

HL7 International Health Level Seven



**11th International HL7 Interoperability Conference
(IHIC2010)**

**HL7 Ambassador Presentation
On
Introduction to Standards & HL7
By**

**Gora Datta
HL7 Ambassador
May 14, 2010**



HL7 Ambassador

- **This presentation is being delivered by an authorized speaker of HL7, called an HL7 Ambassador. The HL7 Ambassador personally participates and contributes to the HL7 standards in HL7 Technical committee meetings and can speak first hand about the standard.**



Your Ambassador Today

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CoLead: HL7 EHR Interoperability WG

CoLead: HL7 eLearning Course (ELC) Team

ISO/TC215: USA PHR Expert & Global Task Force CoLead

ISO/TC215: USA eHealth Expert & Global Task Force Member

Senior Member: IEEE

Senior member: ACM

Group Chairman & CEO, CAL2CAL Corporation



Topics

- **Need for electronic Healthcare Information Exchange**
- **Role of Healthcare Standards and benefits**
- **What is HL7 and examples of standards**



Healthcare Information Exchange

Why can't we make this happen?



- Mary Lim has been a healthy young woman who has never been hospitalized
- However, recently she attended her employer's health screening, and they found that she has high blood pressure

Healthcare Information Exchange

Why can't we make this happen?



1. Mary decides to **visit** her neighborhood GP, Dr. Steven Lam, at Lam Clinics.
2. At the clinic, Susan Quek, the clinic's nurse, **queries her EMR** system for her details.
3. Not finding her name, Susan **registers** Mary in her system.
4. Dr. Steven sees Mary and, after identification of multiple problems, **creates a referral letter** in the EMR for Mary. Dr. Steven also **authorizes** Dr. Peter Tan of Eastern Hospitals to see the referral letter.
5. Susan **arranges for a visit** with the Eastern Hospitals.

Healthcare Information Exchange

Why can't we make this happen?

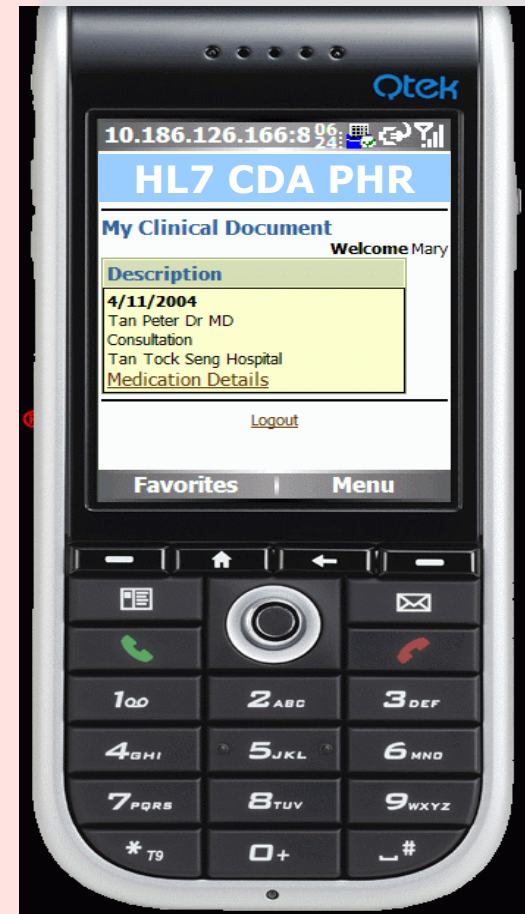
1. Mary **arrives** at Dr Peter's office at one of the Eastern Hospitals.
2. Dr. Peter **retrieves** the referral letter using his own EMR.
3. Dr. Peter runs a standard **blood test** for hypertension and found Mary to be a type 2 diabetic.
4. Dr. Peter **updates** Mary's medical records in his EMR with a consultation letter back to Dr. Steven.
5. The updated information is **accessible** by Dr. Steven as well as to other physicians who might take care of Mary in the future.



Healthcare Information Exchange

Why can't we make this happen?

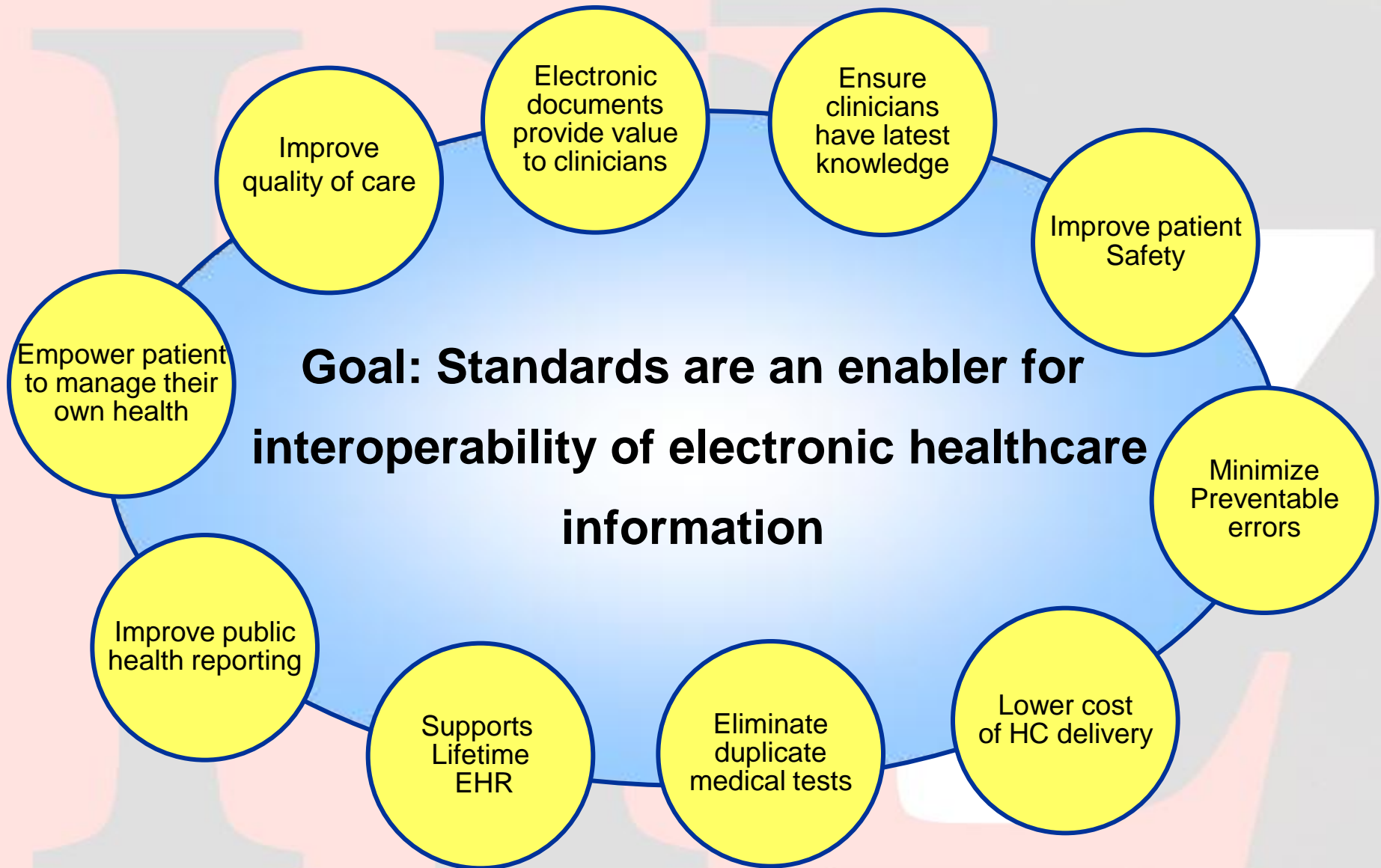
- When Mary gets home, she **shows** her two medical letters to her mother so that she can share what the doctors said.



Global Healthcare Trends

- **Rising cost of healthcare**
 - Under or not insured
 - Aging population
 - High cost of chronic care
 - Demand on public health hospitals
 - System and organizational inefficiencies
- **Paper to Electronic Records**
 - Better clinical outcomes
 - Cost effective
- **Public Health**
 - Prevention efforts
 - Bioterrorism and pandemic events: Anthrax, Avian Flu, TB, etc.
- **Consumer Empowered**
 - Personal Health Records empowers consumers to manage their own health
 - Patients and providers seeking greater access and control over information
- **National-Regional IT Networks**
 - Australia, Brasil, Canada, Denmark, UK, USA and many more
 - Government-selected Healthcare Standards
 - Emerging government-sponsored conformance testing
- **Biotech Era**
 - Personalized medicine is beginning to emerge, e.g., genomic data and test for cancer drug

Healthcare Standards can improve patient care



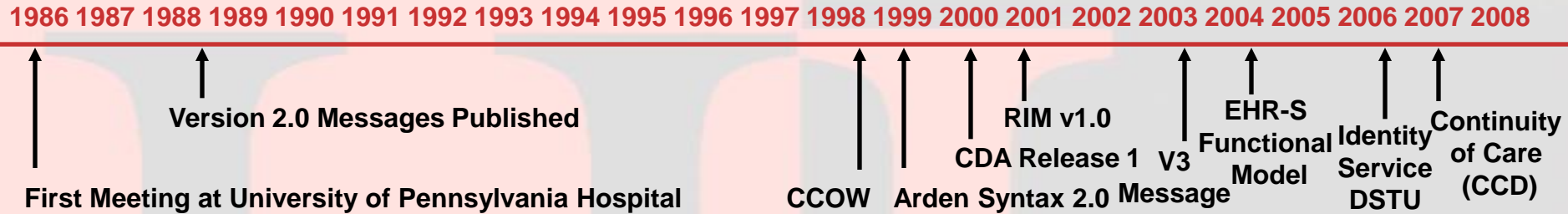
The Business Case

- Patients: interface with provider, payer, pharmacy, pharmacy benefits manager; reduce office waiting time; reduce paperwork; populate PHR's; self-manage healthcare
- Healthcare Providers (primary and ancillary): modularization; apples-to-apples comparisons; simplify interfaces; purchasing incentives; access to best practices; access patient data; streamline workflow
- Vendors: System definition / scope / profiles; RFP's; best-of-breed collaboration; certification

The Business Case

- Payers: Pay for performance; value-add services (e.g., Care Management); reduce costs
- Governments: public health data; identify fraud and abuse; quality assurance; compliance; reduce costs
- Quality-Oversight / Accreditation organizations: consent-based collection of raw data for analysis and reporting; identify providers that are outliers
- Standards Development organizations: reduce overlap and duplication; identify gaps

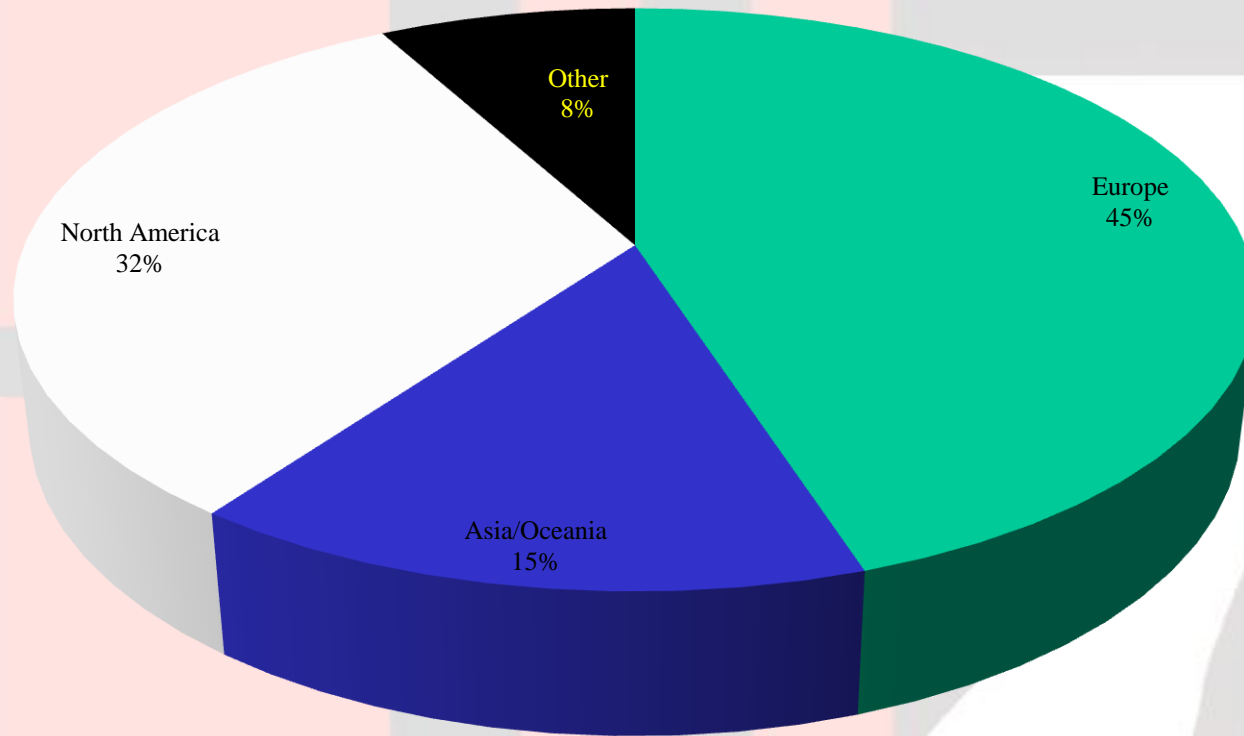
HL7 History and Future



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, accountability, practicality, or our willingness to put the needs of our stakeholders first.

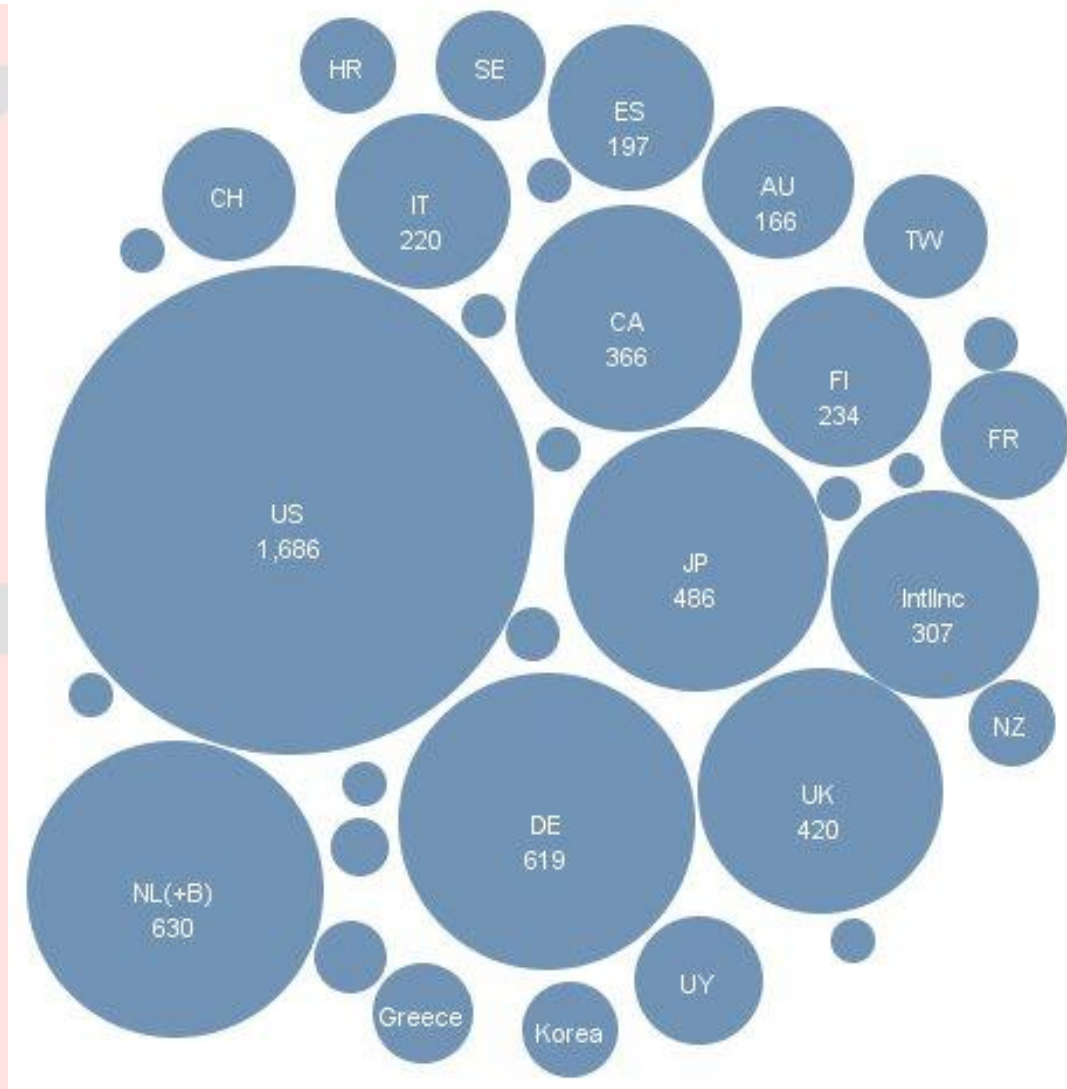
HL7 Membership

- Worldwide
- 1800 organizations plus 1000 individuals



2007 figures. Based on the “average 3 individuals per org rule”

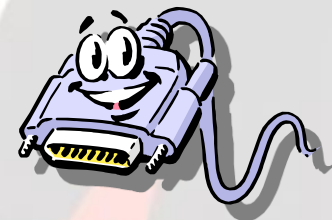
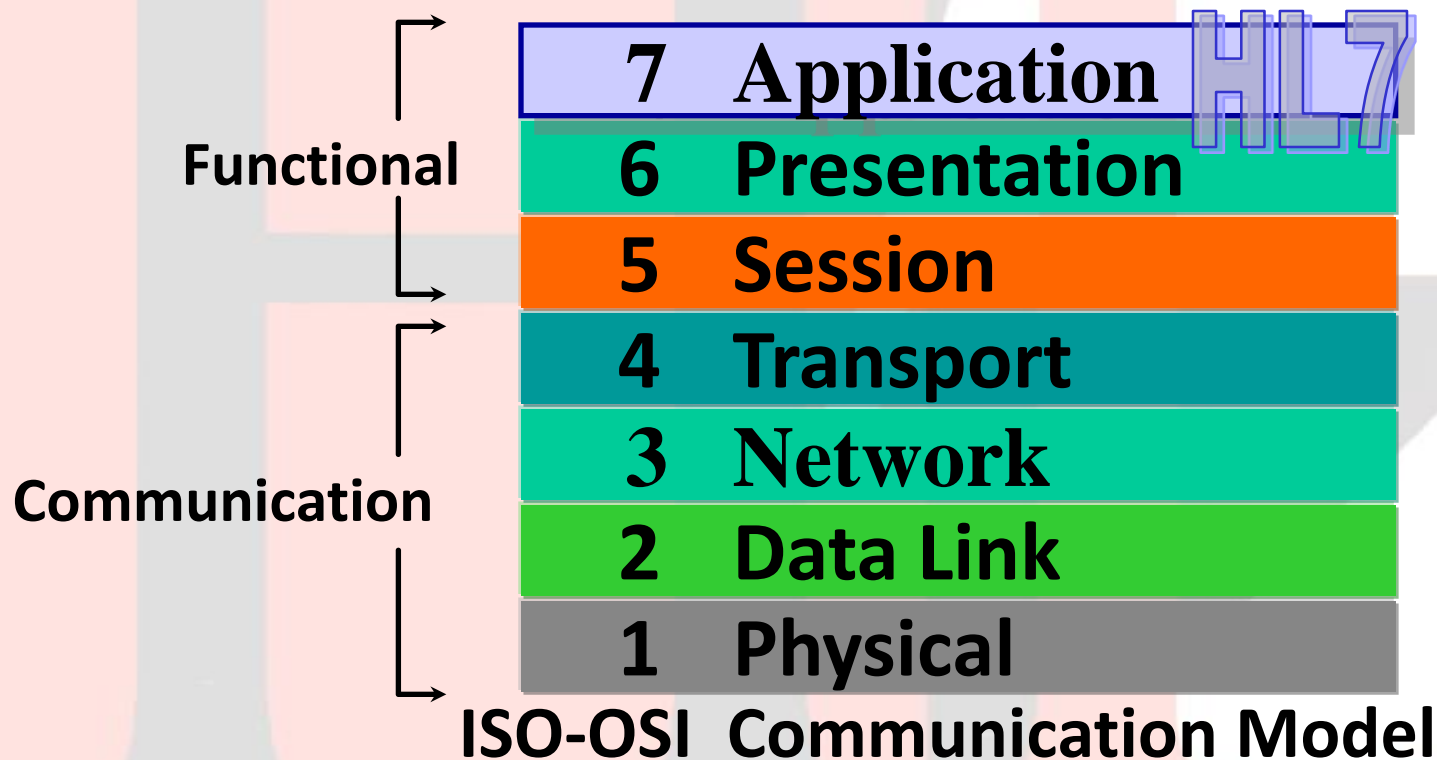
Stakeholder Location



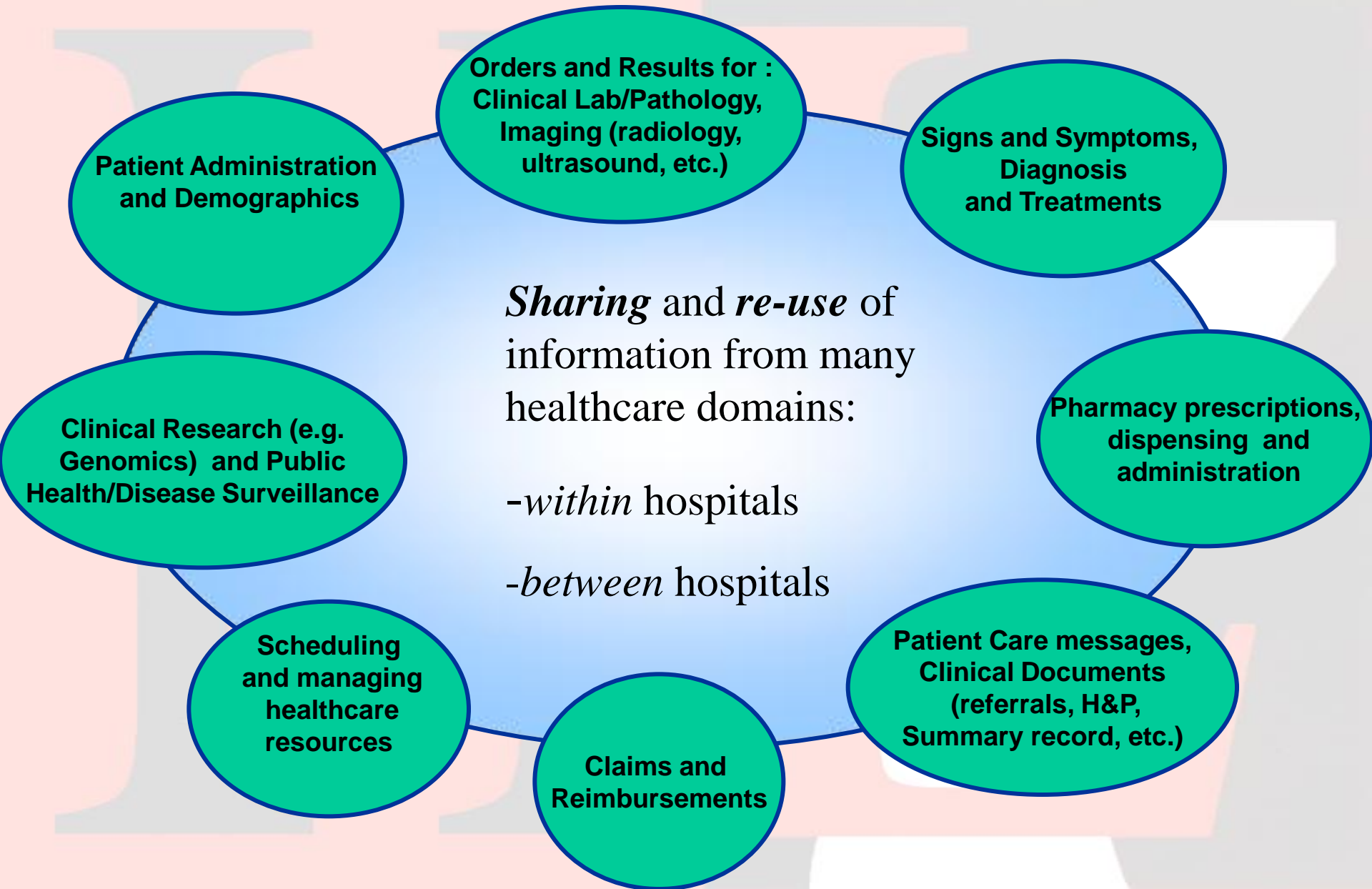
2007 figures. Based on the “average 3 individuals per org rule”

HL7 -- What's in a Name?

- A generic, universal standard for data exchange in healthcare
- Domain Experts plus Computer Science-Engineering



HL7 has produced a *family* of Standards for



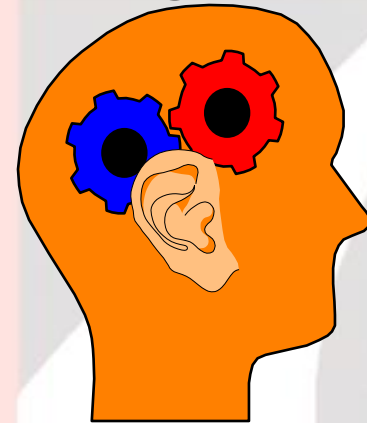
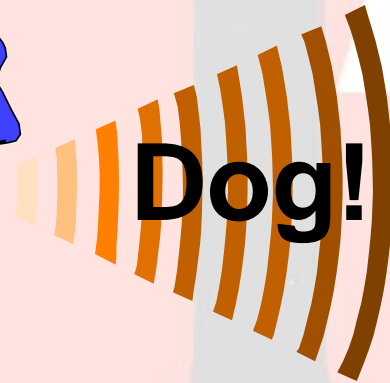
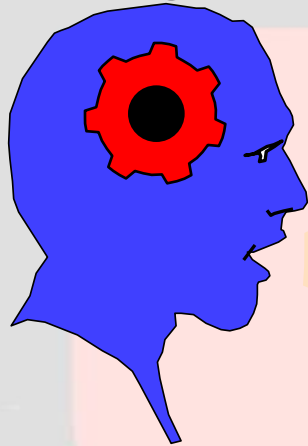
Interoperability

- *“Ability of two or more systems or components to **exchange information** and to **use the information** that has been exchanged”*
 - from the IEEE Standard Computer Dictionary: A Compilation of IEEE Standard Computer Glossaries, IEEE, 1990
 - Interoperability requires standards for both:
 - Syntax (exchange)
 - Semantics (meaning)

Importance of Information Model



**Semantic
variants:
exchange of
information
(models)**



EDI / XML / Web Services / PDF
Syntax variants: exchange of symbols

Healthcare Information Interoperability *Means*

- Enabling the sharing and re-use of *healthcare information*, especially
 - Clinical information
 - And healthcare-related information, including*
 - research, clinical trials, administrative, financial, resource utilization, public health, supply chain
- HL7 standards are all based on the sharing and re-use of Healthcare information
 - Using Messaging, Clinical Documents, and Services

Summary

- There are benefits for electronic healthcare information
- Standards are critical for exchanging healthcare information
- HL7 is the key organization for producing relevant healthcare standards used by governments, hospitals, labs, public health agencies, patients globally

How to get more info on HL7

- **Web site:**
 - <http://www.hl7.org>
- **International Affiliates**
 - <http://www.hl7.org/Special/committees/international/index.cfm>
- **Education and Tutorials**
 - <http://www.hl7.org/events/educationsummits.cfm>
 - <http://www.hl7.org/events/elearning.cfm>
- **Contact info for HL7 HQ**
 - <mailto:hq@hl7.org>

