

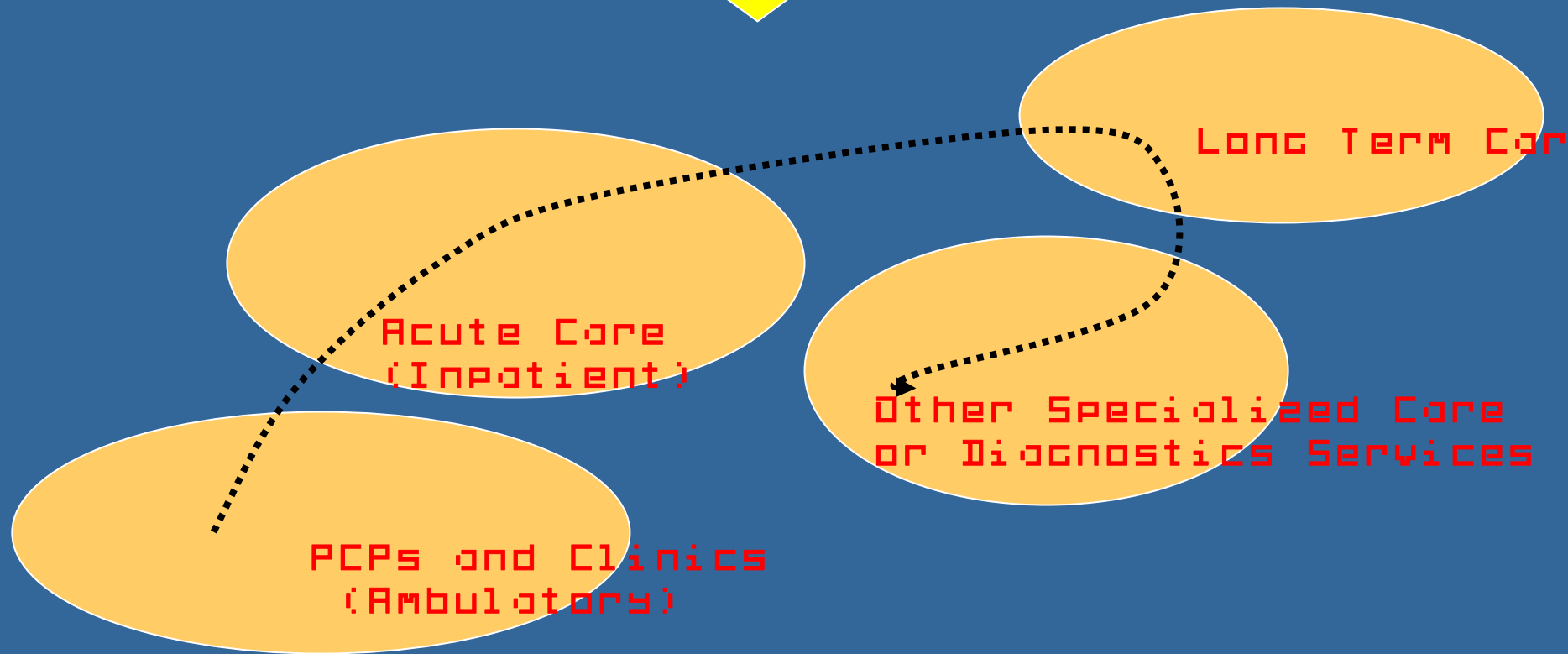


# IHE for Regional Health Information Networks

## Cardiology Uses



# Cross-Enterprise Document Sharing



# RHIOs – an emerging trend

- 95% of healthcare encounters in local home area
- Regional markets often limited to 2-5 major IDNs, facilitating agreement among all players
- Social factors favor regional business agreements
- Regional markets may be assisted by state initiatives

Regional Health Information Organizations (RHIOs) recognized as the preferred model for EHR data sharing by US Dept. of Health and Human Services

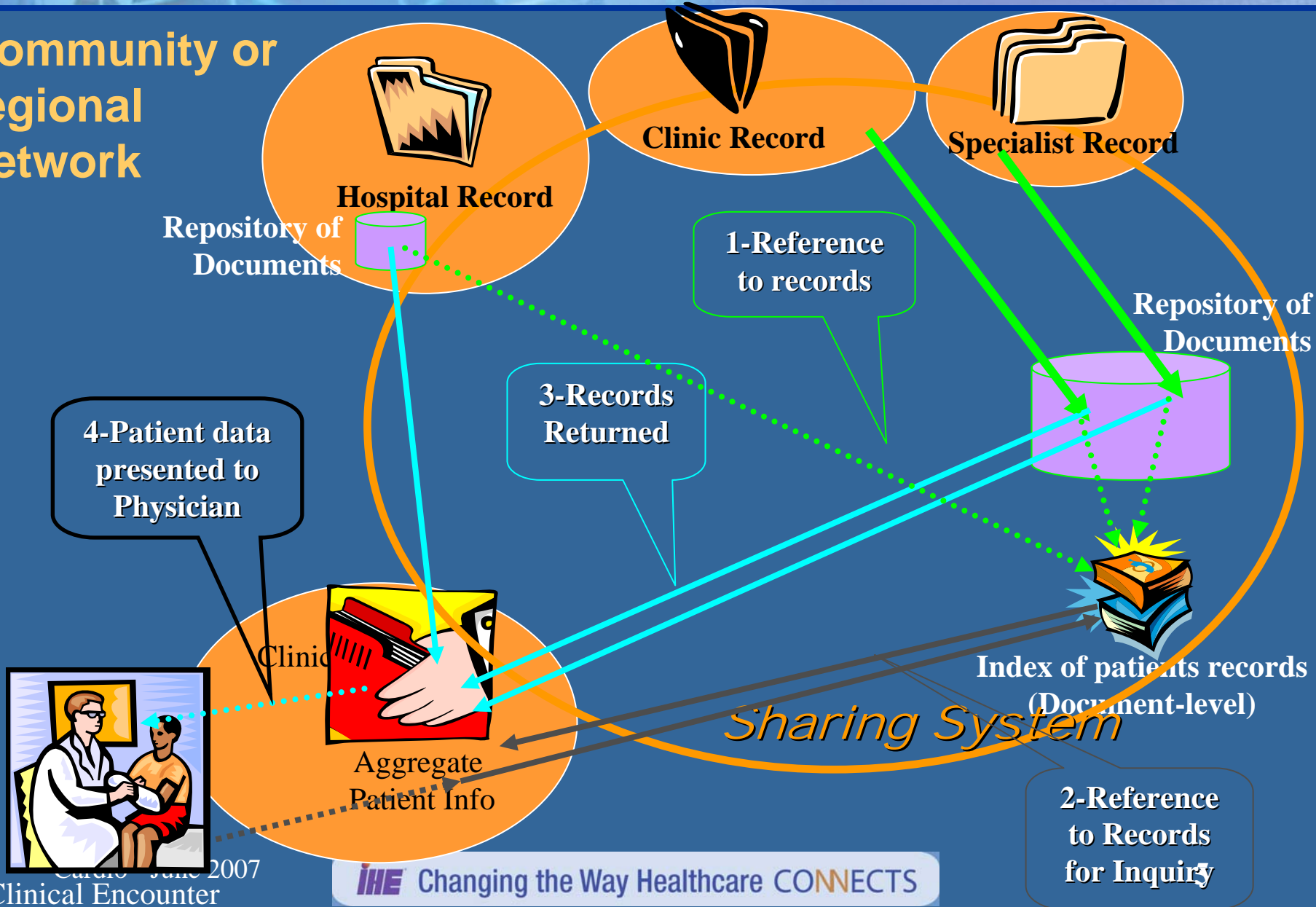
# IHE's approach for RHIOs

- Interoperability technical specification for local, regional, disease-specific, or national health information exchange
- Enable document search and document exchange between EHR systems, ancillary IT systems (lab, pharmacy, payers), and personal health record systems
- Incrementally build on (do not replace) existing healthcare business models, including models of “data custodianship”
- Avoid the pitfalls of “rampant featurism” – keep it simple

## IHE Cross-Enterprise Document Sharing (XDS) introduced in 2005

# XDS – How it works

Community or regional network



# Cross-Enterprise Document Sharing benefits

- Sharing of Documents minimizes clinical data management by the infrastructure.  
*Transparency = Ease of Evolution*
- Supports both centralized and decentralized repository architectures; ease of federation and evolution.  
*Flexibility of configurations = Supports multiple business models*
- Avoids replication/aggregation of data in sharing infrastructure.  
*No false assertion of consolidated “truth” about patient*
- Patients have guaranteed portability of data among RHIO-participating providers.  
*Digital Documents = Patient and providers empowerment*

# Cross-Enterprise Document Sharing (XDS) Standards Used

Two “categories” of standards used

XDS Doc Content

- **Medical Summaries (HL7 CDA/CRS+V3)**
- **Imaging (DICOM)**
- **ECG Reports (PDF+)**
- ...

XDS Infrastructure

(Document sources, consumers, registries, repositories)  
ebXML Electronic Business Standards

# Why is IHE-XDS a breakthrough ?

- Based on an International Standard - ebXML Registry: OASIS and ISO standard, Web Service/Soap/XML.
- Sharing of digital documents as “attested by the source”, meets the most urgent needs. A proven data-sharing paradigm aligned with existing models of data custodianship.
- Efficient to support all types of Health IT Systems (IDNs, Hospitals, Ambulatory, Pharmacy, Diagnostics Centers, etc.) and all types of information (summaries, meds, images, lab reports, ECGs, etc.), structured and unstructured.
- Meets the needs of both point-to-point push communication and on-demand pull in a variety of centralized or distributed architectures.

***Offer a consistent, standards-based, and functional record sharing for EHRs, PHRs & other IT Systems***

# IHE-XDS family of profiles

- Security and privacy
- Patient identification management
- Notification of document availability
- Rich Document Content for end-to-end application interoperability
  - Structured medical summary (incl. meds, allergies, problems)
  - Imaging information (incl. images and reports)
  - More in development

***IHE-XDS + related IHE Integration profiles provide a complete interoperability solution***

# XDS-MS Medical Summary

## Structured and Coded Header

Patient, Author, Authenticator, Institution, Time of Service, etc.

## Structured Content with Coded Entries

- Reason for Referral
- Vital Signs
- Medications

Text Structure Entry

Coded Section Entry

- Studies
- Allergies

Text Structure Entry

Coded Section Entry

- Social History
- Problems

Text Structure Entry

Coded Section Entry

- Care Plan

Level 1



Header always structured and coded

Level 2



Title-coded sections with non-structured non-coded content (text, lists, tables).  
→ Simple Viewing (XML Style sheet)

Level 3



Meds, Problems and Allergies required as highly structured text. → Text easy to import/parse

Level 3



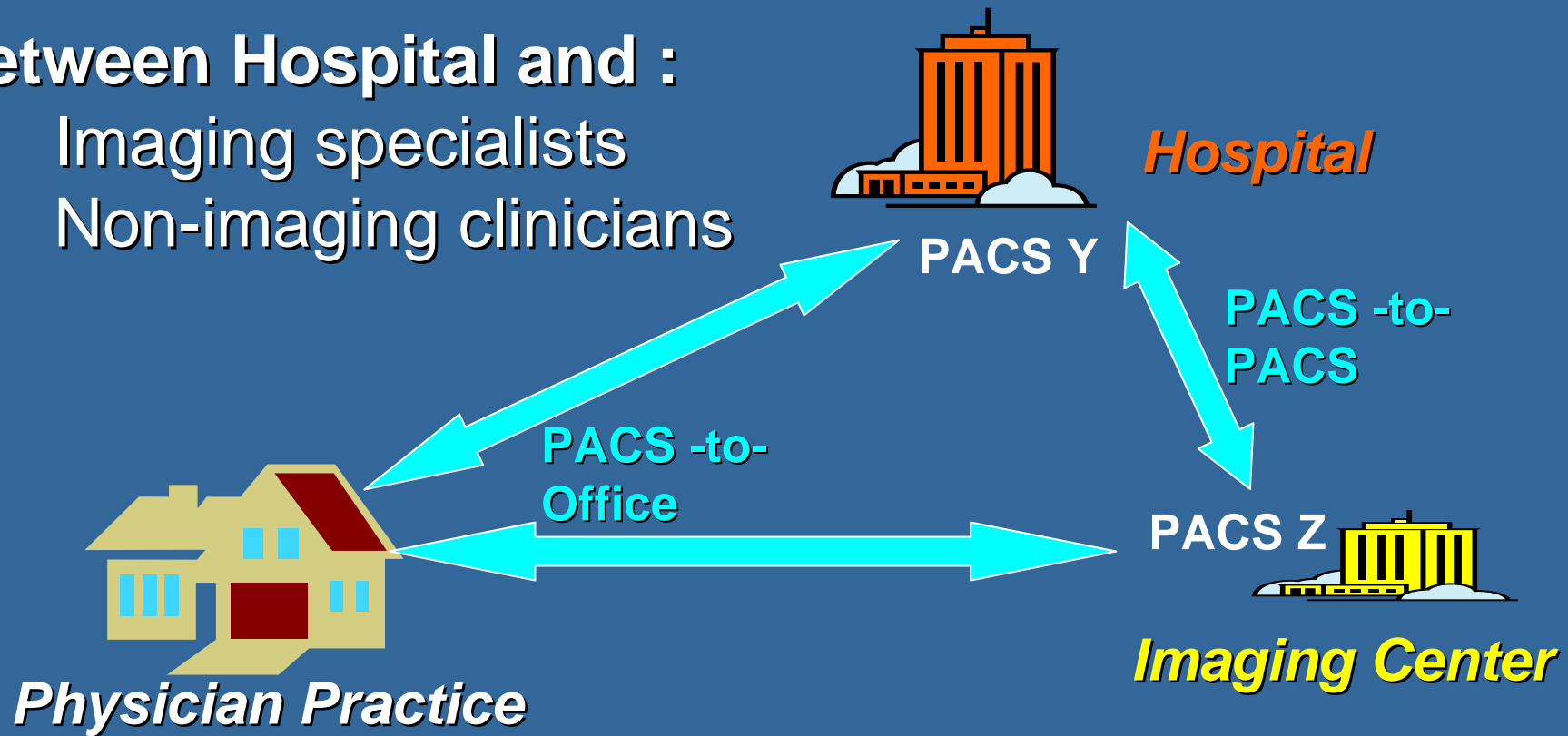
Meds, Problems and Allergies have a required fine-grain structure with optional coding. Coding Scheme not standardized, but explicitly identified.

**XDS-MS enables both semantic interoperability and simple viewing !**

# Use of XDS infrastructure to access Imaging Reports and Images (XDS-I)

Between Hospital and :

- Imaging specialists
- Non-imaging clinicians



**Same XDS Infrastructure (Registry and Repositories) for medical summaries and imaging information !**

# IHE-XDS Status

- **Technical Framework final text published August 2005.**
- **Implemented world-wide by more than 30 vendors / open source.**
- **Adopted in several national & regional projects (Italy, France, Canada, Austria, USA, etc.)**
- **IHE XDS: 15800 “Google” references (Jan ‘06)**



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