



CDA Around the World

August 25, 2006

**International Healthcare
Interoperability Conference**

Cologne, Germany

Liora Alschuler



All about us

- Consultant, Alschuler Associates, LLC
 - Military Health System, Northrup-Grumann “Documents, Files, Images” (DFI) project
 - Subcontractor, HITSP Standards Harmonization
 - Subcontractor, HISPC Security & Confidentiality
 - Center for Disease Control & Prevention (CDC)
 - Commercial software developers implementing standards-based solutions
- Co-editor, CDA
- Co-chair HL7 Structured Documents TC
- Co-author, CDA & CRS Quick Start Guides
- Member, HL7 Board of Directors
- HL7 IHE Liaison
- past Chair, KEG & XML SIG & HL7 Marketing Committee
- Author *ABCD... SGML: A Managers Guide to Structured Information*, 1995
- liora@alschulerassociates.com, www.alschulerassociates.com

The World



& CDA

What?

Where?

How?

Why?

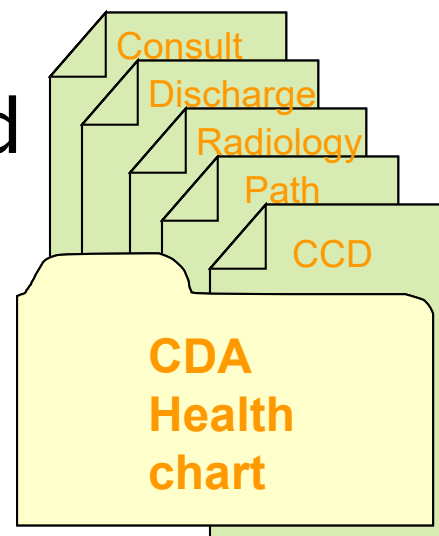
What next?

What? CDA: Clinical Document Architecture

- ANSI/HL7 CDA R1.0–2000
- ANSI/HL7 CDA R2.0–2005
- Created & maintained by HL7 Structured Documents Technical Committee (SDTC)
- A specification for document exchange using
 - XML,
 - the HL7 Reference Information Model (RIM)
 - and vocabulary (SNOMED, ICD, local,...)

HL7's CDA

- eDocuments for Interoperability
 - Everyone uses documents
 - All types of clinical documents
 - Many documents comprise an individual medical record
 - Indexed by the the CDA header
 - EMR compatible, no EMR required



What?

Good Health Clinic Consultation Note

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Back Forward Refresh Home file:///C:/

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Good Health

Patient: Henry Levin , the 7th
Birthdate: September 24, 1932
Consultant: Robert Dolin , MD

History of Present Illness

Henry Levin, the 7th is a 67 year old male with a long history of asthma in his teens. He was hospitalized for asthma in 1990 and has been able to be weaned off steroid therapy since that time.

Past Medical History

- Asthma
- Hypertension (see HTN.cda for details)
- Osteoarthritis, right knee

Medications

- Theodur 200mg BID
- Proventil inhaler 2puffs QID PRN
- Prednisone 20mg qd

C:\KEGVR2M1\CDA.ReleaseTwo.MembershipBallot01.Jan.2005\html\infrastructure\cda\SampleCDADocument

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

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+ <custodian>
- <recordTarget>
- <patient>
  <id extension="12345" root="2.16.840.1.113883.3.933" />
- <patientPatient>
  - <name>
    <given>Henry</given>
    <family>Levin</family>
    <suffix>the 7th</suffix>
  </name>
  <administrativeGenderCode code="M" codeSystem="2.16.840.1.113883.5.1" />
  <birthTime value="19320924" />
</patientPatient>
+ <providerOrganization>
</providerOrganization>
</patient>
</recordTarget>
+ <relatedDocument typeCode="R" />
+ <componentOf>
- <!--

*****
CDA Body
*****

-->
- <component>
- <structuredBody>
  - <!--

*****
History of Present Illness section
*****

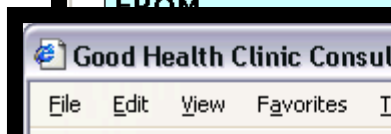
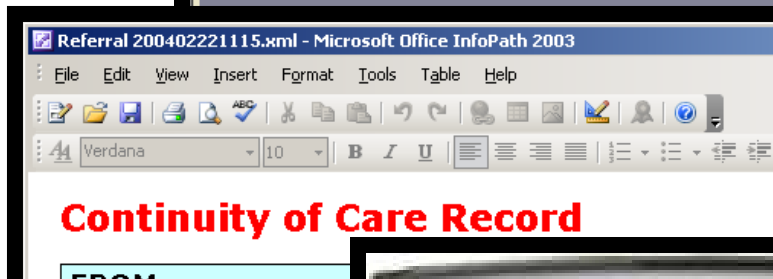
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  <title>History of Present Illness</title>
  - <text>
    - <content styleCode="Bold">
      Henry Levin, the 7
```

- Header
- Body
 - Readable: required
 - Computable: optional

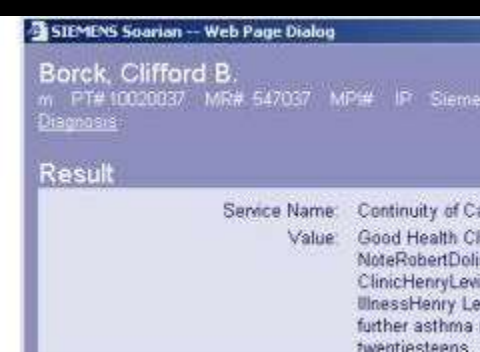
What?

CDA: A Document Exchange Specification

- This is a CDA
- and this
- and this
- and this
- and this
- and this
- and this



ociates, LLC-2006



In the world?

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 |

Major pilots, experimental work

- Korea



- Mexico



- Israel



- New Zealand



- Australia



- Estonia



- Wales



- England



and where else?

Where?



LE SYNDICAT
DES MÉDECINS
GÉNÉRALISTES



Document CDA - Exemple Entête et Volet Médical - Mozilla Firefox

File Edit View Go Bookmarks Tools Help
file:///C:/...
CDA Release 2.0 ... Implementation C...

Document CDA - Ex

Patient: Jeanne PETIT
Birthdate: January 5, 1948
Consultant: Christophe CHARI

Antécédents personnels

Antécédents médicaux

Pathologie	Date de surven
Méningite bact.	1979
Asthme lors de l'enfance	1950-1955

Antécédents chirurgicaux

Procédure	Date C
Amygdalectomie par dissection	1973 Pa

```
-->
- <component>
- <section>
  <code code="11348-0" codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC" displayName="HISTORY OF PAST ILLNESS" />
  <title>Antécédents médicaux</title>
- <text>
- <table border="1">
  - <tbody>
    + <tr>
      <tr>
        <td ID="antmed-1">Méningite bact.</td>
        <td>1979</td>
        <td>Pas de séquelles.</td>
      </tr>
    + <tr>
      </tbody>
    </table>
  </text>
- <entry typeCode="DRIV">
- <observation classCode="OBS" moodCode="EVN">
  <id root="1.2.3.4.1" />
- <code code="HNN.8" codeSystem="2.16.840.1.113883.1.1"
  codeSystemName="CISP" displayName="Méningite bactérienne">
- <originalText mediaType="text/xml">
  <reference value="antmed-1" />
</originalText>
  <translation code="G00.9" codeSystem="2.16.840.1.113883.6.3"
    codeSystemName="CIM10" />
</code>
  <!-- ALIAS du libelle (utilisation d'un synonyme) -->
  <text>Méningite bact.</text>
  <effectiveTime value="1979" />
```

Dossier Médical Personnel

Done

Where?

CDA Italian Style

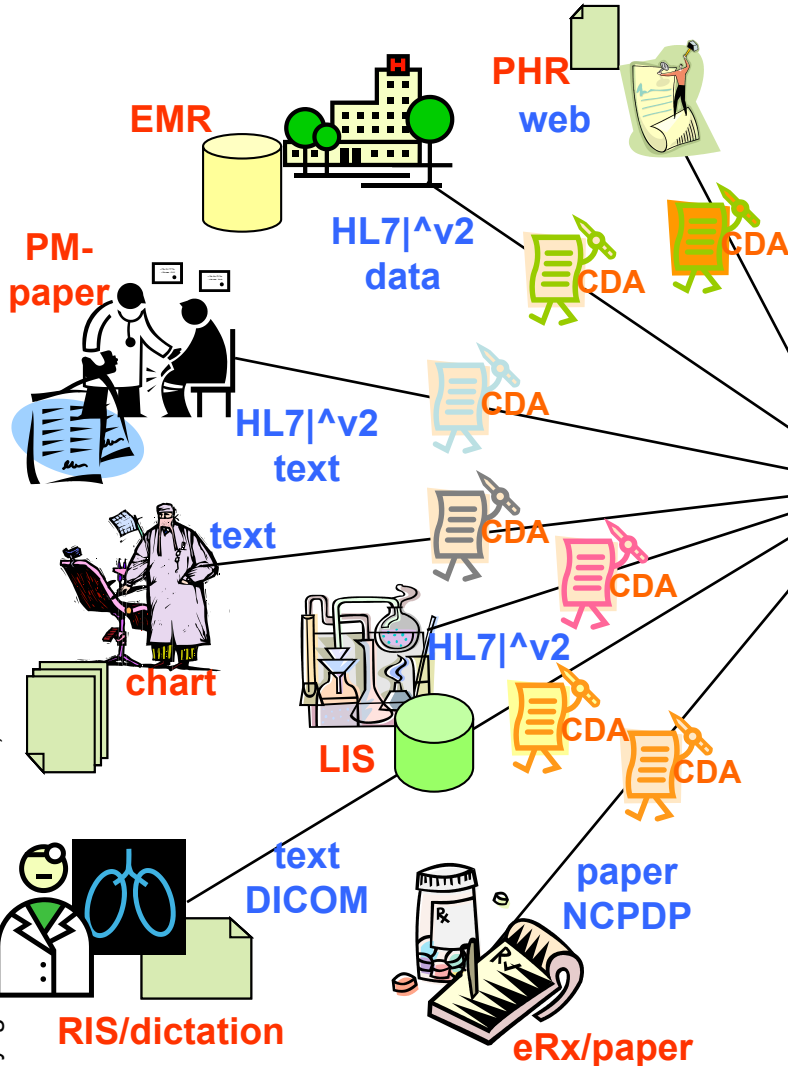
HISTORY OF SYMPTOMS and DISEASES

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    codeSystemName="LOINC"
    displayName="HISTORY OF SYMPTOMS and DISEASES">
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      codeSystemName="III" displayName="Anamnesi radiologica ">
    </translation>
  </code>
  <text> 1978: Exeresi nodulo benigno della mammella destra. -
  2/1/2006: Diagnosi eco mammografica di nodulo sospetto QSE della
  mammella sinistra di 15 mm circa. -
  11/01/2006: Biopsia escisionale QSE della mammella sinistra:
  . </text>
</observation>
```

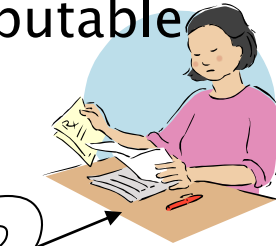
Ing. Paolo Marcheschi
HL7 Italia Technical C
co-chair HL7-CDA, HL
IHE Cardiology Project
In

How?

CDA personal health record

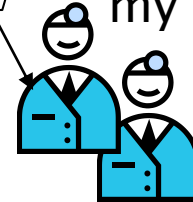


- All transform to CDA
- Complete view of record
- No loss in computable semantics



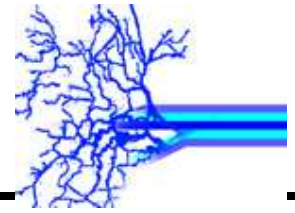
- What is available?
- How do I get it?
- Can I read it?
- Can I import it into my EMR/PHR/CDR...?

- EHR
- V-EHR
- PHR
- Patient Portal
- Physician Portal
- Health Record Bank



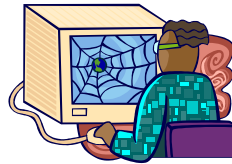
How?

SpringHIE: PHR Bank



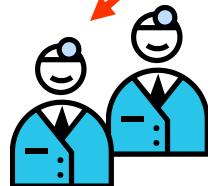
Health Record Bank puts the patient in control

Patients view records, grant viewing privileges



Payer views records with permission

Providers view records with permission

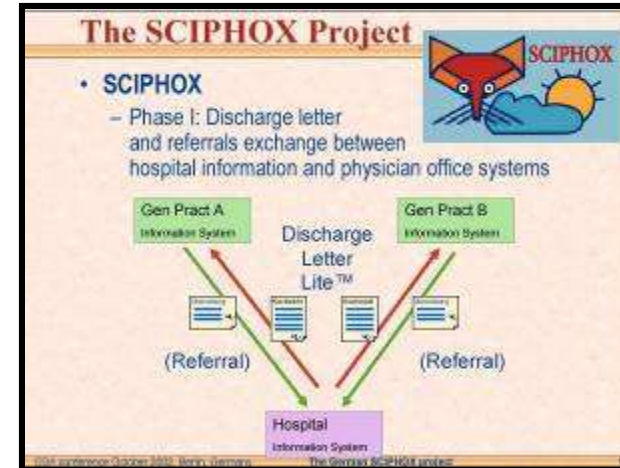
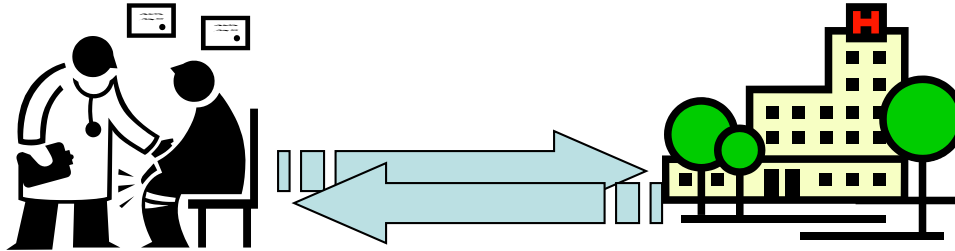


Registry accesses records with permission



How?

do I use my CDA?

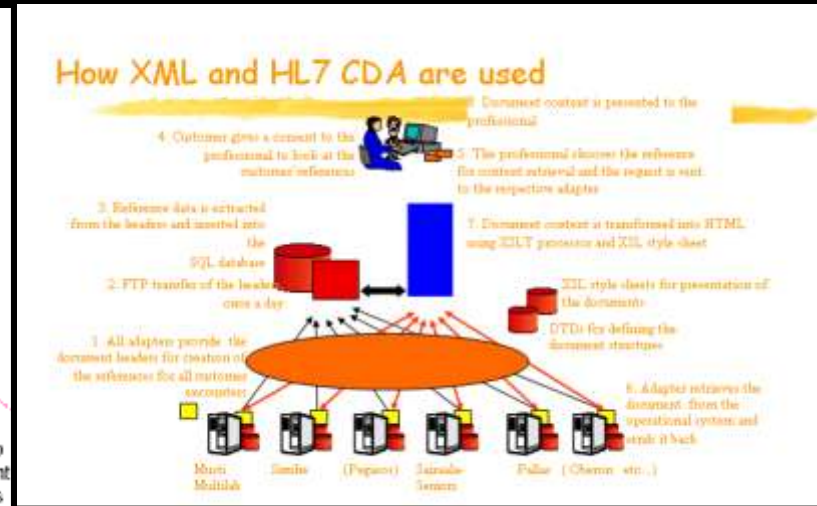
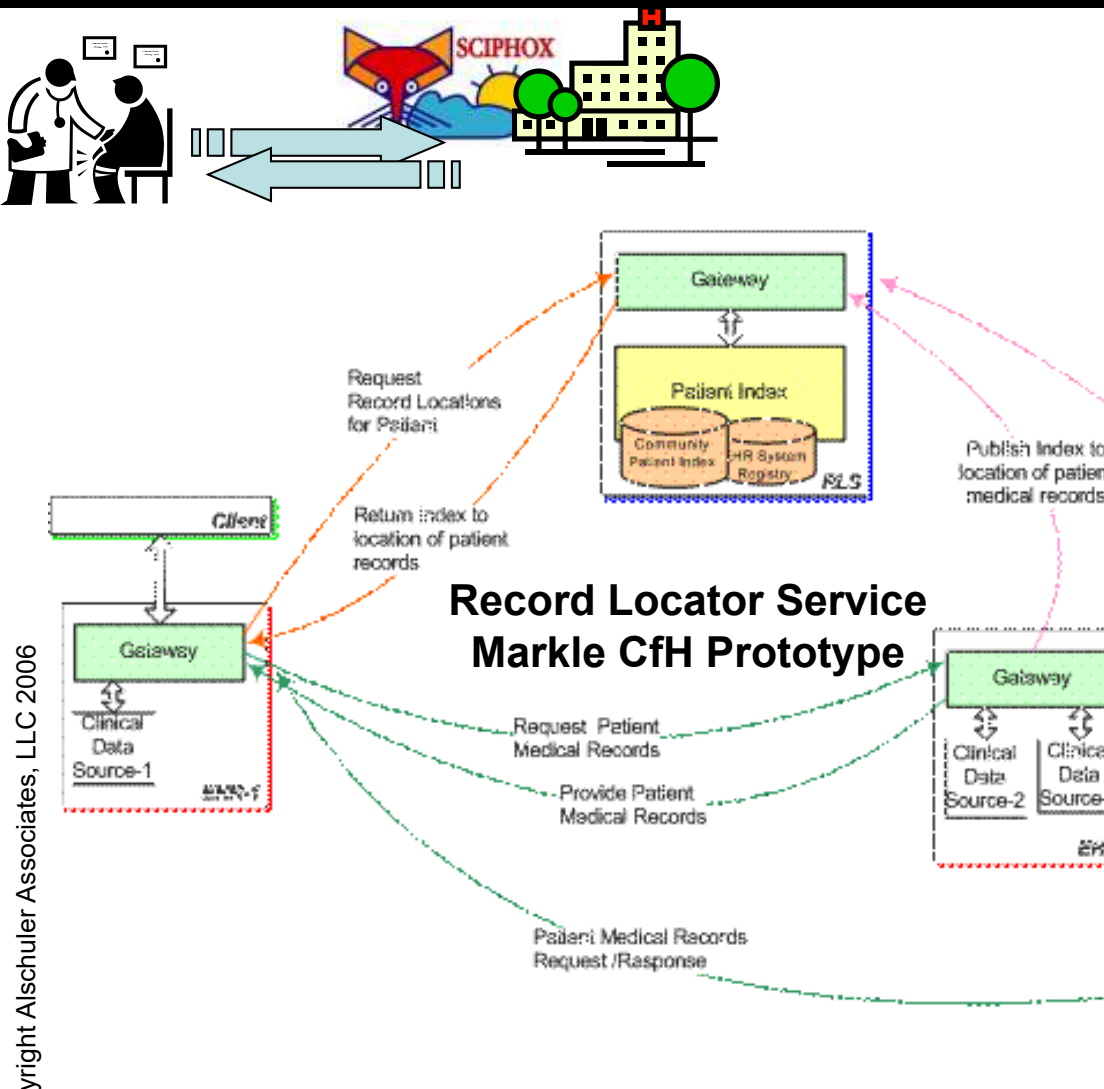


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How?

do I use my CDA?



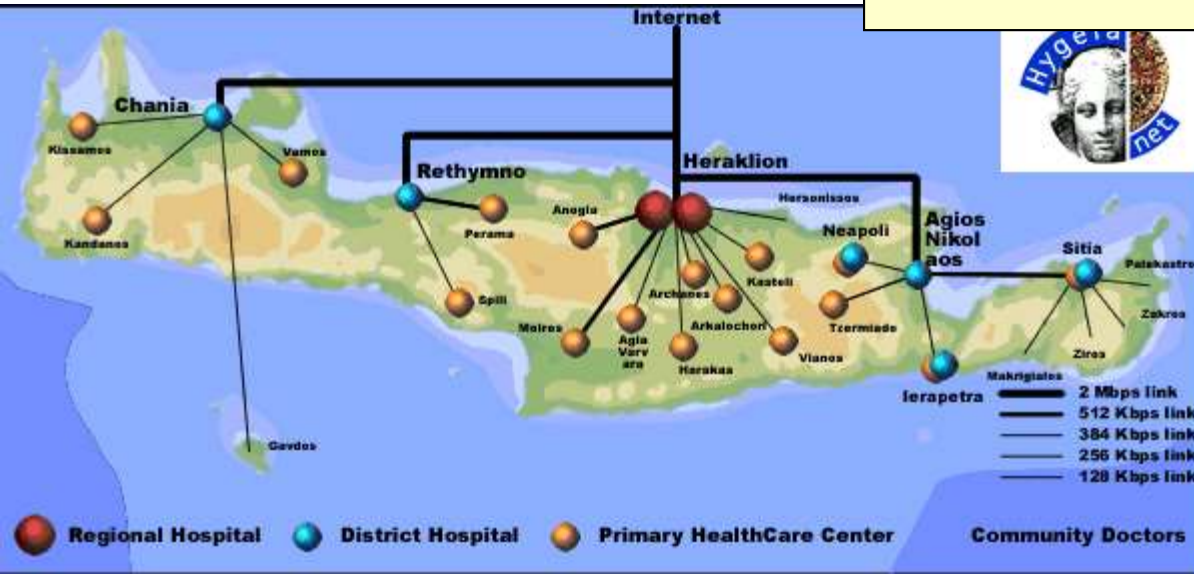
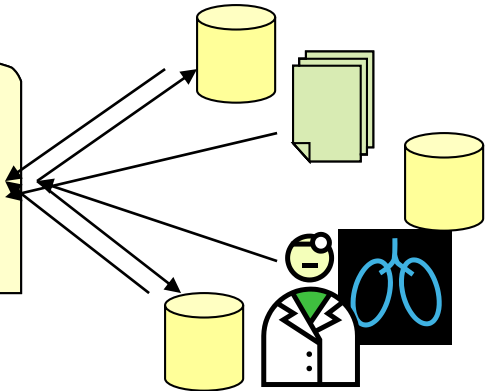
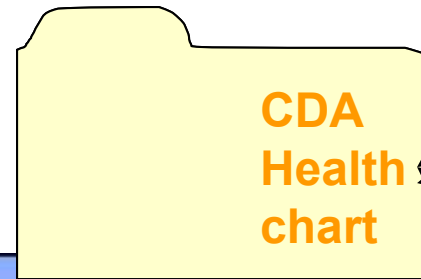
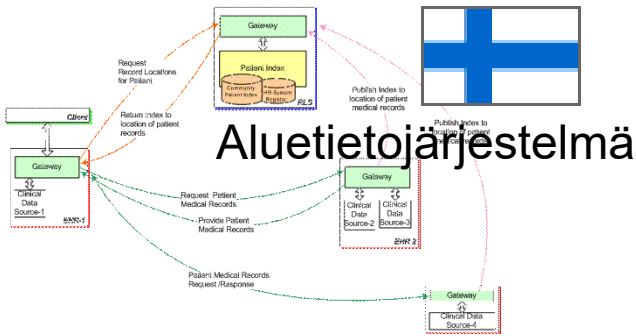
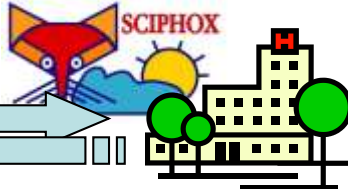
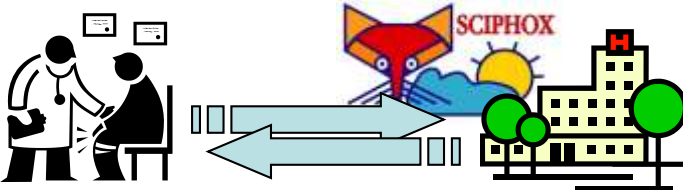
Aluetietojärjestelmä

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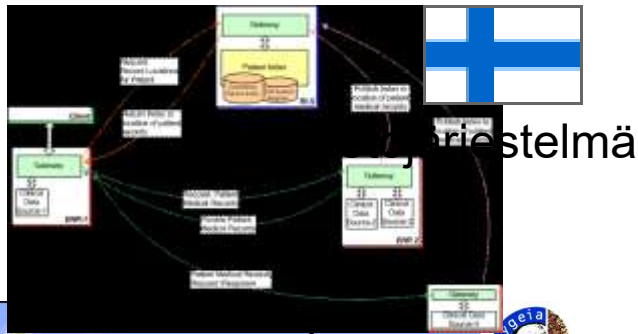
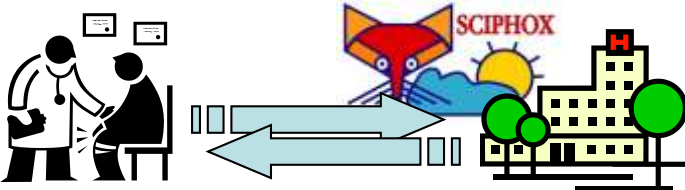
How?

do I use my CDA?

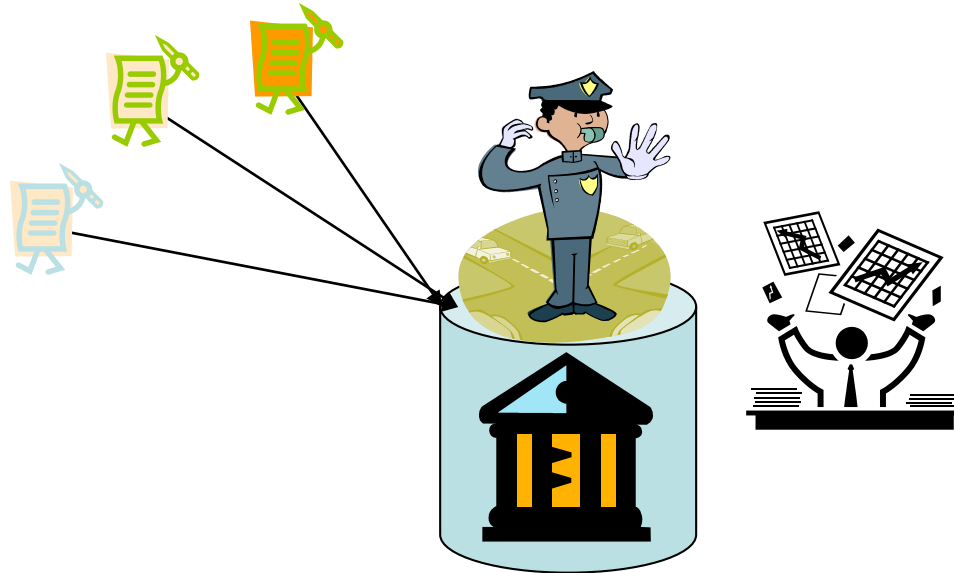


How?

do I use my CDA?



πρωτοβάθμια

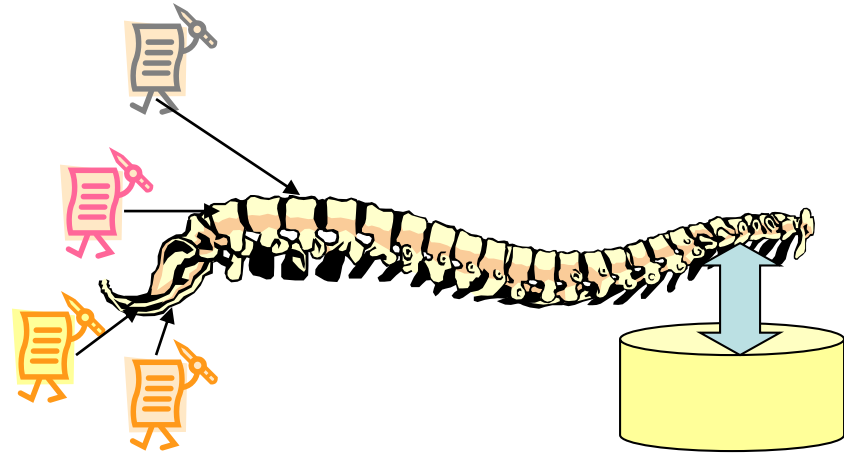
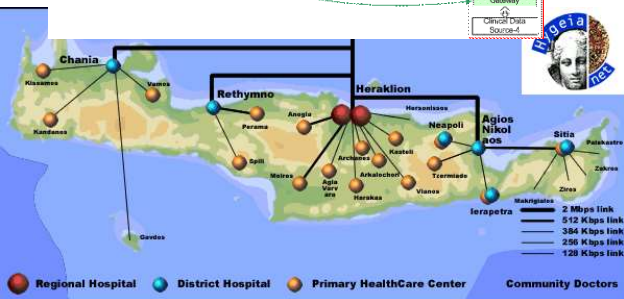
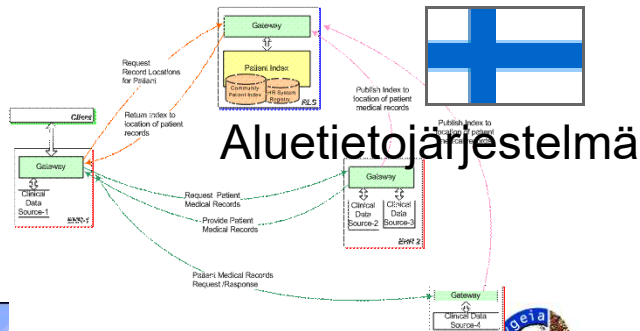
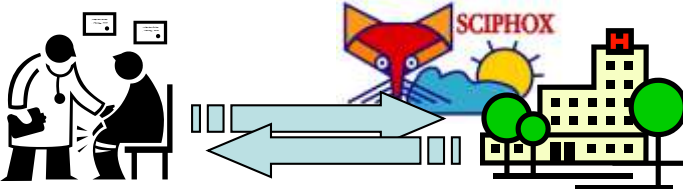


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How?

do I use my CDA?

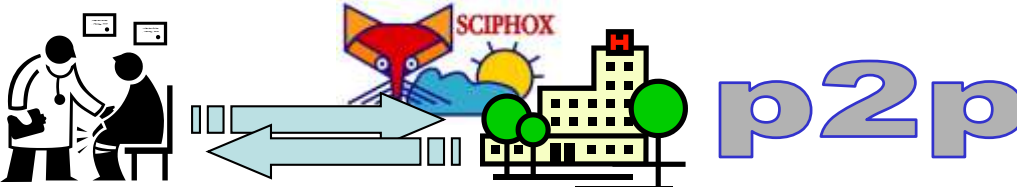


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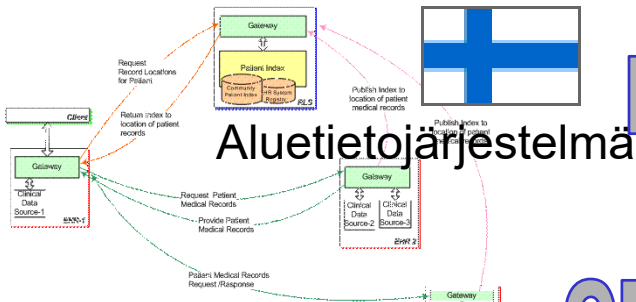
How?

do I use my CDA?



p2p

- CDA is adaptable across multiple exchange architectures



Aluetietojärjestelmä

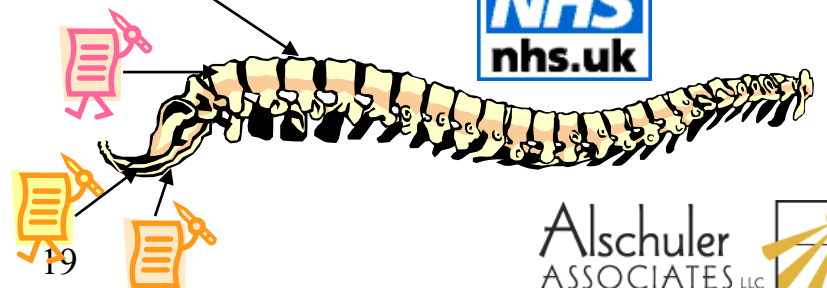
RLS

CEN/LDAP



PHR/HRB

national spine



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Clinical Document Architecture

Why?

CDA ?

- Ease of rendering
 - Single standard or custom stylesheet
- Fidelity to authenticated content
 - Medical–legal record
- Full record
 - All types of content
- Optimize level of semantic interoperability
 - Only code where it pays off
- Works across disparate, evolving architectures
 - Central or distributed; any discovery, access method



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

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Questions?

