



***Coop-etition:
The pros and cons of collaboration with
standard-setting organizations***

***ANSI 2008 Open Forum for
Standards Developers***

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Healthcare

- **This presentation gives:**
 - **A brief introduction of HL7,**
 - **An overview of the use of standards and organizations in the health industry**
 - **An example of what hasn't work and a current effort to create cooperation**
 - **An list of the significant challenges facing US Healthcare Information Interchange Standards today.**

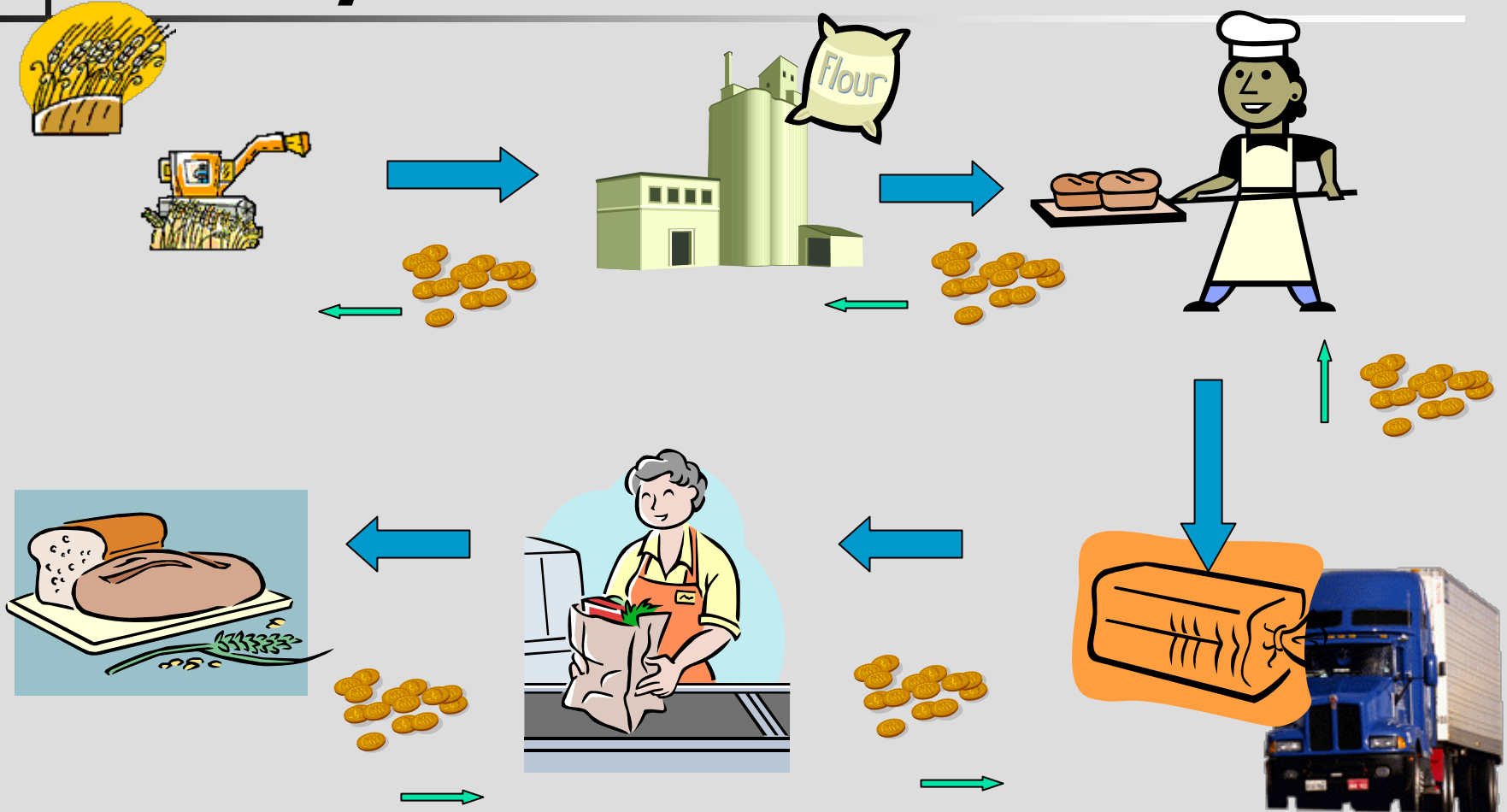


Health Care & Information Technology

- **IT continues to under serve the Healthcare industry both in the US and in other countries.**
 - **Not because Healthcare isn't big enough (in the US 16+% of the GDP and growing to a projected 50% by 2050!)**
 - **Not because enough effort and money hasn't been spent on it...(but it is difficult to *make money* in HIT).**
 - **Healthcare is not based on *"capitalism"*.**
 - **In the U.S. it is an odd mixture of capitalism, socialism and cost shifting.**
 - **Outside of the US it is largely supported through taxes even though each country has a different approach to healthcare financing.**

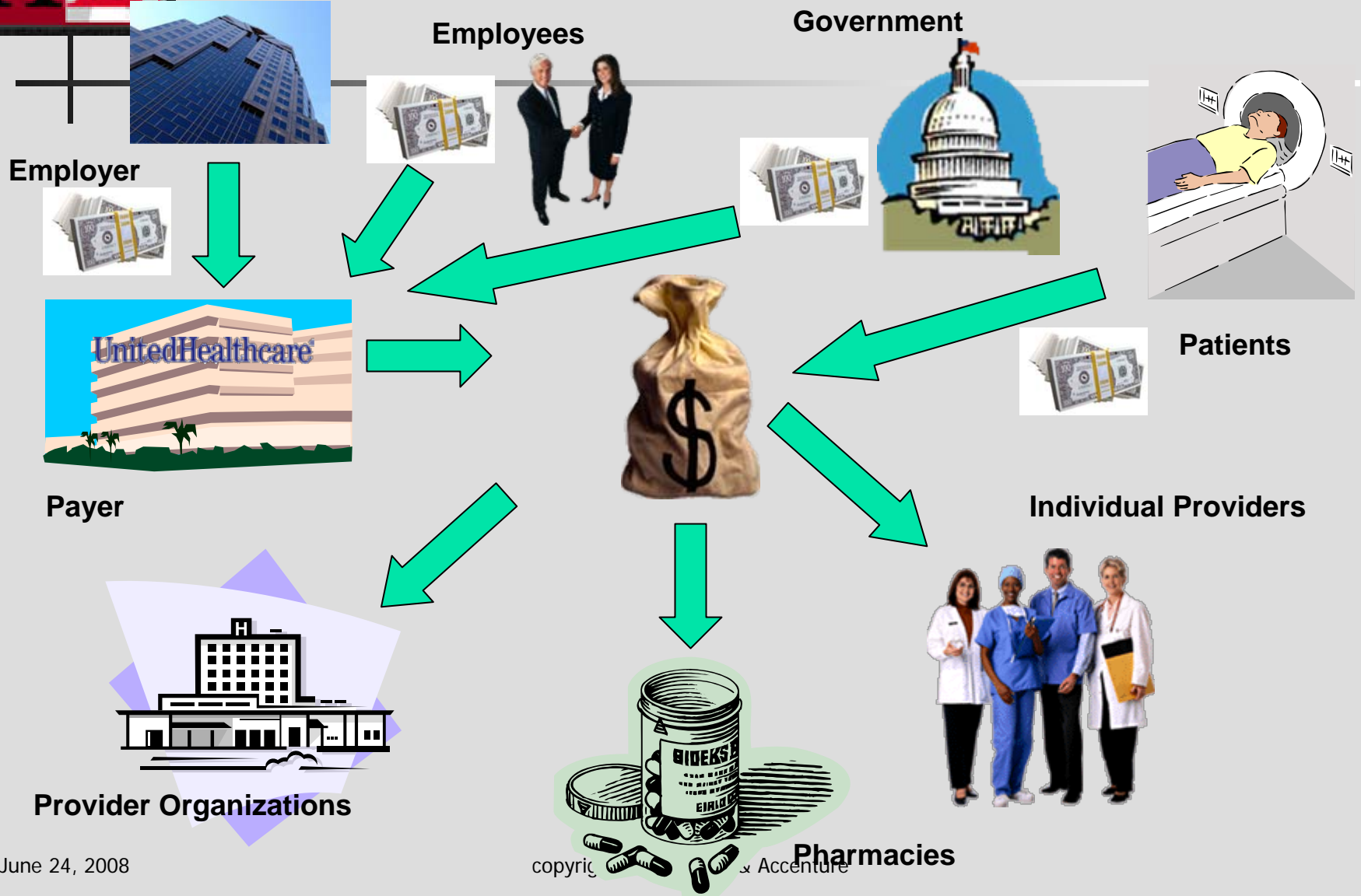


The usual model of capitalism





The U.S. "Health" Business





HL7 – Health Level Seven

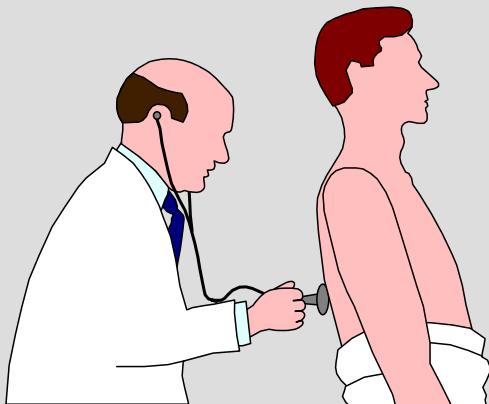
Health Level Seven

ISO's Open Systems Interconnect (OSI) model: Application Level" – level 7

HL7 is an ANSI accredited standards organization (ASO) for clinical & operational EDI.

Members include: user (hospital, physicians practices, physician group practices, academic faculty practice plans, health maintenance organizations (HMO), preferred provider organizations (PPO), independent practice affiliations (IPA), utilization review (UR) companies, fiscal intermediaries, third-party administrators (TPA), peer review organizations (PRO), insurers and payers, manufacturers (pharmaceuticals, medical devices, etc.), professional associations and societies, industry consortia, regulators, and government agencies.

There are also now 31 countries that participate in HL7





HL7's Mission

HL7 provides standards for interoperability that improve care delivery, optimize workflow, reduce ambiguity, and enhance knowledge transfer among all of our stakeholders, including healthcare providers, government agencies, the vendor community, fellow SDOs and patients. In all of our processes we exhibit timeliness, scientific rigor and technical expertise without compromising transparency, account-ability, practicality, or our willingness to put the needs of our stakeholders first.

32 HL7 Affiliates / Countries



Argentina



Australia



Austria



Brazil



Canada



China



Columbia



Croatia



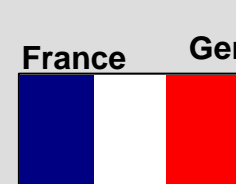
Czech Republic



Denmark



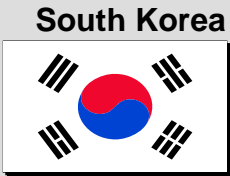
Finland



France



Germany



South Korea



Spain



Sweden



Switzerland



Taiwan



The Netherlands



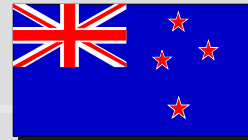
Turkey



Singapore



Romania



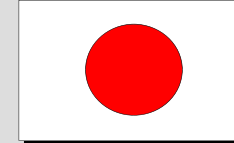
New Zealand



Uruguay



Mexico



Japan



Italy



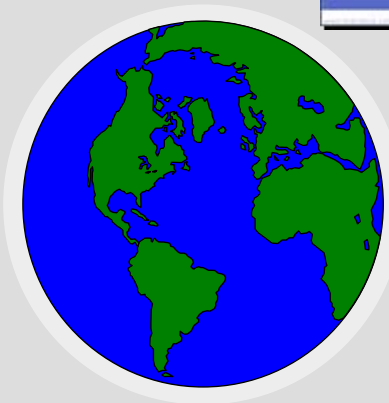
Ireland



India



Greece



And growing



United States



United Kingdom



HL7 Working Groups

- Architectural Review Board
- CCOW
- Clinical Decision Support
- Education
- Electronic Health Record
- Electronic Services
- Financial Management
- Implementation/Conformance
- Infrastructure and Messaging
- International Affiliates
- International Mentoring
- Marketing
- Modeling and Methodology
- Orders/Observations
- Organization Review Committee
- Outreach Committee for Clinical Research
- Patient Administration
- Patient Care
- Process Improvement
- Publishing
- Regulated Clinical Research Information Mgmt.
- Scheduling and Logistics
- Security
- Structured Documents
- Tooling Committee
- Vocabulary

- Anatomic Pathology
- Arden Syntax
- Attachments
- Cardiology
- Clinical Guidelines
- Clinical Genomics
- Clinical Interoperability Council
- Community Based Health Services
- Conformance
- Emergency Care
- Generation of Anesthesia Standards
- Government Project
- Health Care Devices
- Imaging Integration
- Implementation Technology Specification
- Java
- Laboratory
- Patient Safety
- Pediatric Data Standards
- Pharmacy
- Public Health and Emergency Response
- Services Oriented Architecture
- Templates

- **Other:**
- **Ballot Task Force**
- **Clinical Statements**
- **Common Message and Element Types**
- **Dynamic Model**
- **Harmonization**
- **HL7Terminfo**
- **Services BOF**
- **Tooling Collaborative**



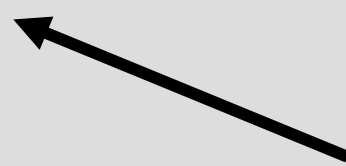
ORGANISATION
INTERNATIONALE DE
NORMALISATION



INTERNATIONAL
ORGANIZATION FOR
STANDARDIZATION



TC 215



TC 251

**Other Countries /
HL7 Affiliates**





HL7 Products

- **Electronic Data Exchange in Healthcare Environments**
 - *Version 2 & Version 3*
- **Clinical Document Architecture (CDA)**
 - *Clinical Context Document Implementation Guide (CCD)*
- **Electronic Health Record System (EHRS) Functional Model**
- **Personal Health Record System (PHRS) Functional Model**
- **Visual / Context Integration (CCOW)**
- **Arden Syntax**
- **GELLO**
- **Version 2.x XML (*XML encoding of HL7 messages*)**



Global Healthcare Interoperability Standards

- All countries have focused on data representation and messaging standards.
- The lists are incomplete and variations do occur between countries.
- Common standards across most countries include:
 - **Terminology**
 - SNOMED
 - ICD
 - LOINC
 - **Messaging**
 - HL7
 - DICOM

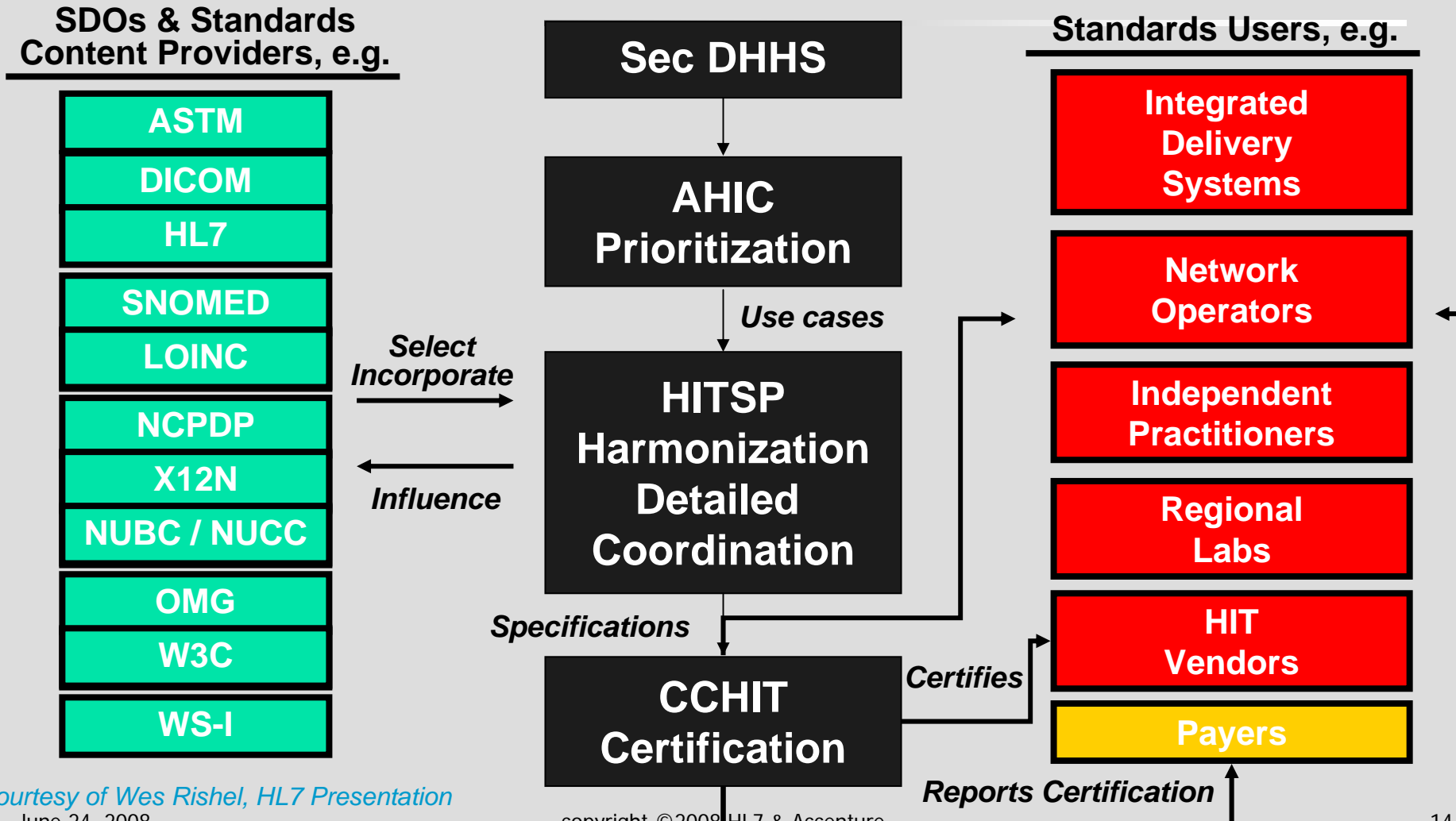


U.S. Standards

- The National Council on Vital and Health Statistics has listed over 40 different coding standards to track.
 - *These are the largely “non-overlapping” list.*
- The major standards groups in the U.S. now under the guidance of DHHS’s Health Information Technology Standards Panel (HITSP) include:
 - ASTM E31
 - DICOM
 - HL7
 - NCPDP
 - X12N
 - CDISC (note: CDISC + HL7 = RCRIM)
- *and...*
 - NUBC / NUCC
 - OMG
 - W3C
 - WS-I

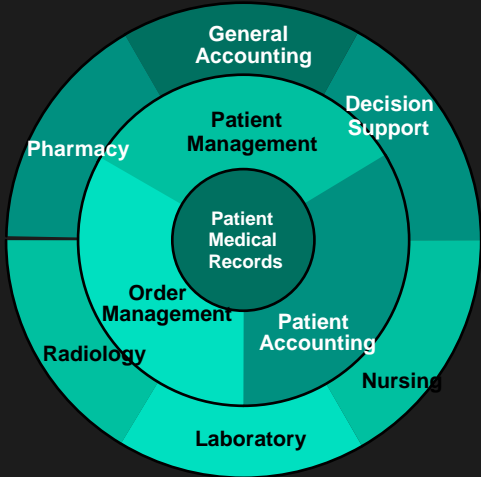


US Federal Healthcare ONCHIT Interoperability Initiatives



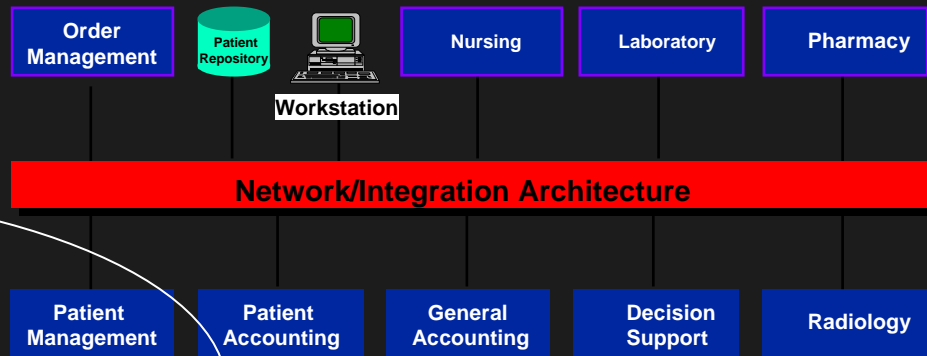
Healthcare User/Solutions Architectures

Single Vendor

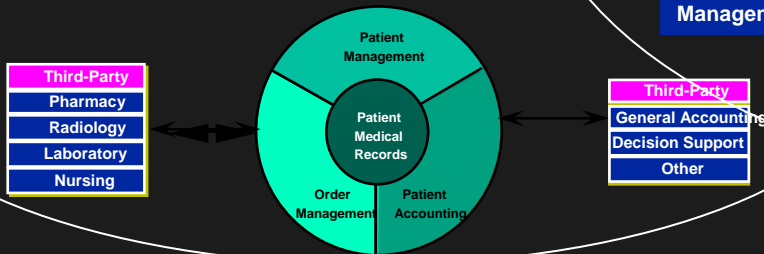


ThirdParty Niche

Best of Breed



Core Vendor



Both Require Some to Significant Integration

Medication Use

Medication Order Entry	Outpatient Prescriptions	eMAR
Dosing Management	Inventory / Formulary Management	Substitution/ Cost Management
Positive Patient Identification	Drug Interactions	Access to Drug Databases
Robot Interface	Pharmacy Robot	Automated Dispensing

Physician Automation

Physician Order Entry	Results Review	Rounding/ Workflow Tools	Real time Alerts
Provider Documentation	Patient History/ Problem Lists	Evidence Based Pathways	Level of Care Documentation
ePrescribing	Scheduling / Phone Triage	Insurance Authentication / Verification	Professional Fee Billing

Clinical Process Automation

Care Documentation	I & O Vital Signs	Flowsheets
Kardex	Task Lists	Care Plans
Non-MD Orders	Patient Education	Non-MD Best Practice Documentation
Critical Care Documentation	Interfaces to Hemodynamic Monitors	Interfaces to Devices

Departmental/Support Services

Lab	Radiology	Cardiology
Anatomic Pathology	Emergency Department	Surgery
Blood Bank	Other Departmental Systems	PAC's

Core Information Management Components

User Interface/Portal			
Data Aggregation and Reporting Tools			
Enterprise Master Person Index (MPI)	Clinical Data Repository	Research Repository	Common Medical Vocabularies
Order Management	Decision Support Repository	Rules Engine	Standard CDM/ Master File
Security Tools	Integration Tools	Response Time	PDA Support
Clinical Portal	Document Imaging Single	Document Imaging Batch	Consumer Portal

Patient Access / Revenue Management

Admission/ Registration	Enterprise Scheduling	Eligibility Verification
Request for Authorization	Bed Management	Technical Denial Management
Patient Billing	Collection	Contract Management

Care Management

Precertification Authorization	Initial & Concurrent Review	Discharge Planning
Clinical Denial Management	Payor Communication and Notes	InterQual Support for LOC
Pathways (LOS)	Core Measures	Disease Management

Business Intelligence

Data Warehouse	Severity Adjustment	Report Writer	Comparative Database Access
Outcomes Measurement	Resource Utilization	Provider Profiling	Credentialing

Health Information Management

Coding / Abstracting	Coding Support	Transcription/ Dictation
Chart Tracking /Management	Chart Completion	Electronic Signature
Release of Information	Printing the EMR	MRN Management and Merge



Needs for Integration

- **HL7, X12N, NCPDP and others have repeatedly “talked” about “harmonization” and cooperation.**
- **Each organization serves a distinctly different industries (provider, payer and retail pharmacy/PBM)**



Government Oversight

- In countries outside of the US and the EU there is significant government oversight of Standards across all industries...especially healthcare.
- Until HITSP/ONCHIT the US “co-opition” was largely voluntary and ineffective.



International Experience

- **ISO TC 215 has recently created a new organizational structure called the “Joint Initiatives Council” (JIC) with a “Joint Working Group” (JWG) among ISO TC 215, CEN TC 251 and HL7. CDISC was recently added to the group.**



International Experience

- **Key aspects are:**
 - **Jointly staffed task groups that produce the ballots**
 - **Simultaneous ballots in all organizations**
 - **Identical content to all ballots**
 - **Final document is owned by all participants**



US Challenge

- **Health Information Technology has been cited as a significant shortcoming in the US.**
- **The lack of HIT in the US is cited for patient safety problems resulting in hundreds of deaths per day.**
- **Nevertheless, adoption of HIT is slow and difficult, in spite of political desire.**



Key New Requirements

- **The payer industry in the US (including the Prescription Benefit Managers-- PBMs) have historically avoided using complex structured clinical data.**
- **Structured, coded clinical data is now needed in all parts of the Healthcare Industry and in all countries.**



Key Healthcare Cooperation Needs

- **Data & Data Models**
- **Terminologies, Terminology Mappings and Maintenance**
- **Methodologies and tools to take information models, dynamic models, terminologies and encoding syntaxes to deterministic messages and services.**