structured
 - How to achieve future?
- Synchronizing rules with the user interface and data extraction
- Stylesheets: comprehensive/selective – how to balance?
 - How far should we go in consistent usage versus project-specific?
 - Use to switch based display language, type of document
 - How to determine validity? In combination with digital signature
 - Should we have a registry of stylesheets?



- Realm-specific balloting
 - +/- on international feedback vs. realm-specific
 - Limits/benefits to localization/internationalization
- An “authoring schema” for CDA
- How to communicate?
 - RCMR/XDS/+HL7
 - Duplication of content
- Is it appropriate/applicable? What are the boundaries? When should we use Care Provision messages instead?
 - Machine-to-machine communication
 - No human review/control
 - May be same clinical information, just different use cases