

EHR Interoperability and Lifecycle Model DSTUs – Incorporation in EHRS Functional Model Release 2 (Drafts in Development)

HL7 EHR Interoperability WG

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Conjoining HL7 EHR and EHRS Models

Objectives

- Bring Common Focus to System Functionality and Record Interoperability
- HL7 EHR System Functional Model Release 2, incorporate key content from:
 - HL7 EHR Interoperability Model DSTU
 - Passed ballot January 2007
 - HL7 EHR Lifecycle Model DSTU
 - Passed ballot February 2008
- Agreed by EHR WG, Kyoto, May 2009

EHR Interoperability/Lifecycle Models

Key Provisions

- Correlation of Health, Healthcare and Health Information
- Correlation of
 - Actions taken
 - Action Records (persistent evidence of Actions taken)
 - EHR record entries (each an Action Record instance)
- Characteristics of Interoperable Records offered as
 - Assertions (discrete EHR Record Interoperability Requirements)
 - Examples
- Conformance Criteria specified for
 - EHR Systems and other Applications
 - In roles of source, transmitter, intermediary and receiver
 - EHR Records, allowing validation at rest and in motion
 - EHR interchange standards

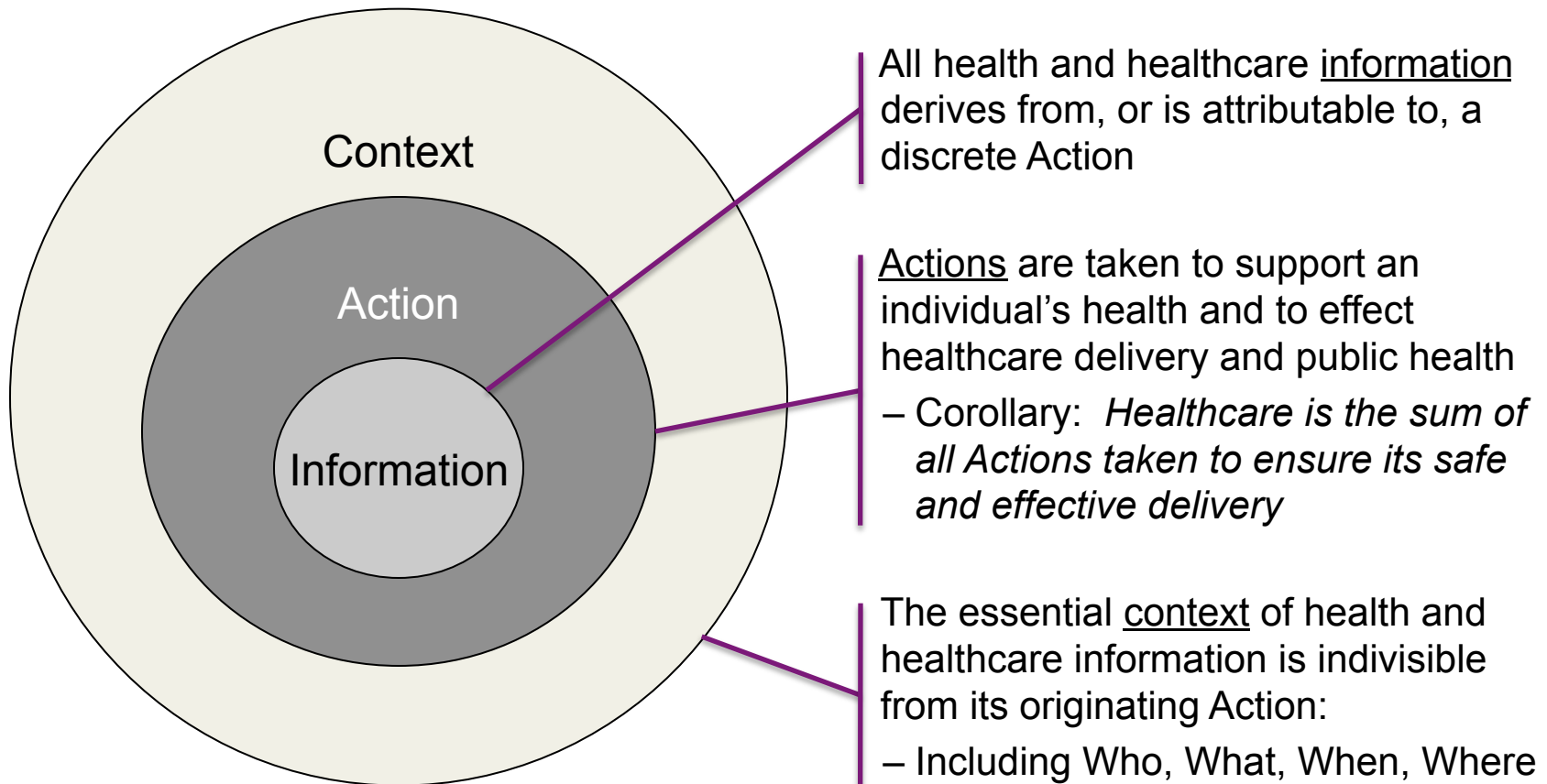
EHR Interoperability/Lifecycle Models

Key Provisions, con't

- Stakeholder Assurance
 - Patient, Consumer – As Record Subject
 - Healthcare Provider – As Record Originator, Author, Source
 - Any Authorized Individual – As Record Recipient
- EHR Record Lifecycle and Lifespan
 - Lifecycle Events
 - Lifecycle Event Initiators
 - System Roles in EHR Record Lifecycle
 - Audit and Traceability
- Separately: Implementation Guide for CDA R2
 - DSTU passed ballot, January 2008
 - CDA Attributes fulfilling EHR Interop Requirements
 - With Testability Criteria

Health, Healthcare and Health Information Correlation

Information in Action in Context



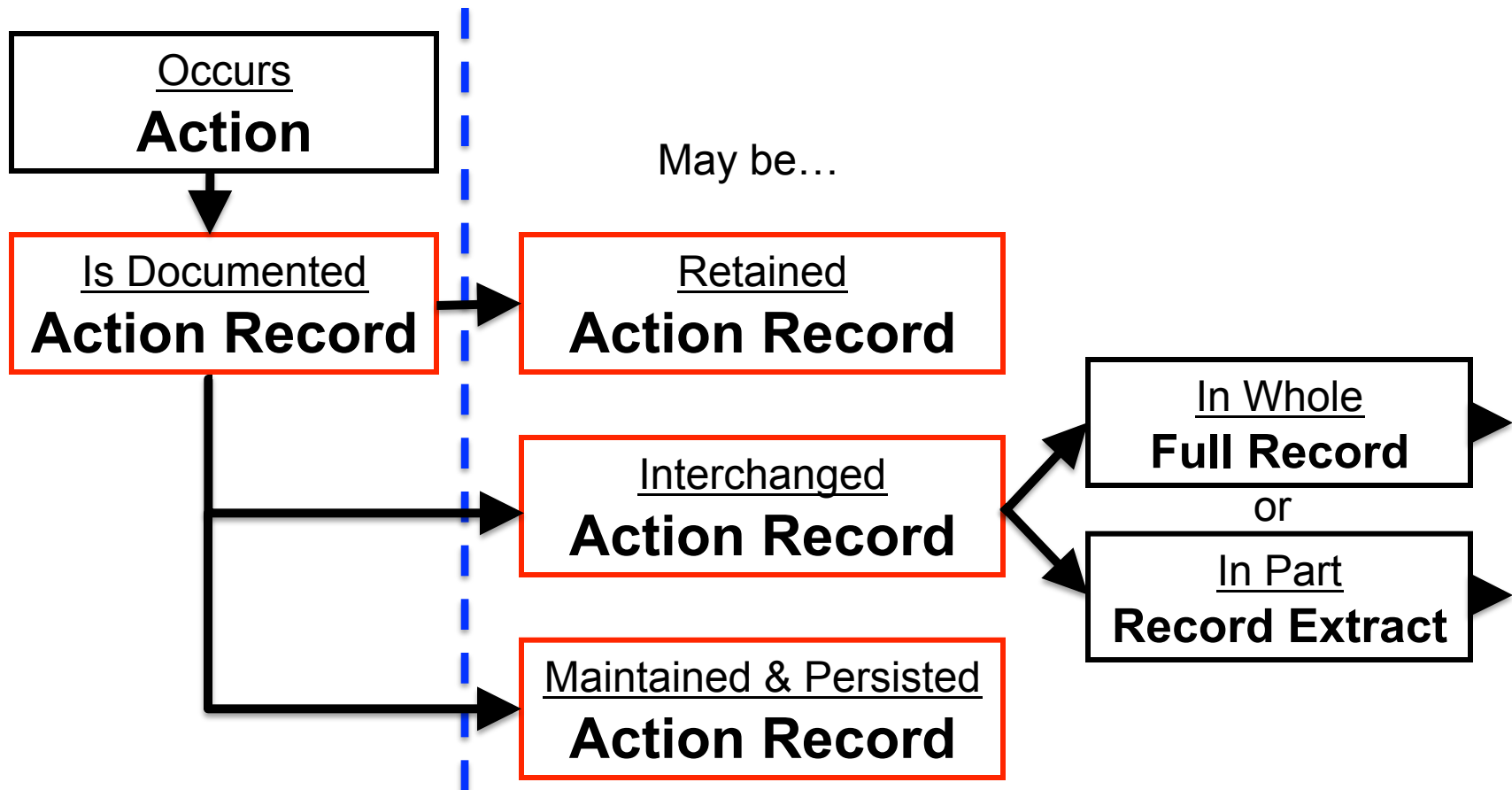
Action, Action Record

Occurrence and Evidence

- An Action is taken
 - i.e., a Task or Procedure is performed or a Service is provided or rendered.
- A record is initiated
 - Documenting (evidencing) Action facts, findings and observations.
- The resulting Action Record may be:
 - Retained; and/or
 - Interchanged (in whole or in part); and/or
 - Maintained and persisted (e.g., as an EHR Entry).

Action, Action Record

Occurrence and Evidence, con't



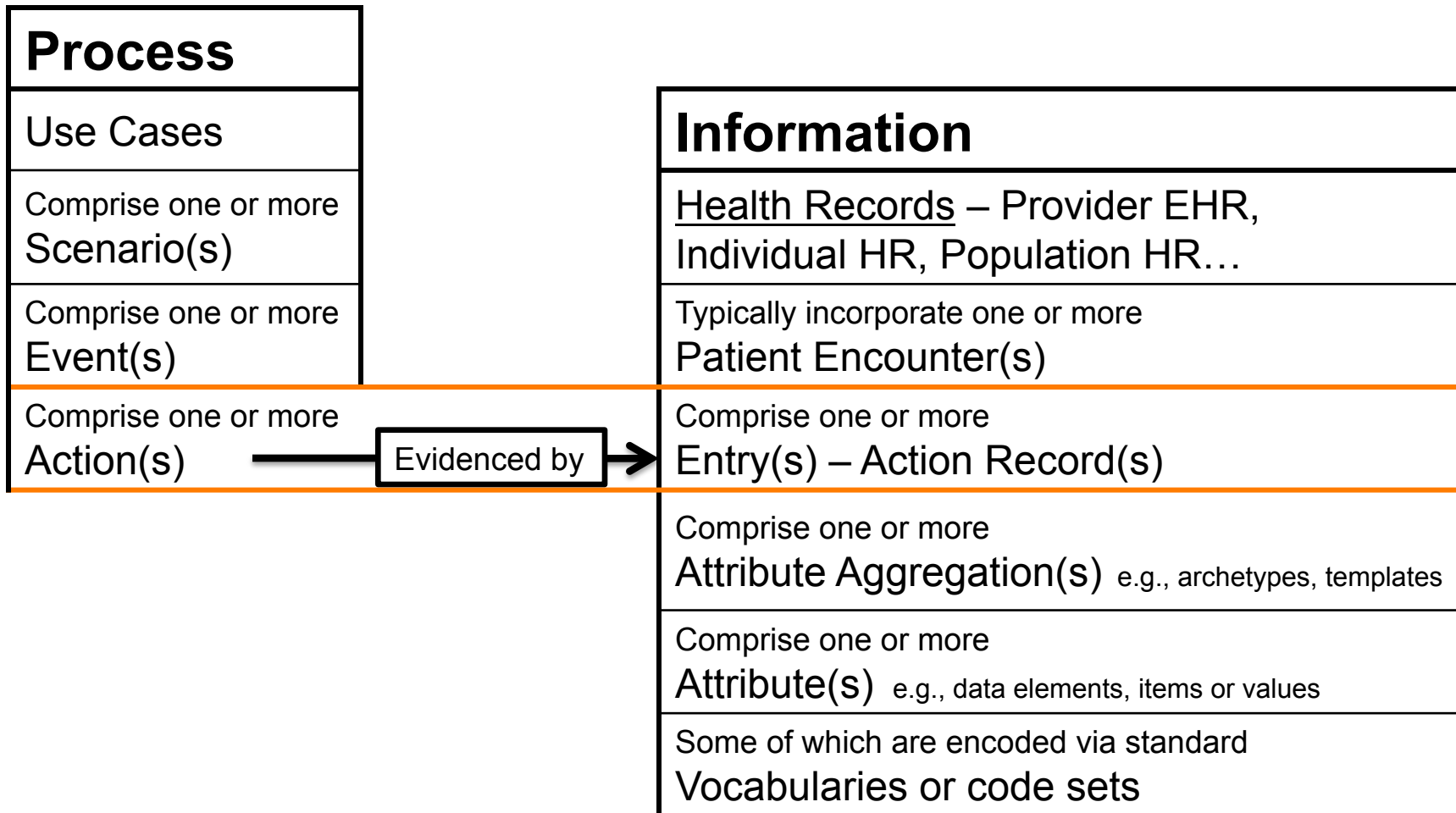
Action, Action Record

Paired Instances

Actions...	Action Records...
Are tasks, procedures or services, taken in <ul style="list-style-type: none"> • Support of individual health • Provision, delivery of healthcare • Public Health 	<ul style="list-style-type: none"> • Document (provide evidence of) each Action taken • Typically are entries in a persistent datastore: e.g., EHR or PHR • Allow a common EHR unit of record
Have instances	Have corresponding instances
Are a <i>unit of service</i> performed/rendered	Are a corresponding <i>unit of record</i>
Have a chronology of occurrence	Have a corresponding chronology
Have a context – who, what, when, where	Document Action context
Are accountable to participants involved	<ul style="list-style-type: none"> • Document participating Actors • Ascribe source and authorship • Are attestable for accuracy, completeness • May be digitally signed

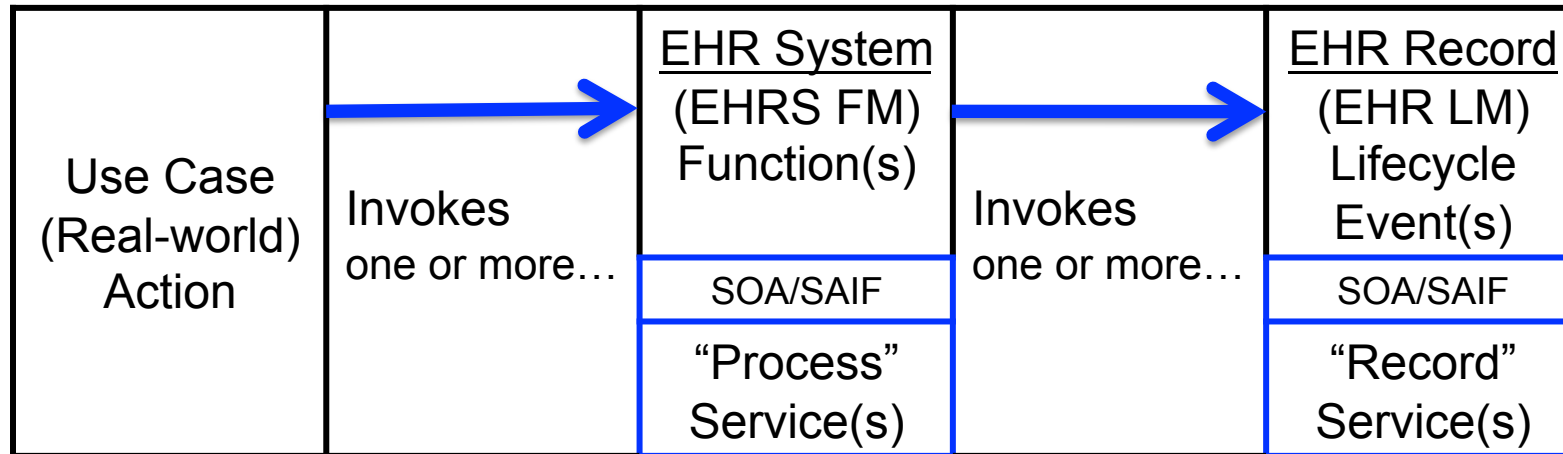
Process and Information Correlation

Typical Hierarchy & Intersection



Real-World to EHR System to EHR Record

Use Case > Function > Event



EHR Interop to EHRS Functional Model

A-G: Assertions, Examples

EHR/IM Column	Current	Proposed
A	ID	New Draft Section Interop-1 (A, B, C, E, F)
B	Assertion/Characteristic	
C	Elaboration	
D	<Attribute Class>	Remove (now included in CDA R2 Reference Profile DSTU)
E	Example	New Draft Section Interop-1 (A, B, C, E, F)
F	Use Case Example	
G	Legal Record Requirement?	TBD – Coordinate with RM-ES Team In Table with B?

EHR Interop to EHR Functional Model

H-L: Conformance Criteria

EHR/IM Column	Current	Proposed
H-L	Conformance Criteria	New Draft Section Interop-2 (A, B, H-L)
H	Source EHR/Application	
I	Source EHR - Outbound	
J	Interchange Standard	
K	Intermediary Application	
L	Receiving EHR/Application	

M-O	Key Stakeholder Assurance	New Draft Section Interop-3 (A, B, M, N, O)
M	Patient (Record Subject)	
N	Record Author/Originator	
O	Record Recipient	

EHR Interop to EHRS Functional Model

P-U: References, CDA R2

EHR/IM Column	Current	Proposed
P	Standards Reference	Include in EHRS/FM References
Q	EHRS/FM Reference	
R	Normative Clause	Remove
S	Progression	
T	CDA R2 Reference	Remove (now included in CDA R2 Reference Profile DSTU)
U	Testability Criteria	

EHR Lifecycle to EHR Functional Model

Section by Section

EHR/LM Section	Current	Proposed
1	Background	New Draft Section Interop-Intro
2	Purpose	
	Lifecycle Graphic from ISO 21089	
3	Objectives	
4	Health(care) Delivery	
5	The Health(care) Act	
6	The Act Record	
7	The Act/Act Record Paradigm	
8	The Act Record Interchange Paradigm	

EHR Lifecycle to EHRS Functional Model

Section by Section, con't

EHR/LM Section	Current	Proposed
9	Events in the Act Record Lifecycle	New Draft Section Lifecycle-1
10	EHR Lifecycle Event Initiators	
11	Description of EHR Lifecycle Events	
12	System Roles in the EHR Lifecycle	New Draft Section Lifecycle-2
13	Audit and Traceability	
14	Conformance Criteria	

EHR IM/LM to EHRS Functional Model Release 2

Proposed Inserts

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EHR Interoperability/Lifecycle Introduction ([Interop-Intro](#))

Characteristics of Interoperability EHR Records ([Interop-1](#))

EHR Record Lifecycle Events ([Lifecycle-1](#))

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DC, S, IN – new column linking function to lifecycle event(s)
(and ultimately SOA/SAIF Service)

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Conformance Criteria for System Roles ([Interop-2](#))

Conformance Criteria for Lifecycle Events ([Lifecycle-2](#))

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New Appendix: Stakeholder Assurance ([Interop-3](#))