

National Projects Requiring HL7 Standards



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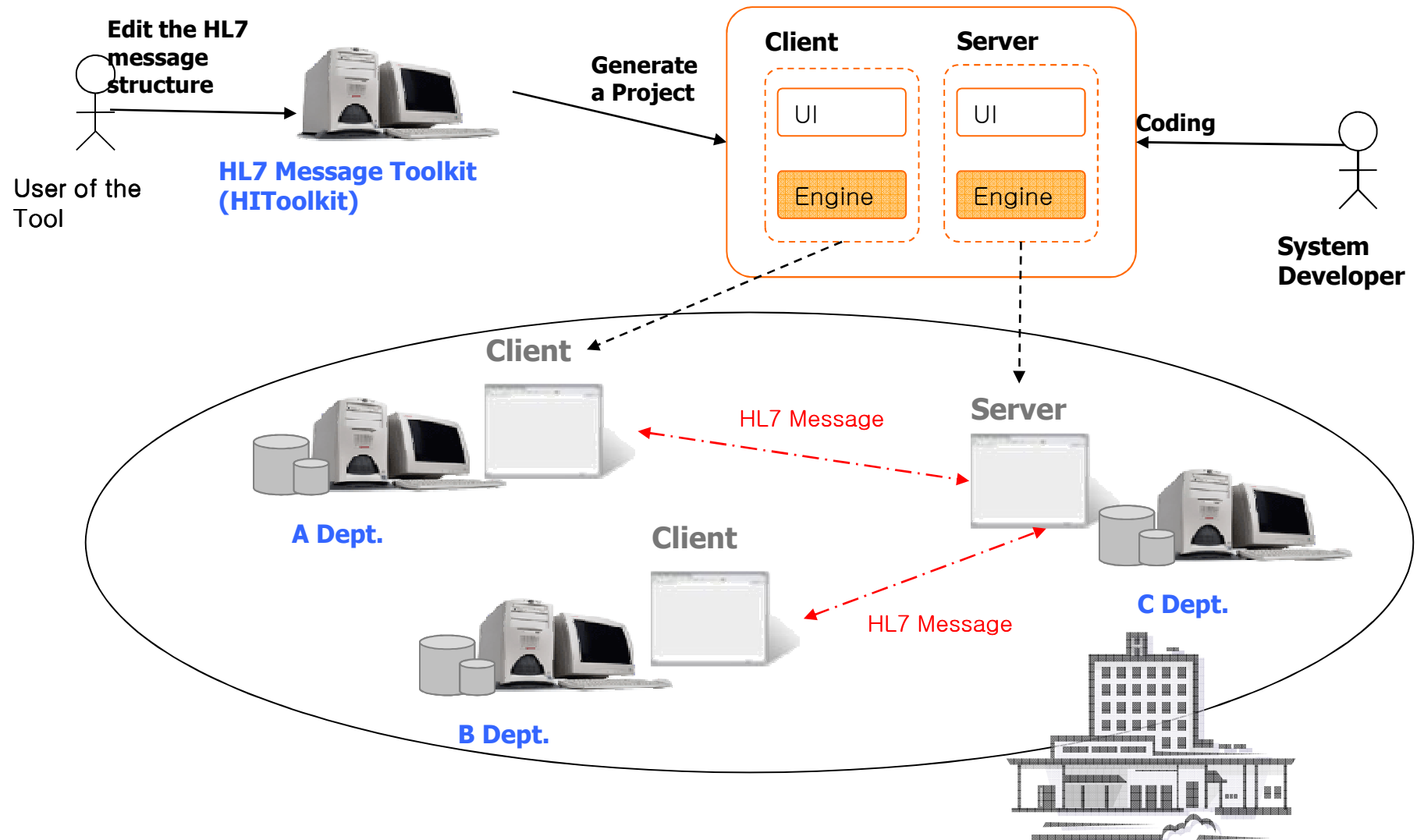
Contents

1. Health Information Exchange (HIE)
2. Clinical Information in BioBank
3. Personal Health Device (PHD) CDA
(Clinical Document Architecture)

Health Information Exchange

- Messaging: HL7 V2.4, V2.5
- Document: Clinical Document Architecture
 - Registry
 - Cross-Enterprise Document Sharing (XDS): IHE
 - Document Registry Framework (DRF): ISO TS 27790
- Retrieve, Locate and Update Service (RLUS)
 - SOA in Healthcare

HI Toolkit: V2.4 Messaging Toolkit



CDA Build Process

Selection of document code and data elements

Diagnosis/ Problems	Surgery	History
Medication	Allergies	Immunizations
Vital sign	Lab test result	Plan of care

Map data elements to CDA

CDA template

헤더 정보 템플릿

바디 정보 템플릿

스타일시트 템플릿

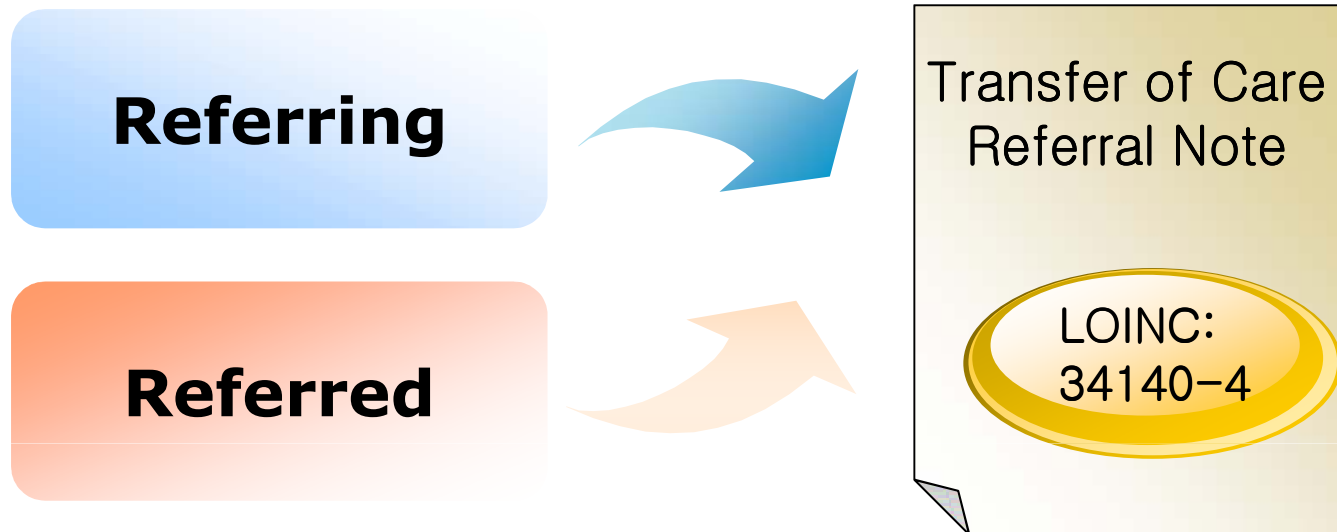
1.1.1.1. Document Code
Health Summary CDA가 대표하는 문서코드를
표시한다.

- CONF-4 : ClinicalDocument는 정확히 한 개의
code를 가진다.
- CONF-5 : "ClinicalDocument/code"의 값은
2.16.410.1.113883.6.1-복지부 검사용어의
"34133-9" "Summarization of episode note"을
찾는다.

Rendering

[illegible]

Document level Template



```
<templateId root="2.16.410.1.113883.10.20.2" />
<id root="" extension="" />
<code code="34140-4" displayName="Transfer of Care Referral Note"
codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" />
<title>진료회신서</title>
<effectiveTime value="20080204012005"/>
<confidentialityCode code="N" displayName="Normal" codeSystem=
"2.16.840.1.113883.5.25" codeSystemName="Confidentiality" />
<languageCode code="ko-KR" />
```

Referring/Referred CDA Templates

- Data Element Index- LOINC

Codes	Data Element Name	Parents Template Id
29548-5	Diagnosis	2.16.410.1.11111.2.3
42349-1	Reason of Referral	2.16.410.1.11111.2.1
11348-0	History of Past Medical	2.16.410.1.11111.2.4
10160-0	Medications	2.16.410.1.11111.2.7
30954-2	Laboratory Studies	2.16.410.1.11111.2.8
18726-0	Radiology Studies	2.16.410.1.11111.2.9
27898-6	Pathology Studies	2.16.410.1.11111.2.10
47519-4	Procedure History	2.16.410.1.11111.2.6
18776-5	Assessment and Plan	2.16.410.1.11111.2.2
29545-1	Physical Examination	2.16.410.1.11111.2.5



Referring



Referred



Common

Health Summary CDA Header

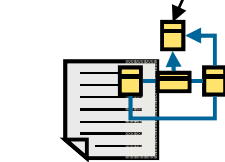
- Person Identification
- Author
- Custodian
- Legal Authenticator
- Signature

Health Summary CDA Body

- Diagnosis/Problems
- Pertinent History
- Vital Signs, Significant Test Results
- Medications
- Procedure, Surgery
- Plan of Care
- Allergies, Immunizations, Functional Status
- Dental Care

CDA Registry/Repository

CDA Generator using Templates

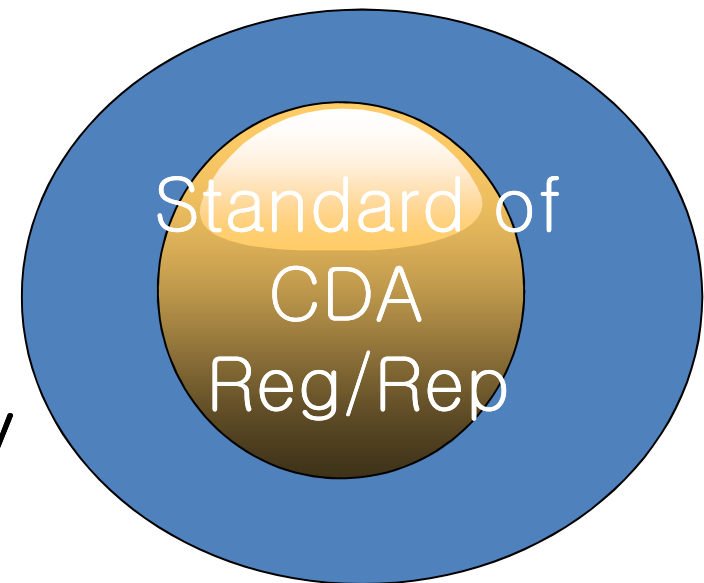


CDA



Registry/Repository

OASIS ebXML

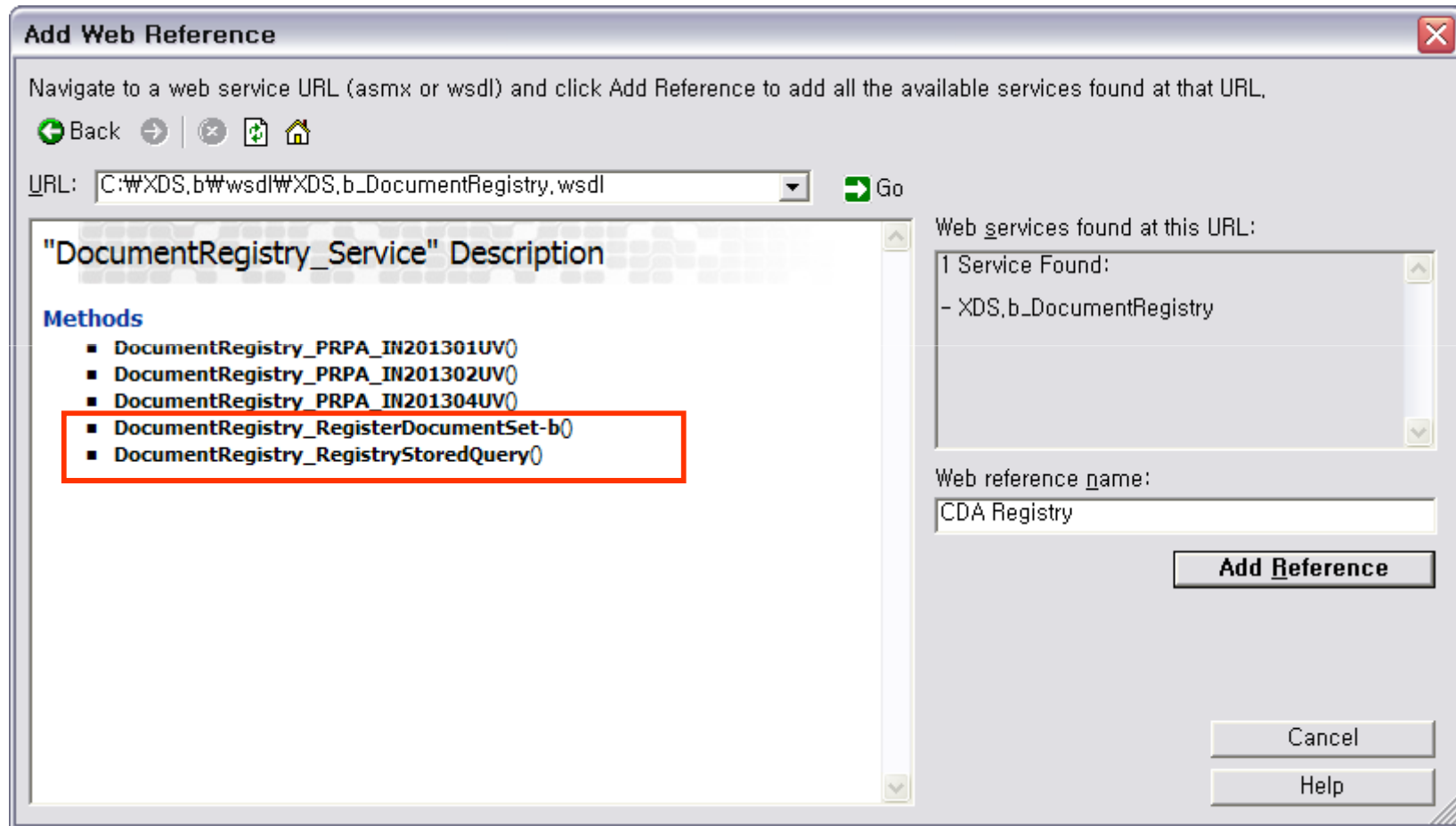


Standard of
CDA
Reg/Rep

DRF: Document Registry Framework

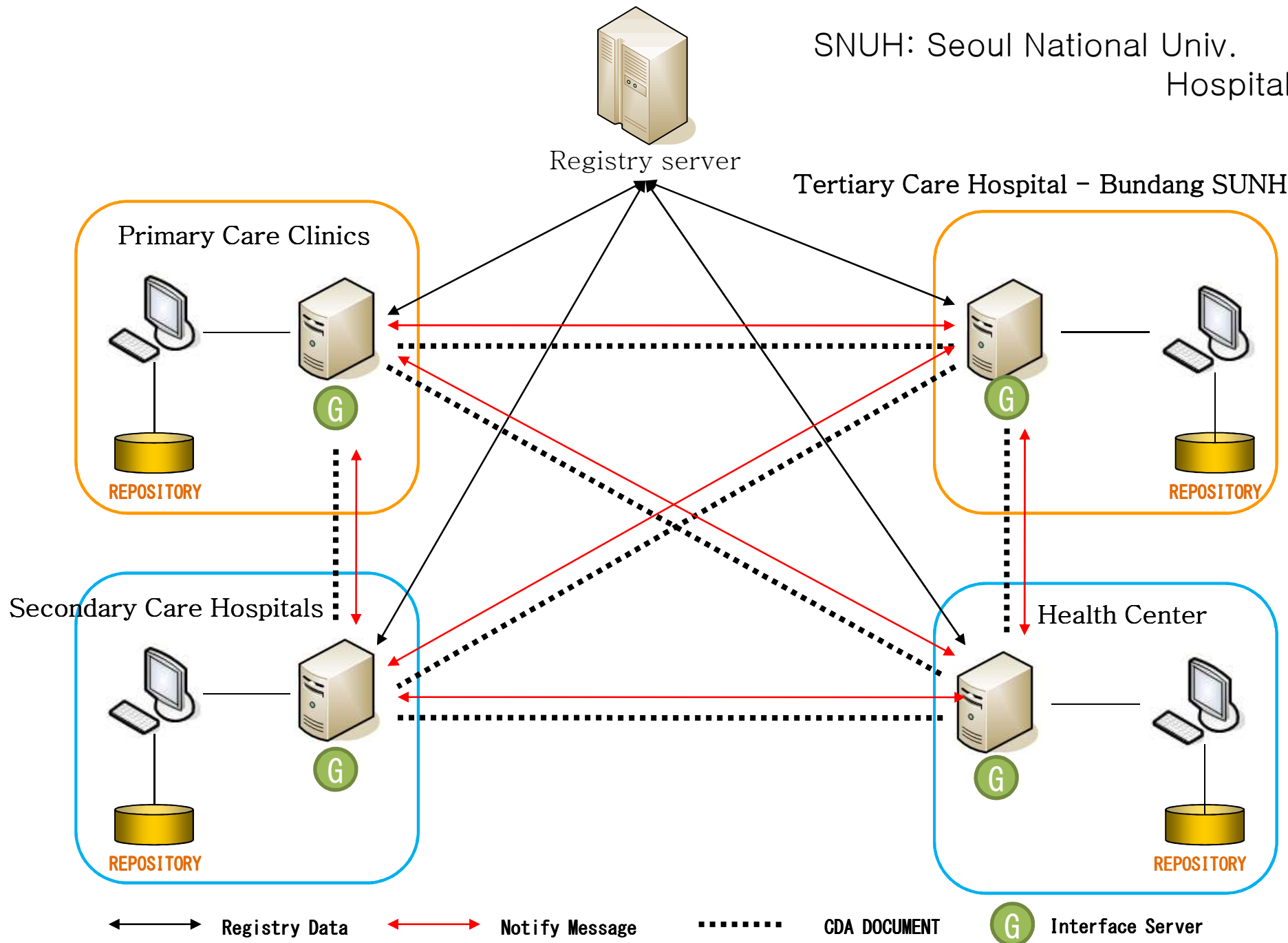
ISO 27790 DRF

Document Registry WSDL

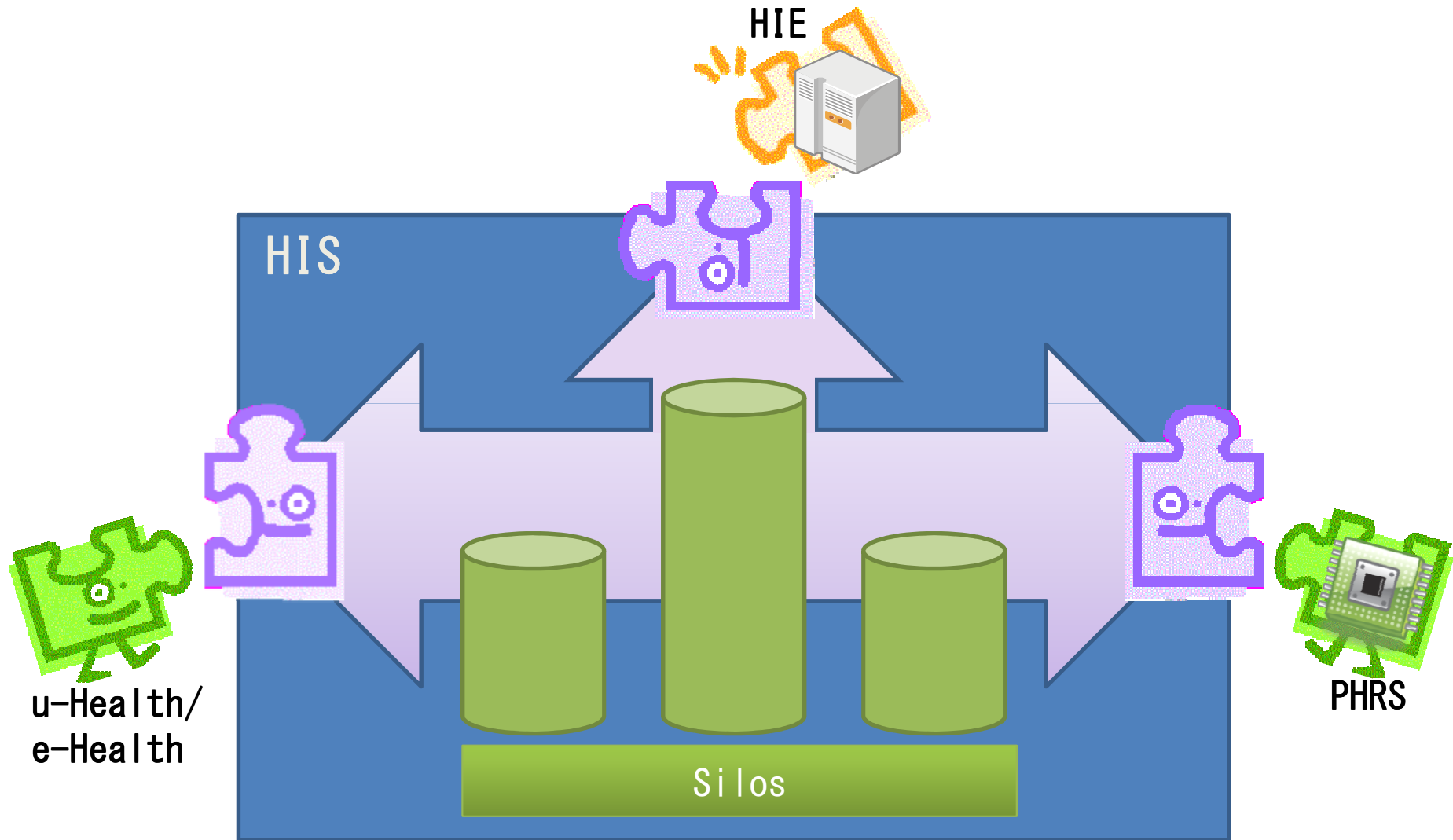


WSDL: Web Service Definition Language

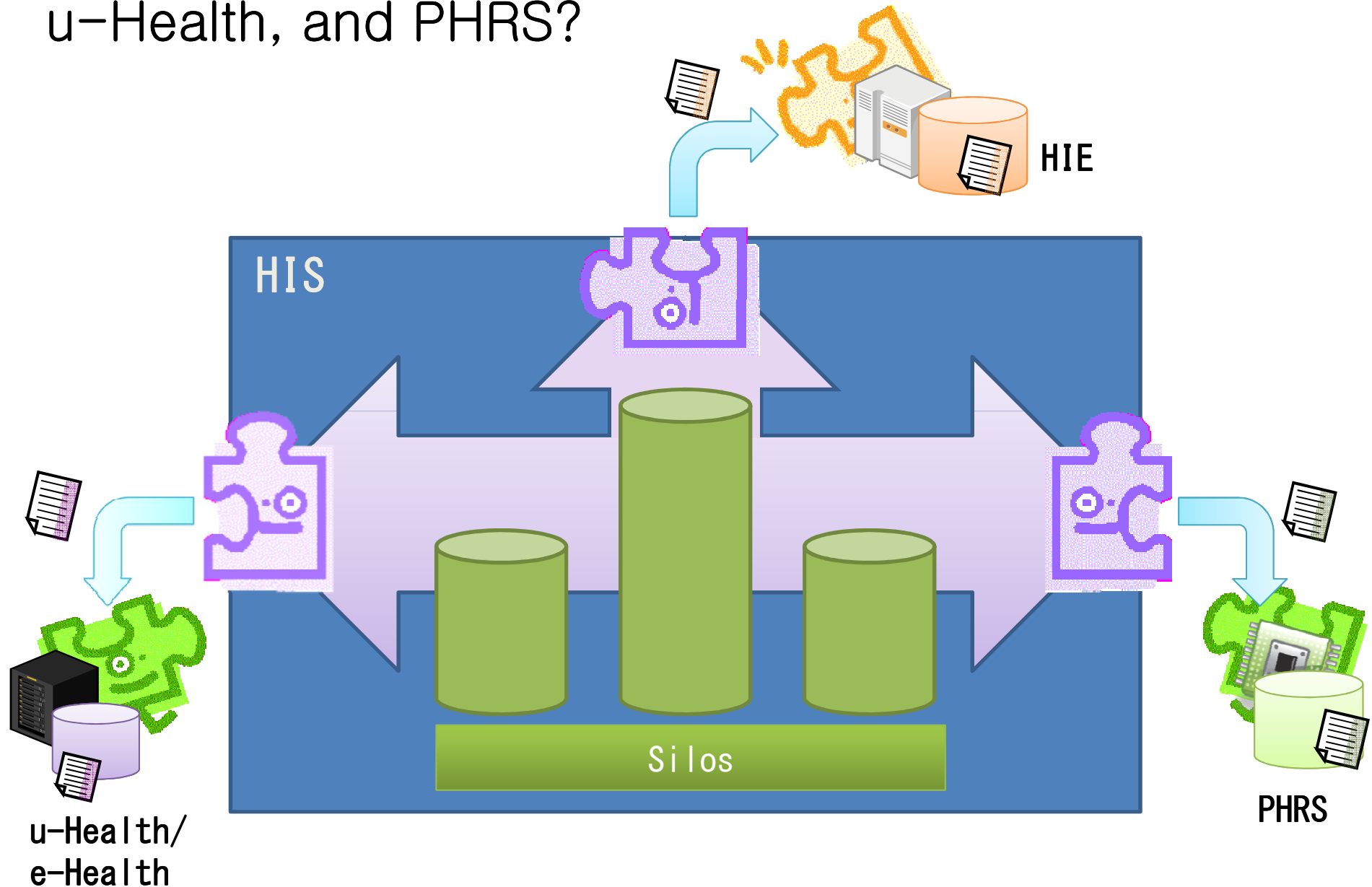
SNUH: Seoul National Univ.
Hospital



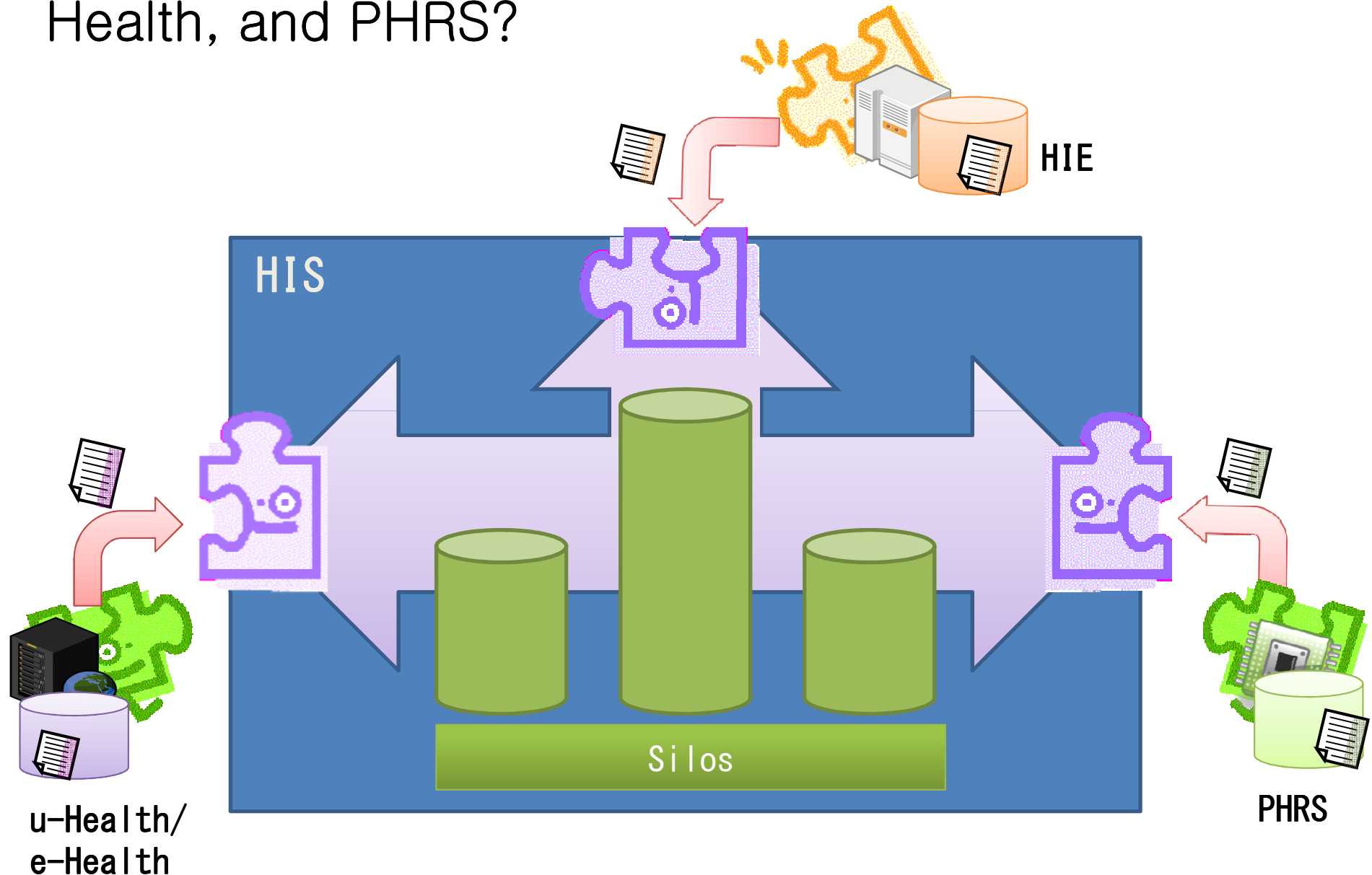
HIS, HIE, PHRS, u-Health/e-Health



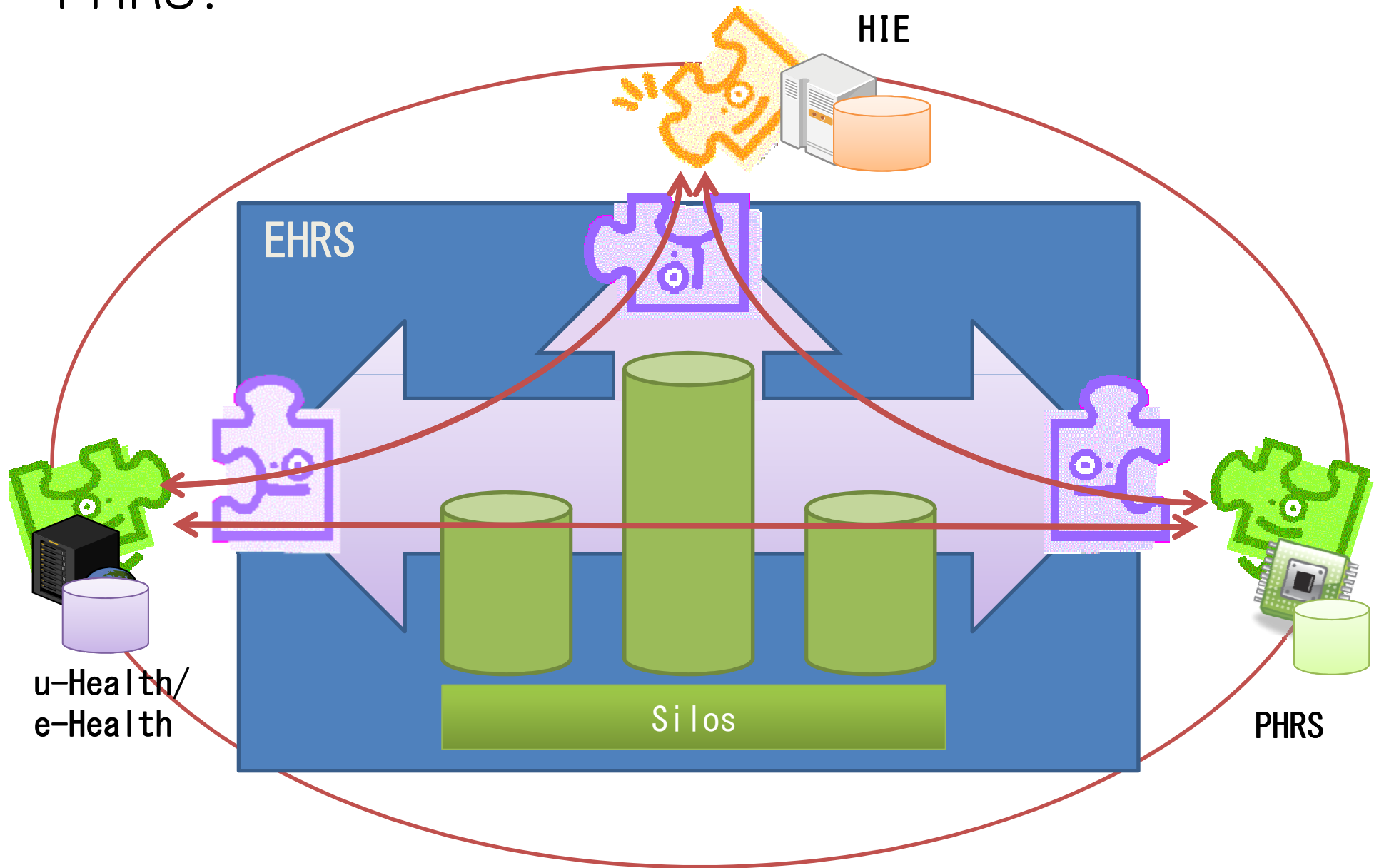
What information will be necessary for HIE, u-Health, and PHRS?



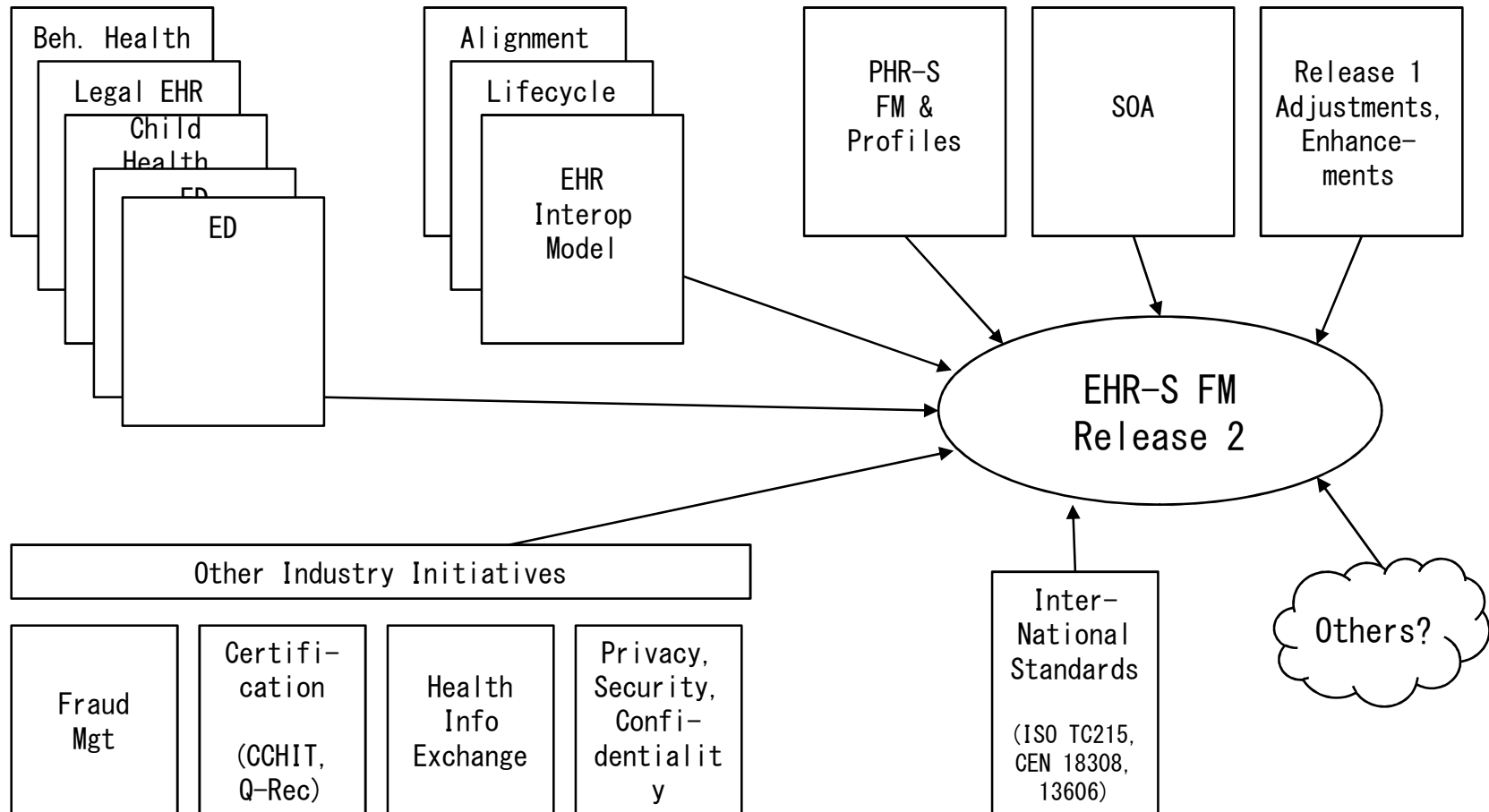
What information should be added from HIE, u-Health, and PHRS?



How to integrate EHRS with HIE, u-Health, and PHRS?

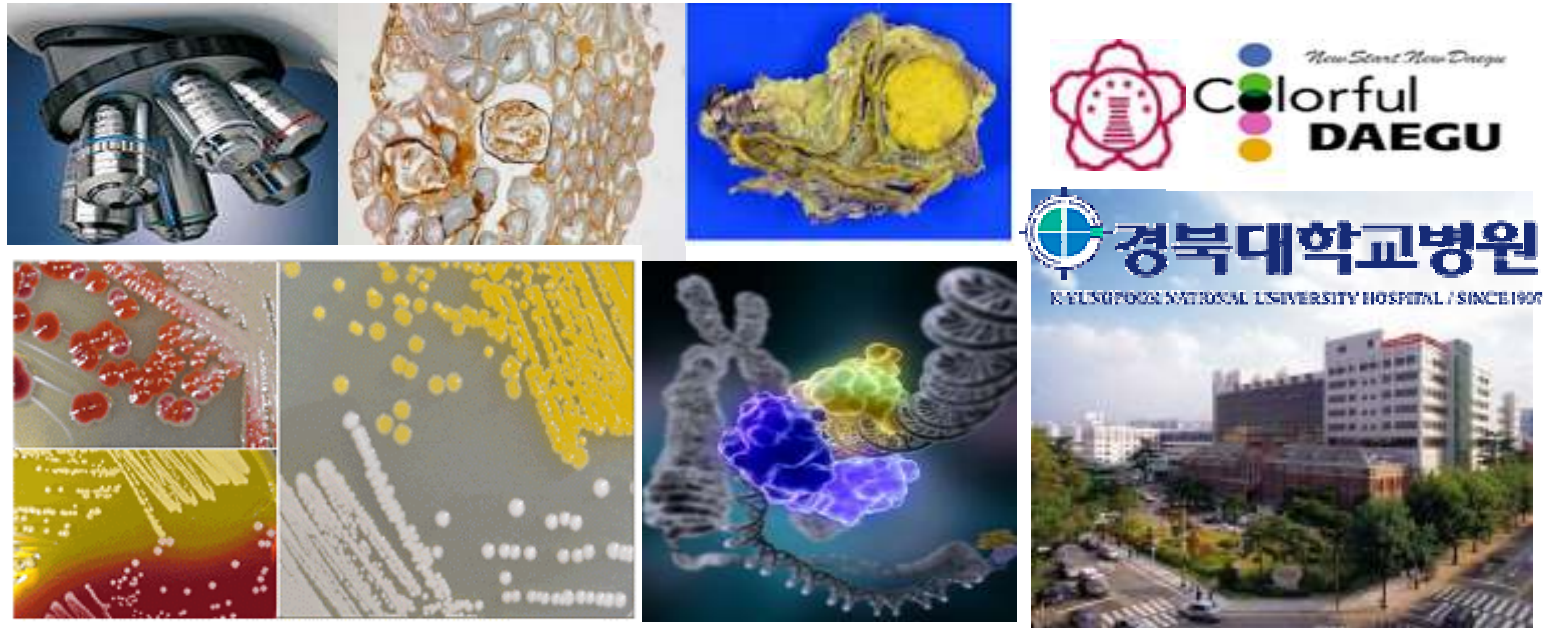


Beyond EHR-S FM DSTU



Electronic Health Record System

- We need to simplify it or change thinking point of view
 - Record events clearly and shortly
 - Understandable and Interoperable



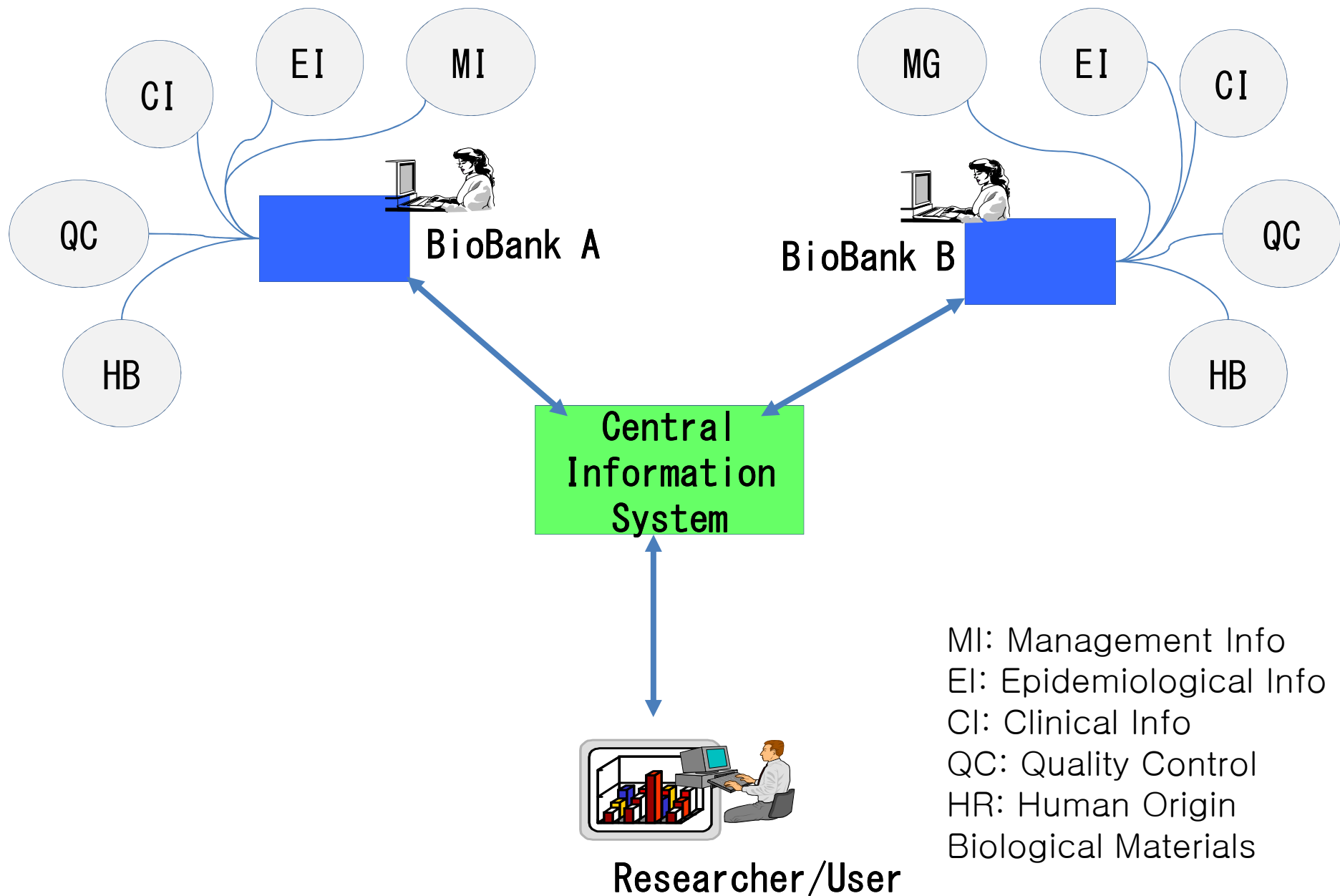
Kyungpook National University BioBank:

- Stubborn Senile Diseases Resources Bank
- Pathogenic Microorganisms Resources Bank

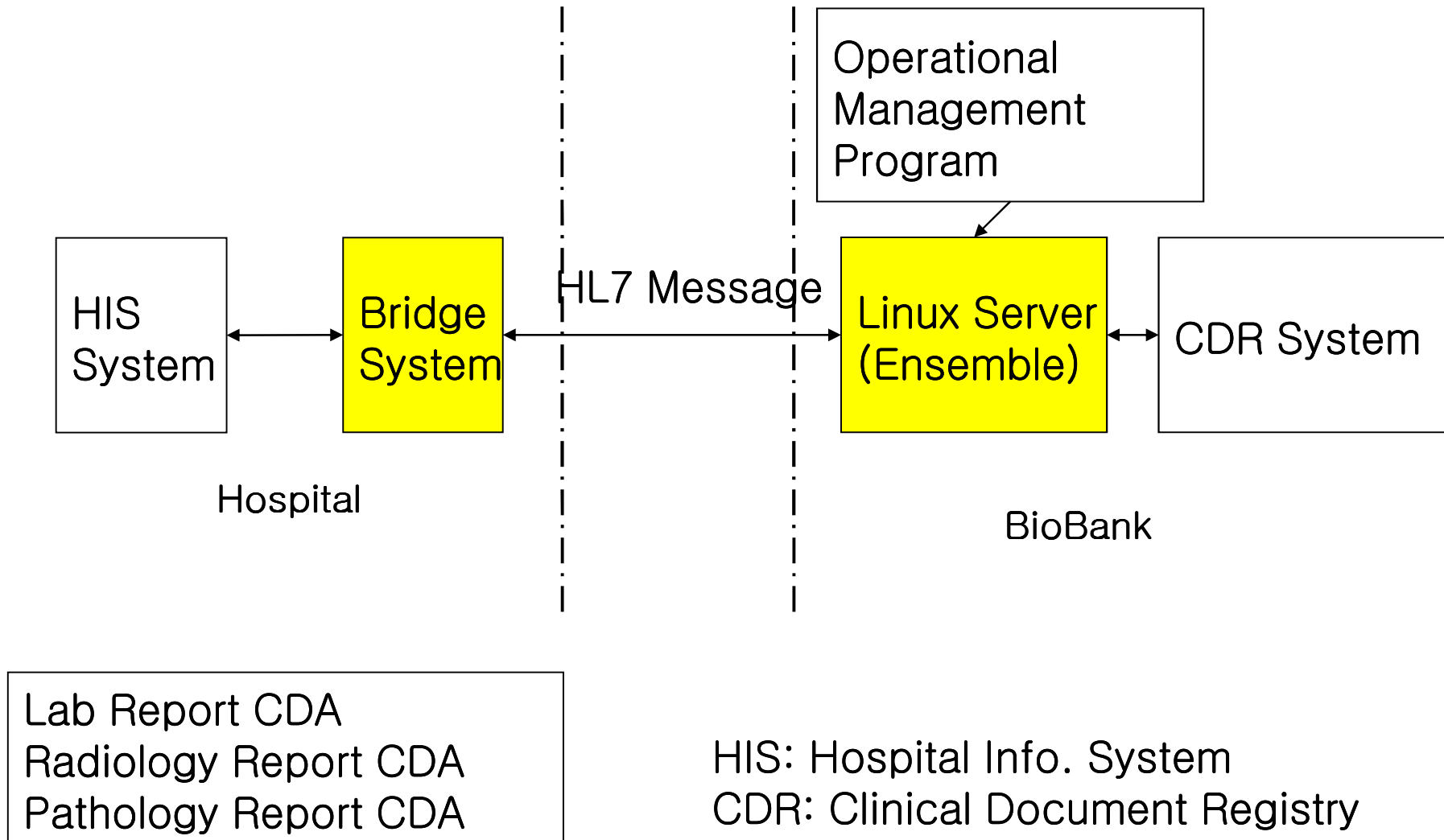
BioBank

- Acquire various human origin biological materials such as cells, tissues/organs, plasma/serum
- Store and manage the acquired human origin biological materials systematically with related information including donors' past medical history, current illness, pathology findings, image findings, and treatment histories.
- Share the stored human origin biological materials and relevant information with researchers

National BioBank Korea Network



Architecture



Data Elements Table: Category, Element Name, Code

Category		변수		5대암 분류					KOSTOM 코드
1차	2차	변수명	컬럼명	간	대장	유방	위	폐	
기본사항		차트번호	Patient_ID	모든질환 공통					KS0443695
		이름	Patient_Name	모든질환 공통					KS0148038
		나이	Patient_Age	모든질환 공통					KS0036721
		키	Patient_Height	모든질환 공통					KS0188083
		몸무게	Patient_Weight	모든질환 공통					KS0066609
		생년월일	Patient_DOB	모든질환 공통					KS0099184
		성별	Patient_Sex	모든질환 공통					KS0102214
		진단명	Diagnosis_Name	모든질환 공통					KS0173754
		수행능력(ECOG)	ECOG	모든질환 공통					KS0443110
		최초진단일	First_Diagnosis_Date	모든질환 공통					KS0180363
		장기명	Organ_Name	모든질환 공통					KS0443500
간기능		etiology	Etiology	O	X	X	X	X	KS0079159
		간경화동반	Cirrhosis_Check	O	X	X	X	X	KS0442657
		간기능 Child (간기능 Child-pugh class)	Function_Child	O	X	X	X	X	KS0442659
		varix 존재여부	Varix_Check	O	X	X	X	X	KS0447735
		간성혼수 존재여부	Hepatic_Encephalopathy	O	X	X	X	X	KS0442660
		복수존재여부 (복수 존재유무)	Ascites_Check	O	X	X	X	X	KS0443005
		portal vein thrombosis	Portal_Vein_Thrombosis_Check	O	X	X	X	X	KS0068959
방사선 검사		abdomen CT	Abdomen_CT	O	O	X	O	X	KS0443901
		bone scan	Bone_Scan	X	X	O	X	X	KS0090788
		PET CT	PET_CT	모든질환 공통					KS0447568
		Mammography	Mammography	X	X	O	X	X	KS0447501
		breast USG(breast sono)	Breast_USG	X	X	O	X	X	KS0443956
내시경검사		대장내시경검사		X	O	X	X	X	KS0051824
		위내시경검사		X	X	X	O	X	KS0141115
수술관련		수술일	Surgery_Date	모든질환 공통					KS0443106
		수술명	Surgery_Name	모든질환 공통					KS0443104

[Continua Health Alliance Sample CDA: HL7 Implementation Guide for PHM Report Release 1.0]

Clinical Document

Created On: May 1, 2008

Patient:	Henry Levin , the 7th	MRN: 996-756-495
Birthdate:	September 24, 1932	Sex: Male
Guardian:		Next of Kin:

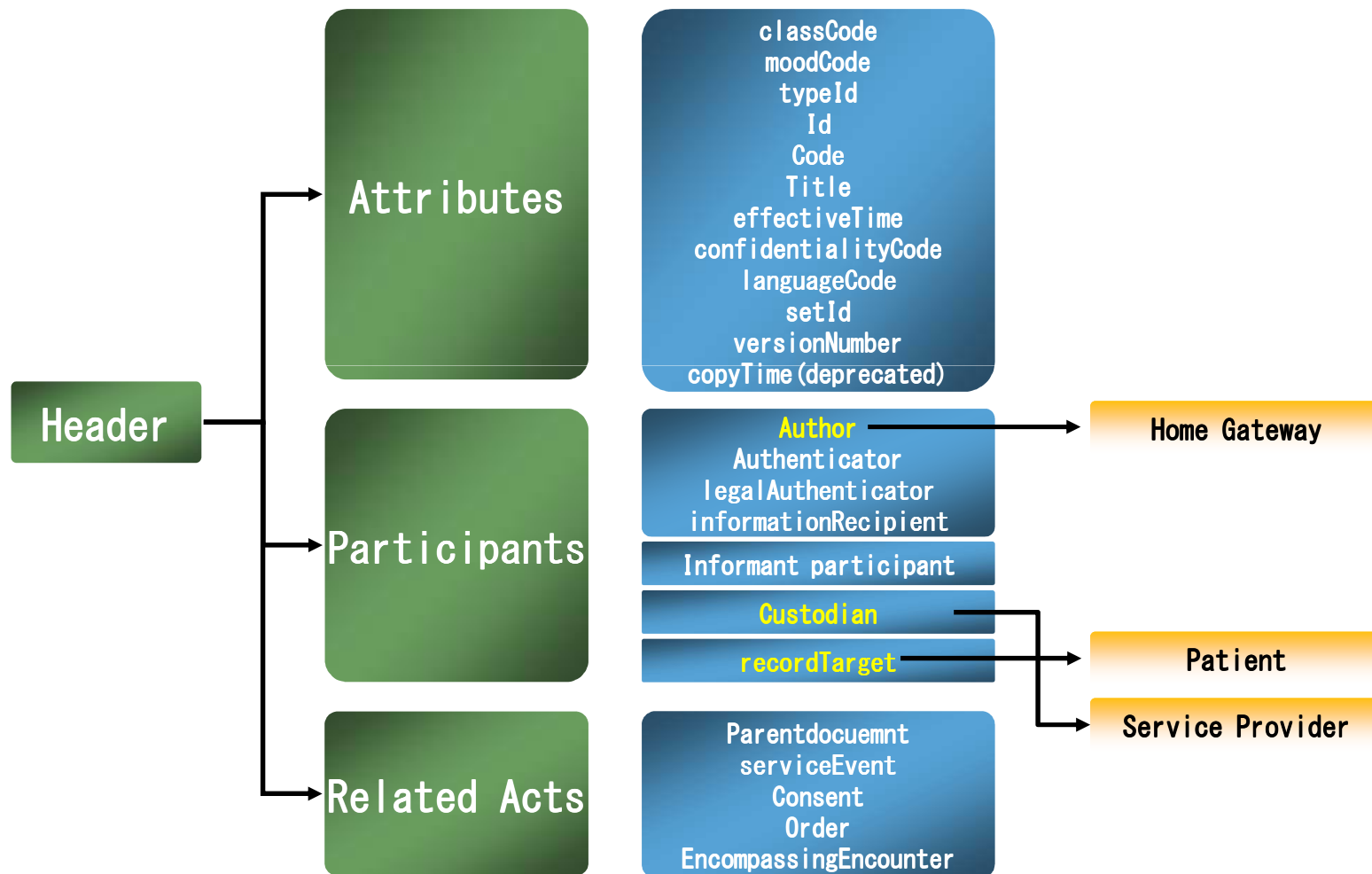
Table of Contents

- [Medical Equipment](#)
- [Vital Signs](#)

[Medical Equipment](#)

System Type	System Model	System Manufacturer	System ID	Production Spec	Regulated
Blood Pressure Monitor	Pulse Master 2000	Nonin	1F-3E-46-78-9A-BC-DE-F1	Unspecified: Serial Number: 584216 Part Number: 69854 Hardware Revision: 2.1 Software Revision: 1.1 Protocol Revision: 1.0 Prod Spec GMDN:	Regulated
Glucose Meter	Diastar	Roche	12-34-56-78-9A-BC-DE-F1	Unspecified: Serial Number: 123456789 Part Number: 1234 Hardware Revision: 1.1 Software Revision: 1.5 Protocol Revision: 1.0 Prod Spec GMDN:	Regulated
Weight scale	Weightstar	Philips	12-32-56-78-9A-AC-DE-F3	Unspecified: Serial Number: 45865487 Part Number: 365845 Hardware Revision: 1.0 Software Revision: 1.4 Protocol Revision: 1.0 Prod Spec GMDN:	Not Regulated
Thermometer	Thermoking	Acme	1A-34-46-78-9A-BC-DE-F3	Unspecified: Serial Number: 321654987 Part Number: 987 Hardware Revision: 3.1 Software Revision: 1.2 Protocol Revision: 1.0 Prod Spec GMDN:	Not Regulated

PHD CDA Header Data Element



PHD: Personal Health Device

PHD CDA Body Template

- Data Element Index- LOINC

Section Category	Codes	Data Element Name	Parents Template Id
Medical Equipment	46264-8	Medical Equipment section	2.16.410.1.113883.10.20.1.7
Vital Signs	8716-3	Vital Signs section	2.16.410.1.113883.10.20.1.16

* Korea ISO 3166 Code: 410 (USA: 840)

Thank you

福人奉徳人

Happy person meets Virtuous person

복 있는 사람이 덕 있는 사람을 만난다