

# HL7 EHR WG/EHR Interoperability SWG

## Current Activities

Co-Facilitators:  
Gora Datta, Gary Dickinson

15 May 2011

## EHR Interoperability SWG Activities

# EHRs FM Release 2

- May 2009 – Kyoto – EHR WG agreed to incorporate EHR Interoperability and EHR Lifecycle Model DSTUs into EHR System Functional Model Release 2
- Status:
  - EHR Lifecycle Events incorporated in new IN.10 Section
  - Record Audit Triggers and Related Data (IN.2.2) – RM-ES Team Project
  - Currently specifying Relationship between Real-World Actions, EHRs FM (DC/S Functions), EHR Lifecycle Events (IN.10) and Record Audit Triggers (IN.2.2)

## EHR Interoperability SWG Activities

# EHR FM Release 2, con't

- Also: Weekly EHR Interop teleconferences mostly devoted to EHR FM R2 spreadsheet review
  - Current Work in Progress: Section IN.1 (Security)
  - Tuesdays, 2PM ET, just before full EHR WG call

## EHR Interoperability SWG Activities

# Use Case Simplification

- Work part of US Office of National Coordinator (ONC) Standards and Interoperability (S&I) Framework
- Focuses on Commonalities and Re-Use of Key Use Case Constructs
  - Requirements
  - Actors
  - Actions
  - Data Element Sets (aka Templates)
- Draws on Previous EHR Interop work on Use Case Alignment (2006-09 AHIC, HITSP)
- See HL7 EHR Interop Wiki for Key Documents and Links to ONC Wiki Site

## EHR Interoperability SWG Activities

# EHR Record Meta-Data Crosswalk

- Prior DSTU: “Implementation Guide for Clinical Document Architecture, Reference Profile for EHR Interoperability”, 2008
- Recently: Detailed analysis of record meta-data across three HL7 specifications
  - EHR Interoperability Model DSTU
  - Records Management and Evidentiary Support (RM-ES) Functional Profile Release 1 (FP of the EHR System Functional Model)
  - Clinical Document Architecture Release 2
- Based on key accountability paradigm
  - Health or Healthcare Action (instance) is
  - Evidenced by an Action Record (instance); which may be
  - Persisted as EHR record entry

## EHR Interoperability SWG Activities

# EHR Record Meta-Data Crosswalk

Action (instance) → Action Record (instance) → EHR record entry	
Requirements (HL7 EHR WG)	Reference Implementation (HL7 Structured Documents WG)
<u>HL7 EHR Interoperability Model</u> <ul style="list-style-type: none"><li>– Specifies <u>Meta-data</u> to enable interoperable EHR records</li><li>– Crosswalk Lead: Gary Dickinson, EHR WG Co-Chair</li></ul>	<u>HL7 Clinical Document Architecture R2 (CDA R2)</u> <ul style="list-style-type: none"><li>– May be implemented as Action Record instance</li><li>– May be persisted as EHR record entry</li><li>– Includes <u>Meta-data</u> sufficient to enable EHR Interoperability and RM-ES requirements</li><li>– Crosswalk Lead: Calvin Beebe, Structured Documents WG Co-Chair</li></ul>
<u>HL7 RM-ES Functional Profile</u> <ul style="list-style-type: none"><li>– Specifies <u>Meta-data</u> to enable EHR management and provide evidentiary support</li><li>– Crosswalk Lead: Michelle Dougherty, RM-ES Facilitator and Recorder</li></ul>	

## EHR Interoperability SWG Activities

# EHR Record Meta-Data Crosswalk

- Found:
  - Broad correspondence of concepts but often divergent terminology
  - Many variants and nuances in record status, staging and sequence – and how each is evidenced in Meta-data
  - Areas and issues needing further examination
- Going Forward – Potential Objectives:
  - Refinement of prior analysis
  - New Use Cases to show sample EHR Interoperability and RM-ES Meta-data in sequenced CDA R2/R3 instances
  - Recommendations for harmonization of Meta-data and related terminology
  - Detailed enumeration of EHRS FM R2 Meta-data correspondence with CDA R3 Meta-data

## EHR Interoperability SWG Activities

# Clinical Doc Architecture Release 3

- Proposal to resolve five (5) outstanding EHR/IM requirements in CDA R3 (access, audit, authorization)
  - As Detailed in “Implementation Guide for CDA R2, Reference Profile for EHR Interoperability DSTU”, published Feb 2008
  - Maps EHR Interoperability Model requirements to CDA R2 Attributes
- Status
  - Reviewed and dispositioned by Structured Documents Team
  - Potential Incorporation in v3 “Medical Records” Messages
  - Proposals and Dispositions Posted to CDA R3 Wiki



## EHR Interoperability SWG Activities

# Paper/Electronic – Legal Record Continuity

- Show Legal Characteristics of Paper Record and Continuity in Electronic Form
  - Content, Context
  - Continuity over Record Lifespan
  - Method of Replication: Paper vs. Electronic
  - Method of Content Verification
- Status: Draft in Development
- Posted on EHR Interop Wiki

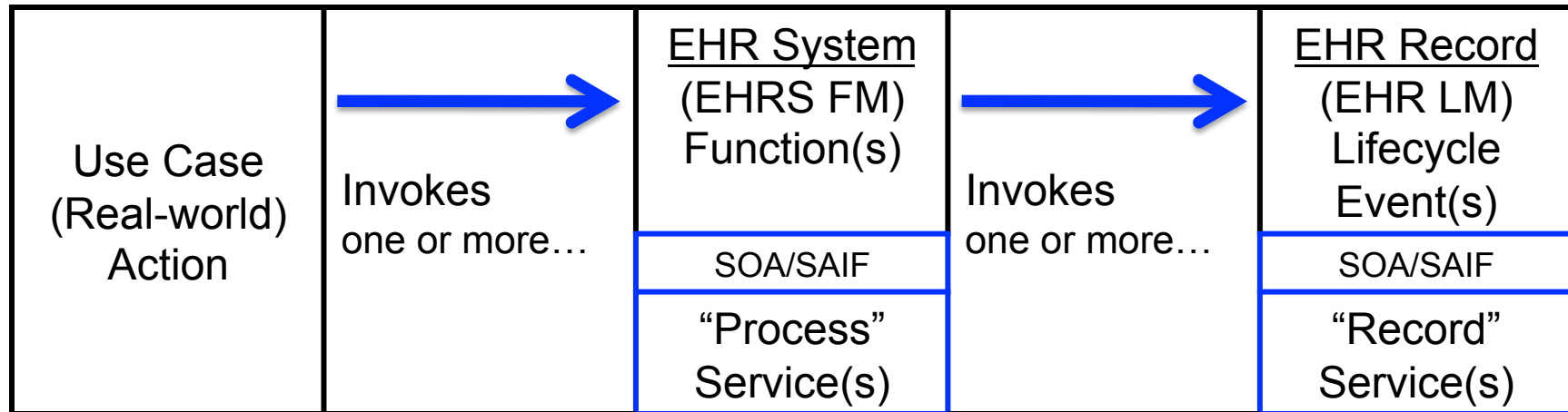
## EHR Interoperability SWG Activities

# HL7 SAIF

- To incorporate key aspects of EHR, EHRS and PHRS Models in HL7 Services-Aware Interoperability Framework (SAIF)
  - EHR and PHR System Functional Models
  - EHR Interoperability and Lifecycle Models
- Collaboration between Architectural Review Board, EHR and EHR Interoperability WGs
- Status:
  - Review of EHR Interop and Lifecycle Models Complete
- Next: Develop integration plan
- Details posted on EHR Interop Wiki

Real-World to EHR System to EHR Record

# Use Case > Function > Event



Process Services		Persistent Record Services		
Action	Action Record Lifecycle Event (per EHR/LM)	Record Instance	State of Action Record Instance	
			Pre-Event	Post-Event
Order Medication	Originate/Retain	1	----	New Instance
Check Interactions Verify Med Order	Verify		Existing Instance	Instance noted as “Verified”
Transmit Med Order (copy to Pharmacy)	Transmit		Existing Instance	Instance noted as “Transmitted”
Order Received (copy in Pharmacy)	Receive/Retain		Existing Instance	Instance noted as “Received”
Dispense Med	Originate/Retain	2	----	New Instance
Administer Med (without incident)	Originate/Retain	3	----	New Instance
Administer Med (after 5 minutes, patient upchucks)	Originate/Retain	4	----	New Instance
	Amend		Existing Instance	Instance noted as “amended” with original + new content

## EHR Interoperability SWG Activities

# HL7 Diabetes Use Case

- Collaboration between HL7 EHR and Patient Care WGs, Clinical Interoperability Council and others
- Agreed Project Scope specifies EHR Interoperability Use Case Templates (as employed in ONC/AHIC Use Case analysis) as alternative to DAM/DIM approach
- Status: Detailed data analysis complete, initial use cases formed
- Next: Build Out Use Case Scenarios, Events and Actions in Template, associating Data (elements, templates) with each (Action)
- EHR, EHR Interop Leads: Pat Van Dyke, Gary Dickinson
- Details on Diabetes Data Strategy (Team Docs) and EHR Interoperability Wikis (Use Case Alignment Templates)

# EHR Interoperability WG

# Reference Point

[http://wiki.hl7.org/index.php?title=EHR Interoperability WG](http://wiki.hl7.org/index.php?title=EHR_Interoperability_WG)