HL7 PHR System Functional Model

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HL7 Ambassador Webinar, October 2012

The Drivers

- Concerns about cost, quality and efficiency
- By all stakeholders
  - Employers
  - Healthcare providers
  - Consumers
  - Government

The Need

- Consumers are being asked to participate actively in care.
- Consumer desires to have a complete set of health information
- Consumers want to be able to share information at the point of care

Agenda

- PHR vs. PHR Systems (PHR-S)
- Differences between EHR-S & PHR-S
- Developing the PHR-S FM: Background & Current Status
- Overview of PHR System Functional Model
- Walk through of PHR-S FM
- Conformance Clause and Profiles
- Next Steps

Executive Summary

- HL7 builds on its solid foundation of international healthcare information technology standards by offering the Personal Health Record System Functional Model as a draft reference standard for Personal Health Record System functionality

Executive Summary (con't)

The PHR-S FM:

- Is consumer-oriented
- Identifies the functions and criteria that PHR systems are required to, should, or may, do
- Provides a certification framework
- Serves as an anchor for system interoperability

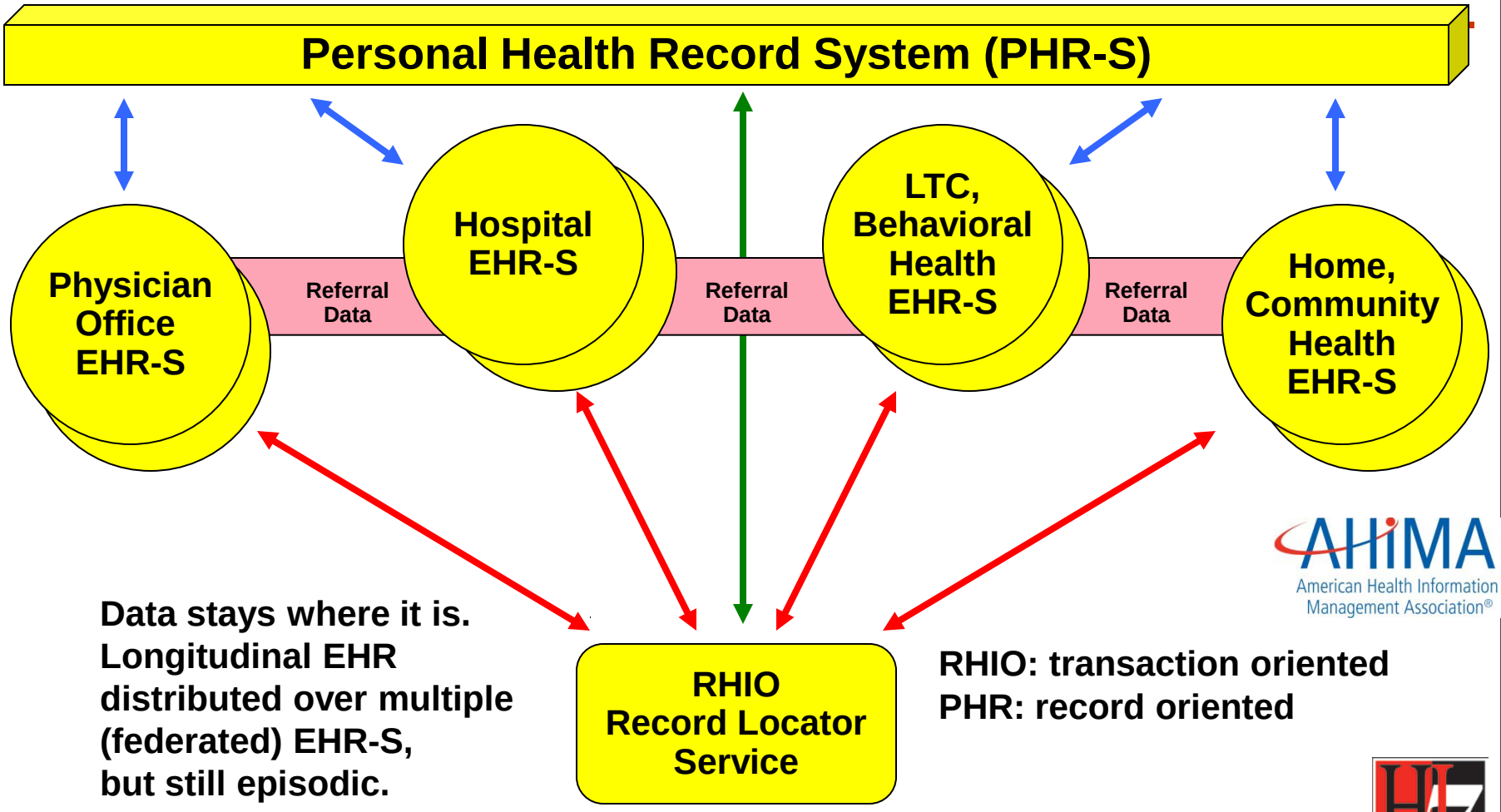
PHR vs. PHR-S

- PHR
  - The underlying single, logical patient record
  - The data elements comprising the record
- PHR-S: Software that provides functionality to
  - Manage and maintain the record
  - Accomplish the various purposes of the record
    - Consumers & caregivers make health decisions
    - Administrative: provider, financial management
    - Health education, wellness, research, public health

PHR - EHR: What Are the Differences?

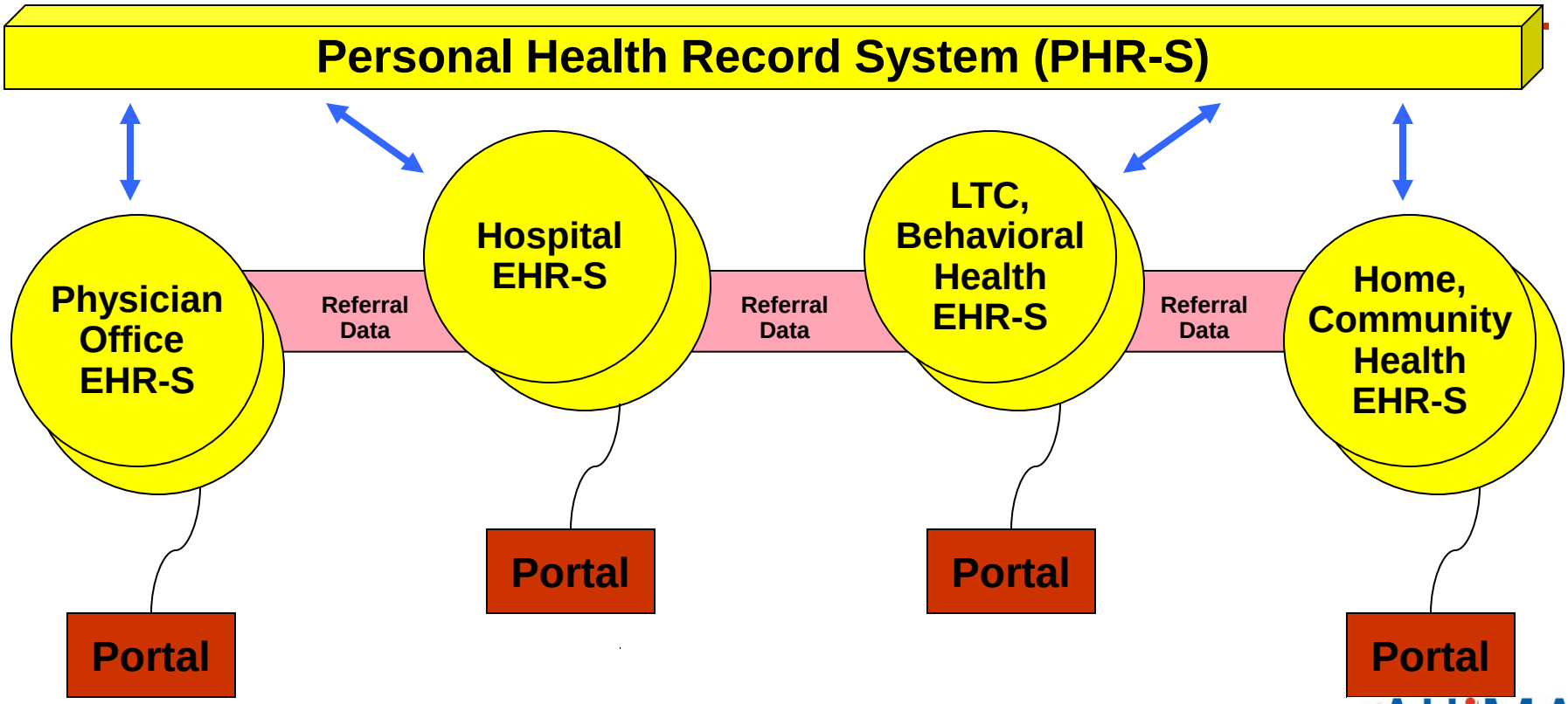
- EHR
  - Clinician-centered functionality
  - Is a legal record
  - Primarily episodic; could be longitudinal
  - Administrative, financial, clinical data
- PHR
  - Citizen-centered functionality
  - Is not a legal record
  - Could be cradle-to-grave
  - How much clinical data to store?

Differences between PHR and EHR



AHIMA American Health Information Management Association®

Stand-alone vs. “Linked” PHR-S



Pros

- Pre-populated data
- Convenience
- Lower maintenance

Cons

- Episodic, not lifelong
- Which one to use?

Meeting PHR-S design requirements

- PHRs address a fundamentally different record and system purpose (than EHRs)
- PHRs have some structure and content similarities to EHRs and EHR-Systems
- PHRs have privacy and security issues
- PHRs have access, use, and control issues
- PHRs must contain longitudinal, yet pertinent data
- PHR Systems must be interoperable with other PHR system models, EHR-Systems, and HIEs
- PHR information must be portable
- There are differing international perspectives

Developing the PHR-S FM: Background

- HL7 PHR Work Group
  - Originally called EHR-PHR Linkage WG, focused on a standard for the health information exchange between the PHR and the EHR
  - Target definition and environmental scan
  - PHR glossary terms
  - Decided to develop full PHR FM and standard, 2007
  - Public comment released August, 2007
  - Approved May, 2008 as a Draft Standard for Trial Use (DSTU)
  - Joint HL7/ISO Ballot in September 2012

The Functional Model

Is Not…

- A messaging specification
- An PHR specification
- An implementation specification (not the "how")
  - Does not prescribe technology, data content
  - Does not dictate how functions must be implemented (e.g., via the user interface, database design)

Is…

- A system specification
- An PHR system specification
- A reference list of functions that may be present in an PHR-S (the "what")
  - Enables consistent expression of functionality
  - Provides flexibility for innovation and product differentiation
  - Gold standard, sensitive to what can practically be done and future systems

Overview of the Standard

Personal Health	PH.1	Account Holder Profile
	PH.2	Manage Historical Clinical Data And Current State Data
	PH.3	Wellness, Preventive Medicine, and Self Care
	PH.4	Manage Health Education
	PH.5	Account Holder Decision Support
	PH.6	Manage Encounters with Providers
Supportive	S.1	Provider Management
	S.2	Financial Management
	S.3	Administrative Management
	S.4	Other Resource Management
Information Infrastructure	IN.1	Health Record Information Management
	IN.2	Standards Based Interoperability
	IN.3	Security
	IN.4	Auditable Records

Functions are categorized and listed hierarchically. ***(The highest level functions are shown.)***

Each function has an ID, Name, Statement, Description, Examples, and Conformance Criteria.

Structure of the Model

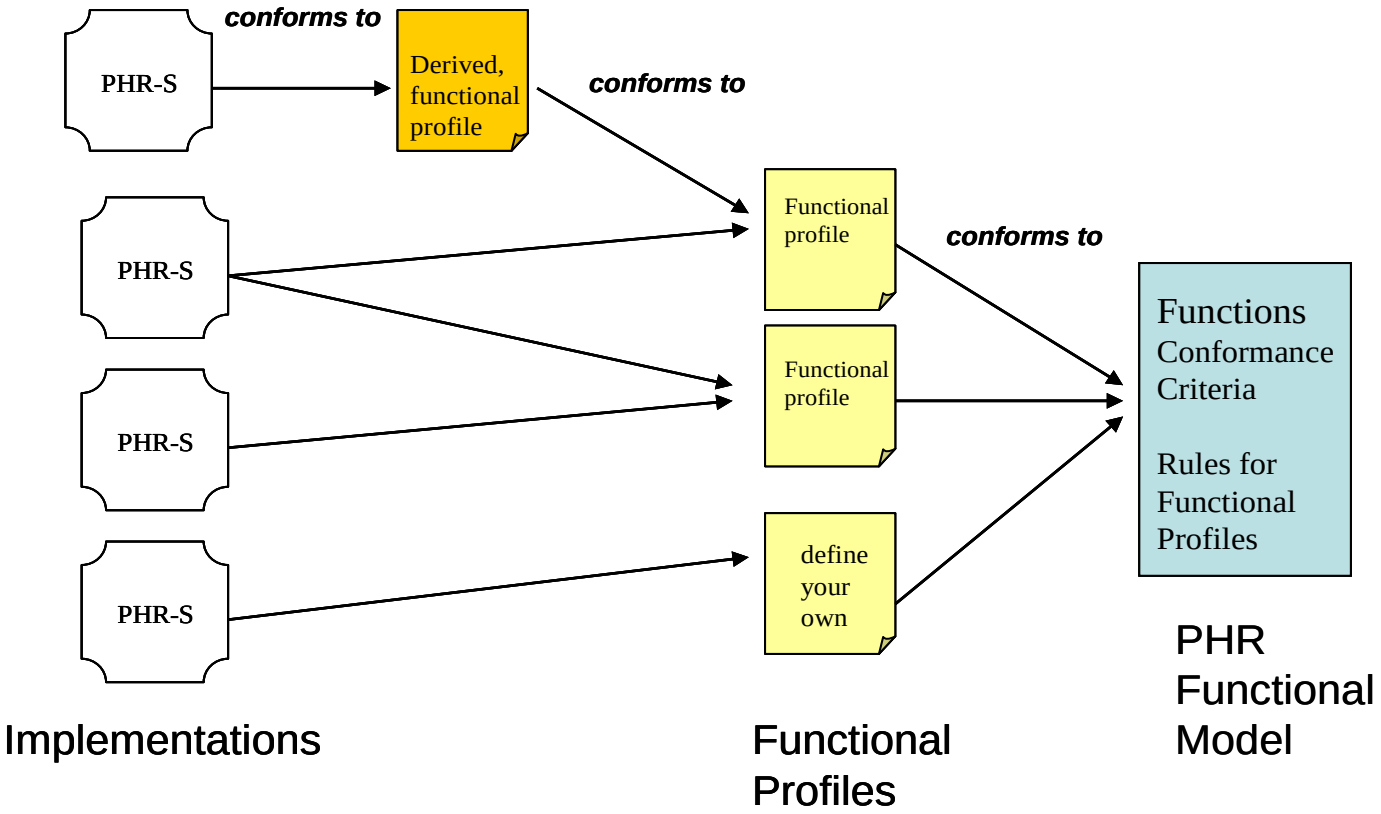
Every function consists of:

- **Function ID**
- **Function Name**
- **Function Statement/Description**
- **Examples**
- **Conformance Criteria**
- **Reference**

PH.2.5.3 Manage Test Results

PH.2.5.3 **Function** **Manage Test Results**		FM DSTU - PH.2.5.3	C	142
Statement: Manage results of diagnostic tests including inpatient, ambulatory and home monitoring tests. **Description:** Recent diagnostic studies further define the Account Holder's current state. The system should capture, display, and maintain the results of tests and diagnostic studies, as limited by legal requirements or organizational policy. These will include laboratory tests with multiple line items such as test panels. Each line item should be treated as a separate document with respect to annotation. Other studies including diagnostic imaging studies should be included. Some tests such as colonoscopy or coronary artery catheterization will be derived from an encounter in PH.1.6 but the test results should be listed here. A useful display will show brief test titles with dates and a simple flag to denote an abnormal component of the test. This gives the reviewer a quick understanding on what tests have been done, which tests were	1. The system **SHALL** provide the ability to manage test results according to organizational policy and/or jurisdictional law.	FM DSTU - PH.2.5.3 cc#1		143
	2. The system **SHALL** provide the ability to render results filtered by factors that support results management, such as type of test and date range.	FM DSTU - PH.2.5.3 cc#2		144
	3. The system **SHOULD** present normal and abnormal ranges as reported by the source of the result.	FM DSTU - PH.2.5.3 cc#3		145
	4. The system **SHOULD** provide the ability to render results filtered by range (e.g., lab results being critical, abnormal or normal).	FM DSTU - PH.2.5.3 cc#4		146
	5. The system **SHOULD** present numerical results in graphical form and allow comparison of results.	FM DSTU - PH.2.5.3 cc#5		147
	6. The system **SHOULD** provide the ability to render tests grouped in a logical manner (e.g., over a particular time frame or in relation to a particular problem).	FM DSTU - PH.2.5.3 cc#6		148
	7. The system **SHOULD** provide the ability to analyze various information (including, for example: test results, diagnoses, conditions, personal goals, therapy goals, and/or vital signs) using decision support algorithms and render possible courses of action.	FM DSTU - PH.2.5.3 cc#7		149

Conformance to Profiles



Profile Development

- The model is general and must be constrained to your particular area of interest or need
- Examples of Profiles:
  - Payor Based
  - Health Authority
  - Clinical Genomics
  - Clinical Research
  - Realm Specific

Next Steps

- EHR-PHR health information exchange
- PHR system's role in HIEs
- Data content, data definitions, data standards
- How the PHR-S FM informs updating of the EHR-S FM (and vice versa)
- Full ANSI (normative) accreditation status
- Adoption as an international standard

For More Information

- Join the Wednesday PHR Work Group calls
  - 12:00-1:00 PM (Eastern)
- Subscribe to HL7 PHR List serve
  www.HL7.org/special/committees/list_sub.cfm?list=ehrwgphr
- Contact the co-facilitators:
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HL7 PHR System Functional Model

Q & A