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Anatomic Pathology Domain (PAT)

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Anatomic Pathology - Agenda

- Domain & Committee Overview
- Domain Profiles & Technical Frameworks
 - Overview Profiles developed
 - New Profiles developed in 2010-2011 year
- How to Participate?
 - IHE International Membership
 - Planning & Technical Committees
- Q&A Session

Anatomic Pathology - Overview

- Overview
 - http://wiki.ihe.net/index.php?title=Anatomic_Pathology#Objective_and_Scope
 - Scope
 - The IHE Anatomic pathology Domain addresses **Collaborative Digital Anatomic Pathology** i.e supports the creation and sharing or exchange of information, including data and images, during the complex workflow performed in an Anatomic Pathology department from specimen reception to report transmission and exploitation.
 - The ultimate goal is a comprehensive digital pathology record for the patient, of which images (including whole slide images) are a significant part.
 - Sponsors
 - French Association for the Development of Informatics in Pathology (ADICAP)
 - Spanish Health Informatics Society (SEIS)
 - Spanish Society of Pathology (SEAP)
 - Countries involved in committees
 - France, Spain, Germany, USA

Anatomic Pathology – History & road map

- History
 - The IHE Anatomic Pathology domain was launched in 2005
 - The primary focus was Digital Collaborative Anatomic Pathology for **clinical patient management** (surgical pathology, clinical autopsy, cytopathology and all special techniques (gross examination, frozen section, immunohistochemistry, molecular pathology, flow cytometry, special microscopy techniques)
 - **Public health or research** may also be addressed as appropriate (biobanking, Tissue Micro Arrays, etc).
- Road map
 - http://wiki.ihe.net/index.php?title=Anatomic_Pathology#2010.2F11_work_in_progress

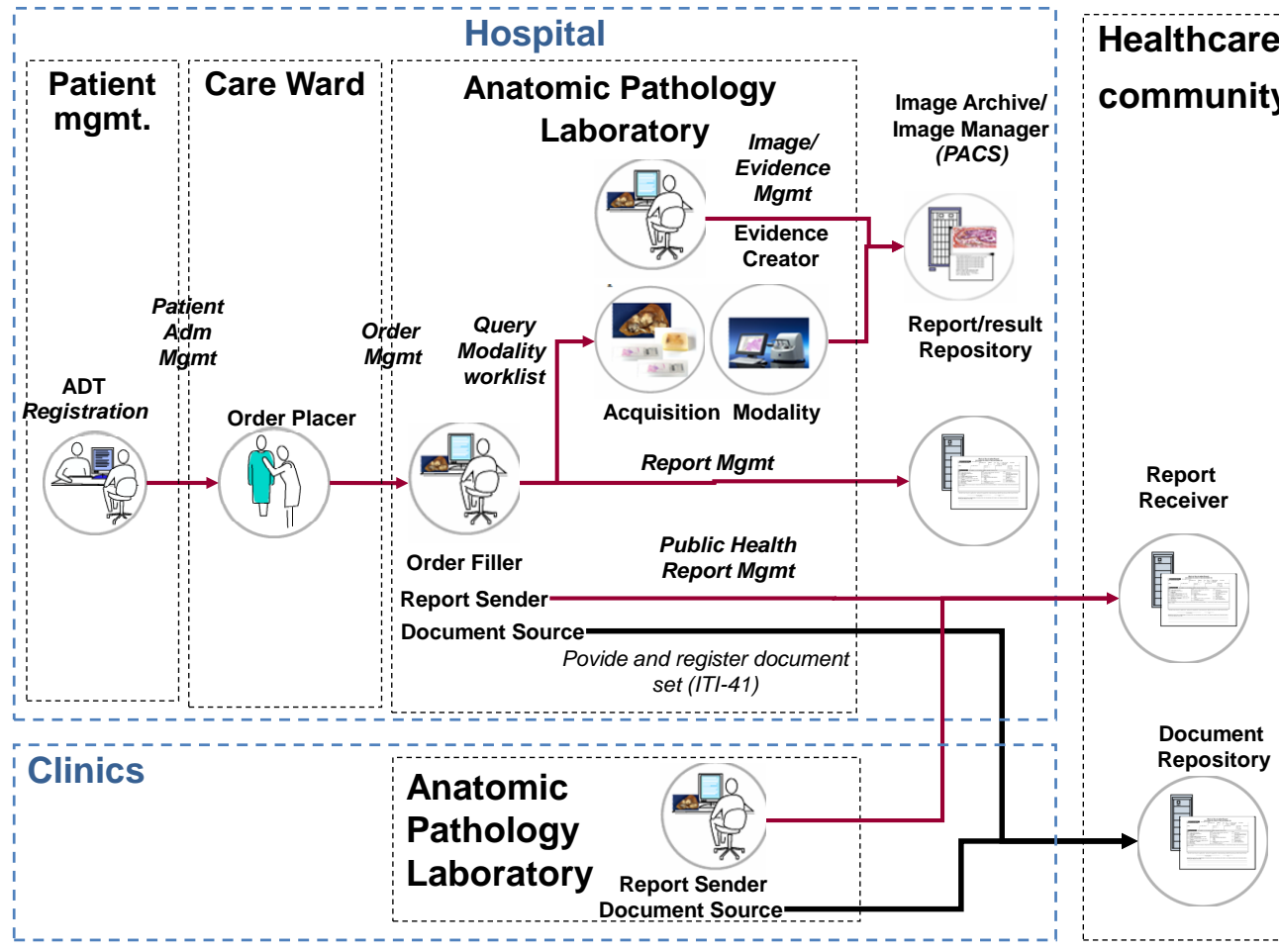
Profiles & Technical Frameworks

Overview

- IHE Technical Frameworks
 - http://www.ihe.net/Technical_Framework/index.cfm#pathology
 - Use of “Whole Slide Images” and semantically interoperable structured reports for both patient care coordination and epidemiology.
- IHE Profiles developed by Anatomic Pathology
 - http://wiki.ihe.net/index.php?title=Profiles#IHE_Anatomic_Pathology_Profiles
 - Intra hospital integration profiles
 - Anatomic Pathology Workflow (APW) (last revision July 23, 2010)
 - Community
 - Anatomic Reporting for Public Health (ARPH) (Published July 23, 2010)
 - Anatomic Pathology Structured Report (APSR) (Published March 31 2011)

Profiles & Technical Frameworks

Overview



APW

ARPH

APSR



Profiles & Technical Frameworks

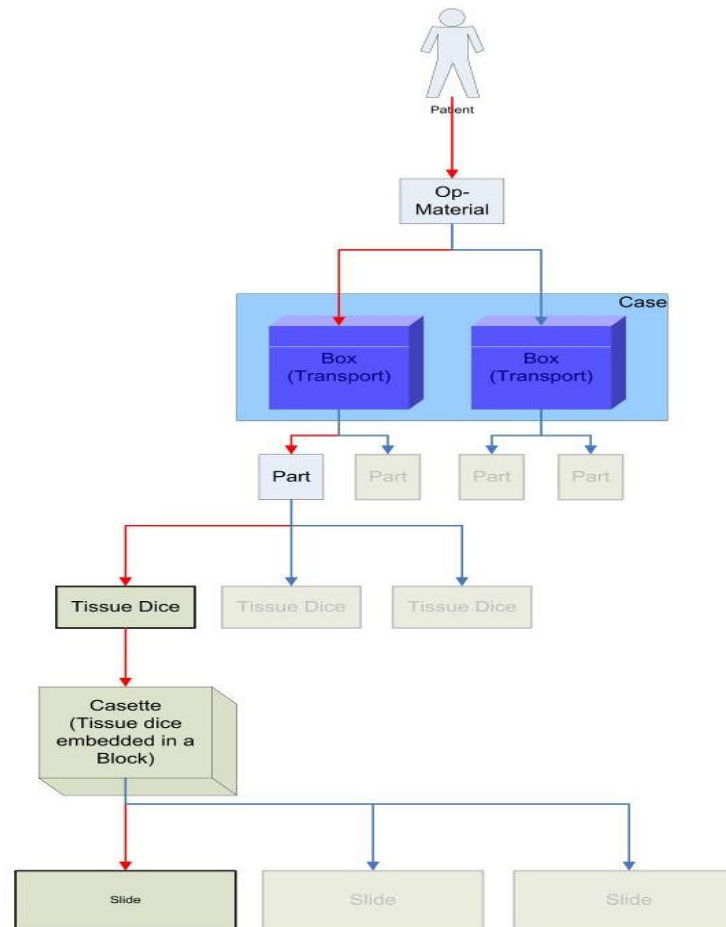
Existing Profiles with High Uptake *Anatomic Pathology Workflow (APW)*

- Establishes the integrity of basic pathology data acquired for examinations being ordered for an identified patient
- Defines the actors and transactions involved in
 - Ordering and reporting aspects of the workflow
 - Order entry, report creation and transmission.
 - Imaging aspects of the workflow
 - Image acquisition, storage and distribution among multiple systems.
- Clinical Use Case to implement this profile
 - Use case 1: Surgical pathology – Operative specimen
 - Use case 2: Surgical pathology – Biopsies
 - Use case 3: Cytology
 - Use case 4: Autopsy
 - Use case 5: Tissue Micro Array (more than one specimen from more than one patient per container)

Profiles & Technical Frameworks

Existing Profiles with High Uptake

APW : Use case 1 - Surgical pathology – Operative specimen

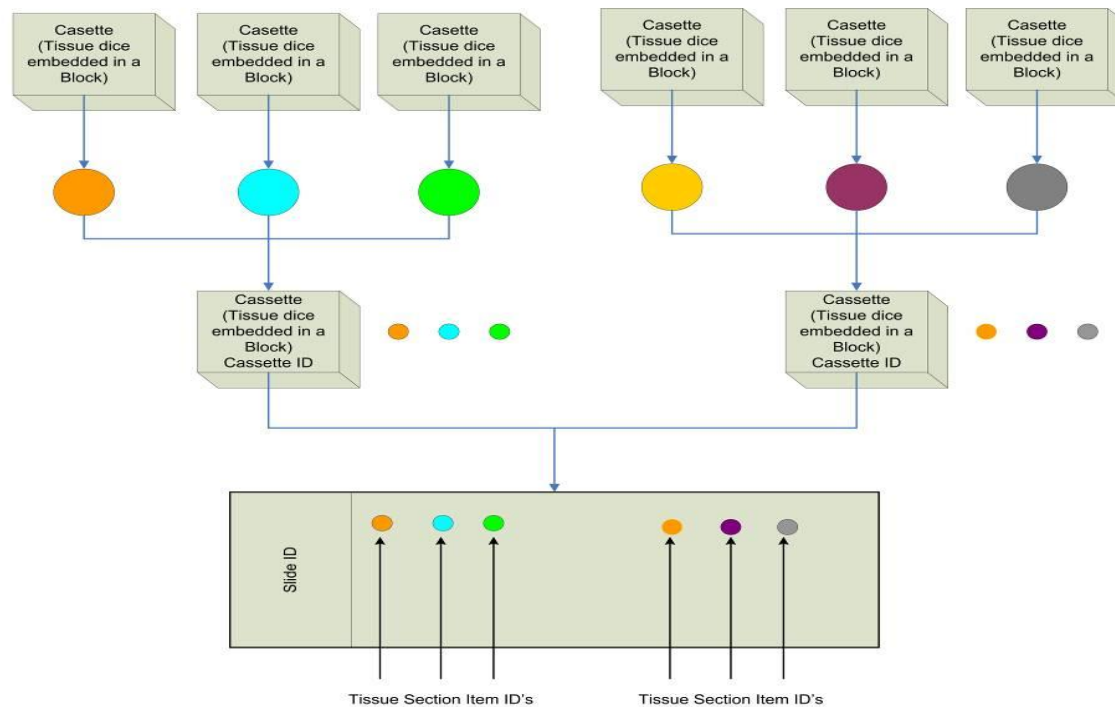


Profiles & Technical Frameworks

Existing Profiles with High Uptake

APW : Use case 5 - Use case 5: Tissue Micro Array

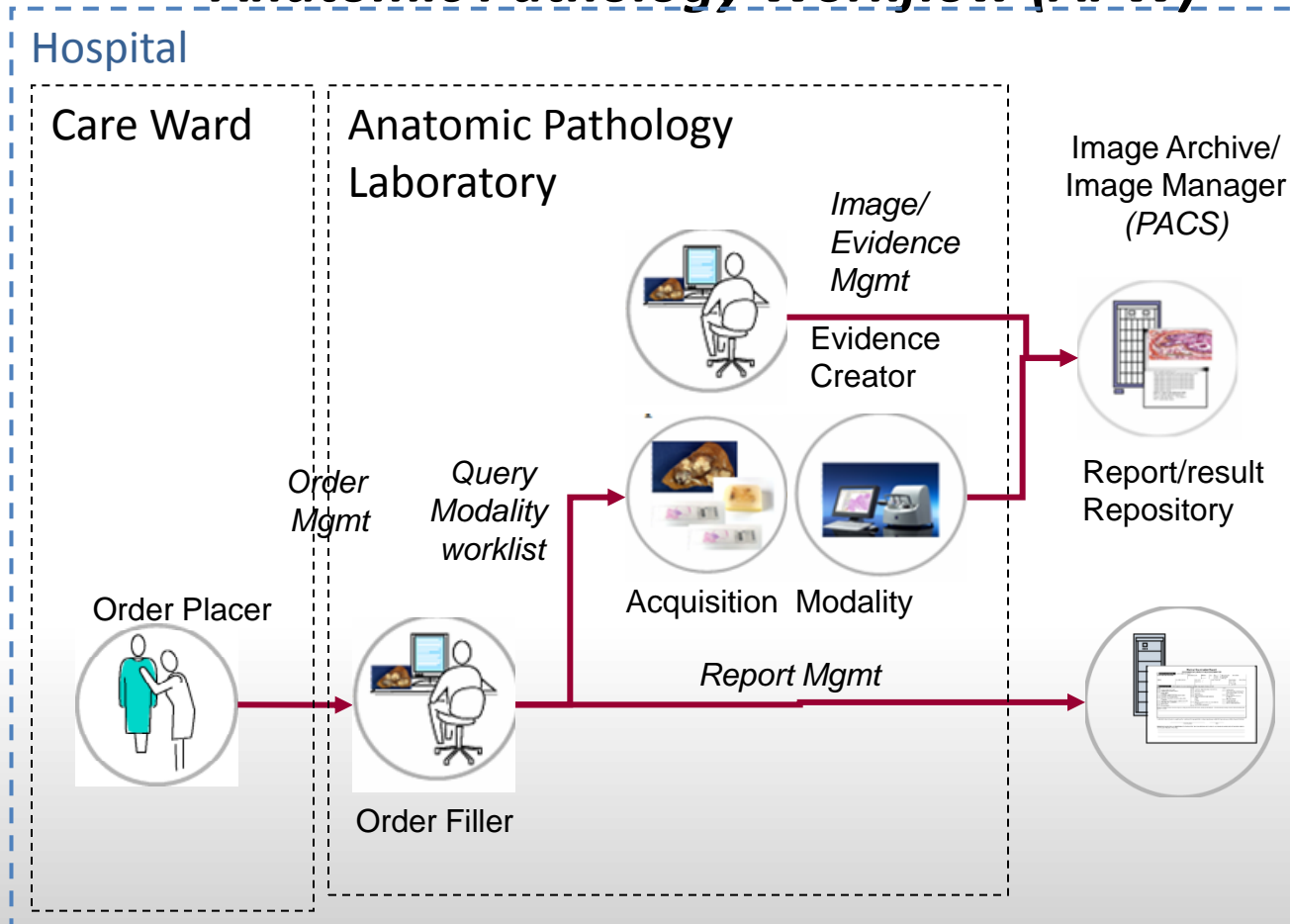
(more than one specimen from more than one patient per container)



Profiles & Technical Frameworks

Existing Profiles with High Uptake

Anatomic Pathology Workflow (APW)



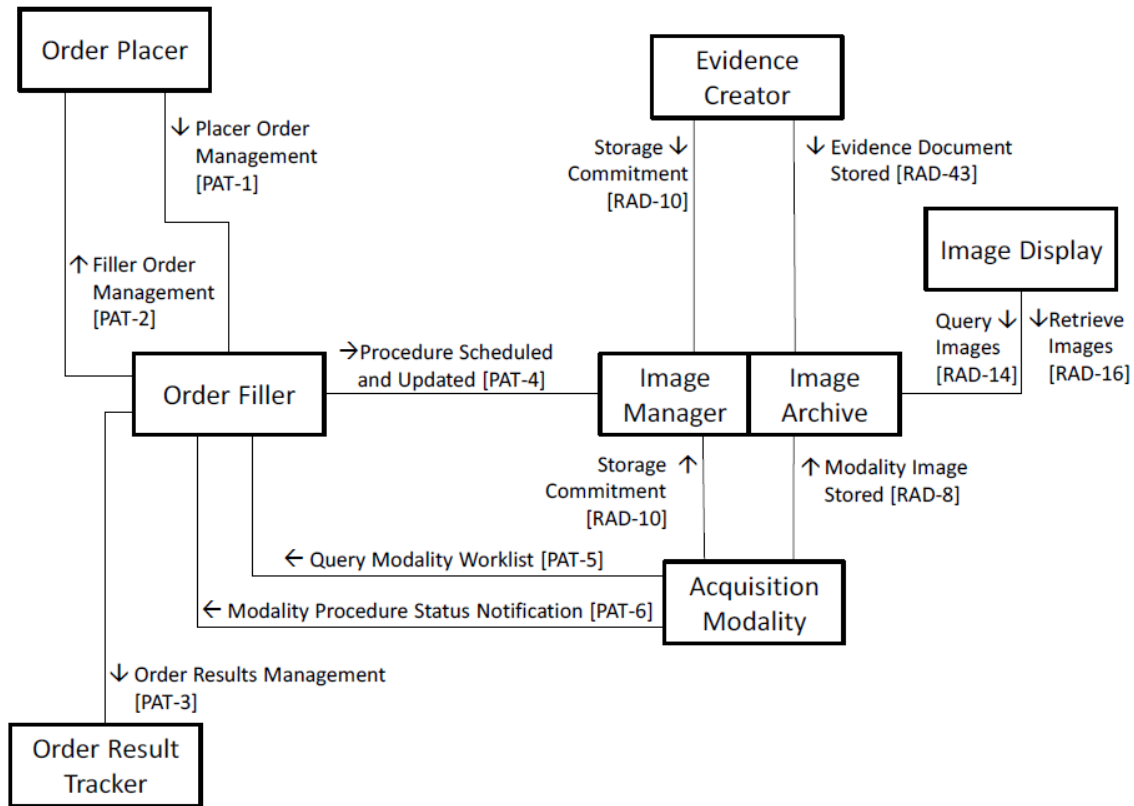
Profiles & Technical Frameworks

Existing Profiles with High Uptake Anatomic Pathology Workflow (APW)

- Systems it would impact
 - Hospital Clinical Information System
 - Anatomic Pathology Information System
 - Acquisition modalities
 - PACS
- Impact/Benefits
 - **Reduces Errors and Enhances Patient Care**
 - Prevents manual data entry errors by ensuring that each piece of information is entered only once, and from there, made available in due time to any system who needs it.

Profiles & Technical Frameworks

Existing Profiles with High Uptake
APW – 8 Actors & 12 Transactions



Profiles & Technical Frameworks

Existing Profiles with High Uptake

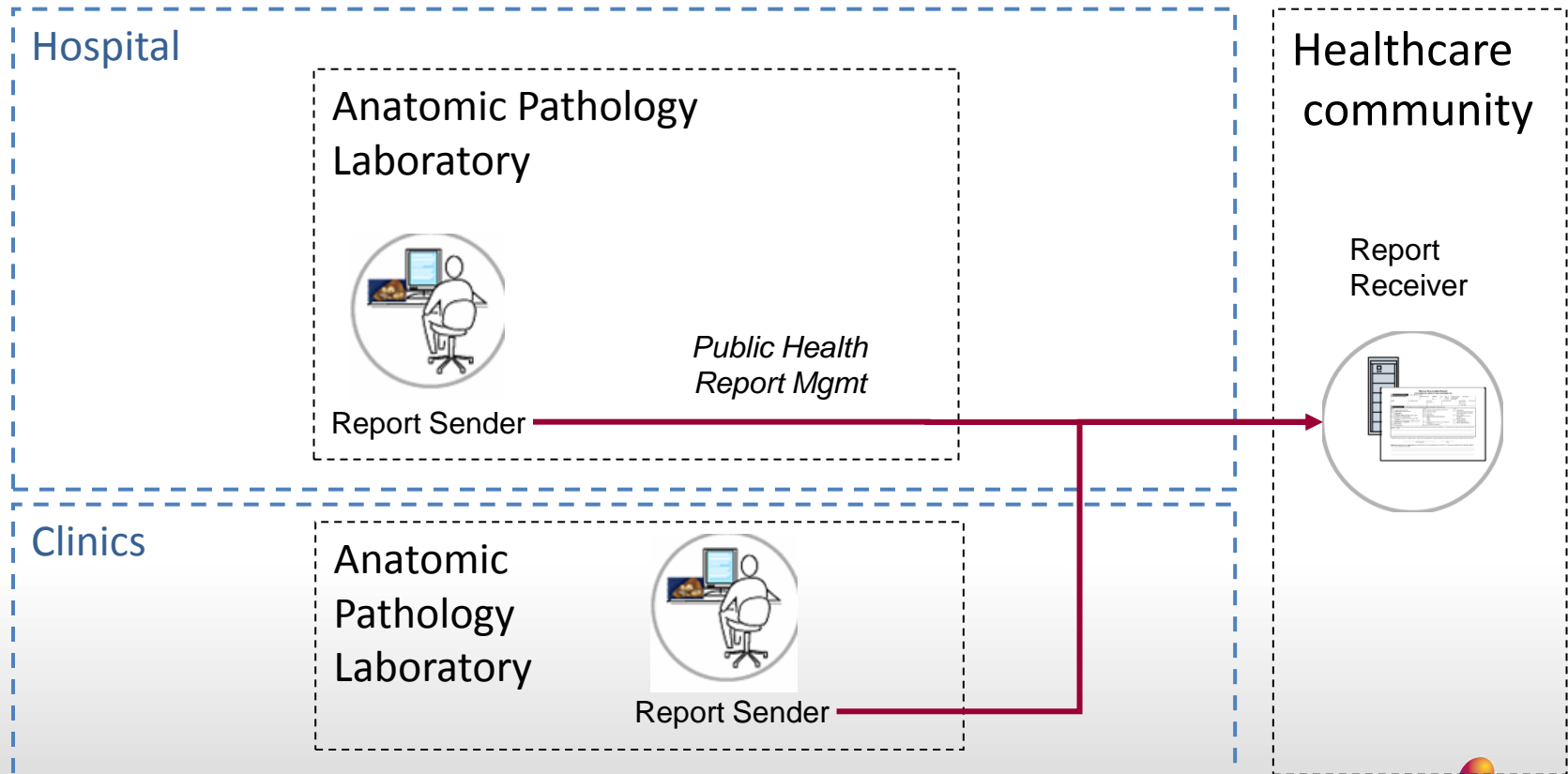
Anatomic pathology Reporting for Public Health (ARPH)

- Joint initiative : IHE AP, HL7 AP, NAACCR (North American Association of Central Cancer Registries), CDC (Centers for Disease Control).
- Defines the actors and transactions involved in the transmission of anatomic pathology reports to public health organizations (cancer registries, centers for diseases control, screening organizations, etc).
- Clinical Use Case to implement this profile
 - Global Perspective of Cancer Surveillance
 - International Association of Cancer Registries
 - 241 Registries (Voting Member) from all 6 continents
 - North American Association of Central Cancer Registries

Profiles & Technical Frameworks

Existing Profiles with High Uptake

Anatomic pathology Reporting for Public Health (ARPH)



Profiles & Technical Frameworks

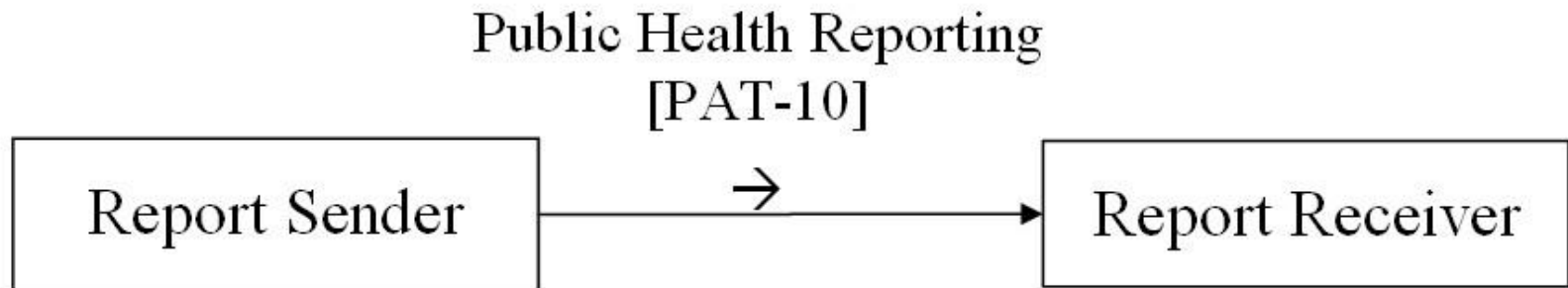
Existing Profiles with High Uptake

Anatomic pathology Reporting for Public Health (ARPH)

- Systems it would impact
 - Anatomic Pathology Information System
 - Public health/research data management systems
- Impact/Benefits
 - This integration profile will make it easier for anatomic pathology laboratories, public health agencies, and software vendors to adopt a uniform method for report or data transmission and processing.
 - It will facilitate international electronic reporting of anatomic pathology data in public health domain.

Profiles & Technical Frameworks

Existing Profiles with High Uptake
ARPH – 2 Actors & 1 Transaction



Profiles & Technical Frameworks

Existing Profiles with High Uptake

Anatomic Pathology Structured Reports (APSR)

- Joint IHE and HL7 anatomic pathology initiative
- Content profile providing templates for building Anatomic Pathology Structured Reports in all fields of anatomic pathology (cancers, benign neoplasms as well as non-neoplastic conditions)
 - CDA documents including Anatomic Pathology observations bound to images or regions of interest
 - Shared or exchanged within a community of care providers using existing integration profiles defined by IHE Information Technology Infrastructure

Profiles & Technical Frameworks

Existing Profiles with High Uptake

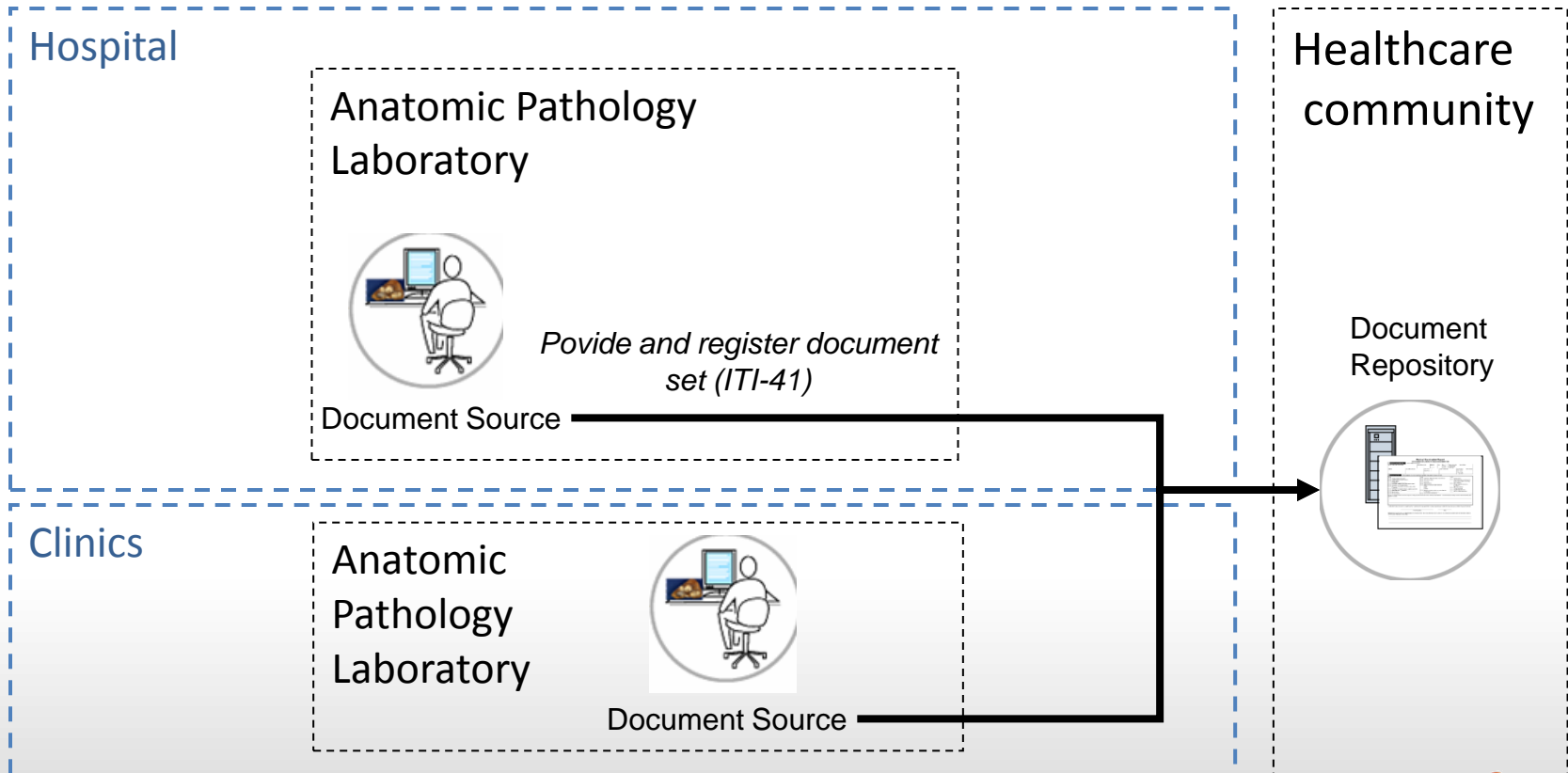
Anatomic Pathology Structured Reports (APSR)

- Clinical Use Case to implement this profile
 - Sharing/exchanging APSR for surgical pathology
 - 21 CDA templates (Document Content Modules)
 - Generic APSR template
 - All organs & fields of anatomic pathology (inflammatory, vascular, traumatic, metabolic diseases as well as cancer)
 - 20 organ-specific APSR templates
 - Cancer-specific organizers covering 85% of incident cancers
 - 490 observations & procedure templates
 - 21 procedure templates
 - 469 observation templates (including 73 TNM observation templates)

Profiles & Technical Frameworks

Existing Profiles with High Uptake

Anatomic Pathology Structured Reports (APSR)



Profiles & Technical Frameworks

Existing Profiles with High Uptake

Anatomic Pathology Structured Reports (APSR)

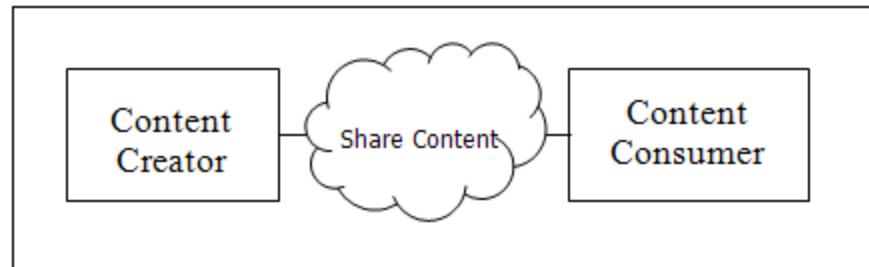
- Systems it would impact
 - Anatomic Pathology Information System
 - Acquisition modalities
 - Hospital Clinical Information System, shared electronic health record
- Impact/Benefits
 - Unique opportunity to share/exchange Anatomic Pathology Structured Reports that are semantically interoperable at an international level

Profiles & Technical Frameworks

Existing Profiles with High Uptake

APSR – 2 Actors

Content (Anatomic Pathology Structured Report) is created by a Content Creator consumed by a Content Consumer.

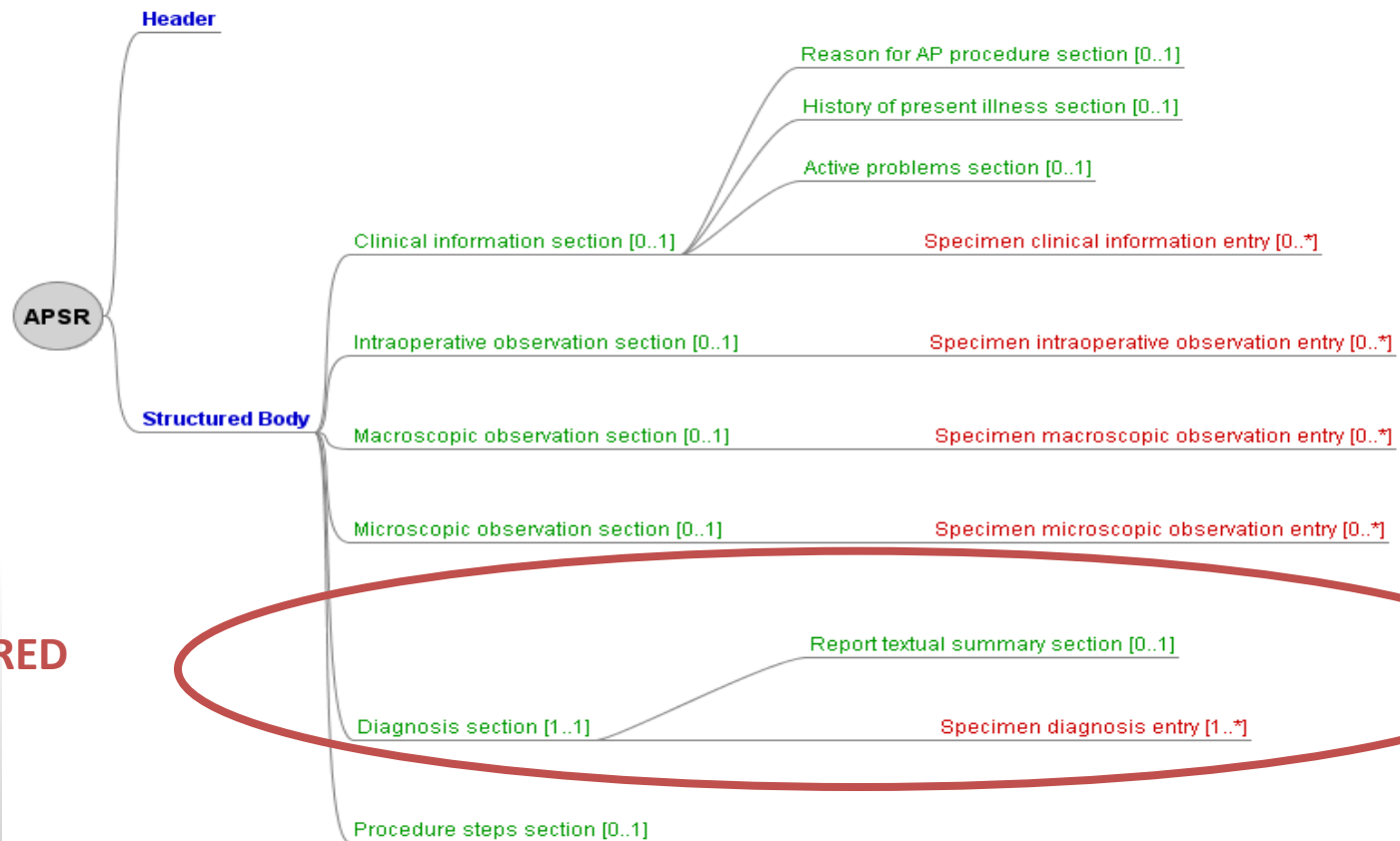


Sharing or transmission of content from one actor to the other

XDS, XDM and XDR Integration Profiles, described in Volume 3 of the Anatomic Pathology Technical Framework.

Profiles & Technical Frameworks

APSR - Section Content Modules (n=6) Common hierarchy for all APSR document content modules



REQUIRED

Profiles & Technical Frameworks

APSR - Element Content Modules (n=11)

- Header (n=5)
- Body (n=6)
 - Describing Anatomic Pathology observations grouped per specimen and per problem
 - Specimen Information Organizer
 - Specimen Collection Procedure templates (n=21)
 - the characteristics of the specimen (identifiers and type)
 - the procedure that collected it
 - Type of procedure, time interval, performer (person and organization), approach site, target site.
 - Problem Organizer
 - AP Observation templates (n=469)
 - including TNM observation templates (n=73)
 - Embedded Image

Profiles & Technical Frameworks

APSR – Example Element Content Module Anatomic Pathology Observation

- Breast-In situ neoplasm-Histologic type
(OID 1.3.6.1.4.1.19376.1.8.1.4.446)
 - observation.code
 - Label : Breast-In situ neoplasm-Histologic
 - Code: 436
 - Coding system : PathLex
 - observation.value (Concept Descriptor (CD))
 - Value set OID: 1.3.6.1.4.1.19376.1.8.5.254

PathLex code	Label
2557	DCIS Comedo
2559	DCIS Cribriform
2560	DCIS Micropapillary
2558	DCIS Paget disease (DCIS involving nipple skin)
2561	DCIS Papillary
2562	DCIS Solid
2308	Ductal carcinoma in situ with microinvasion
2309	Lobular carcinoma in situ with microinvasion

Profiles & Technical Frameworks

APSR – Vocabulary constraints

- Available IHE_PAT_Suppl_APSR_AppendixValue_Sets - <http://www.ihe.net> (excel file)

IHE Anatomic Pathology Technical Framework Supplement Appendix Value Sets for APSR value sets bound to the content modules described in the “Anatomic Pathology Structured Reports” (APSR) supplement to the AP TF			
Document identification			
Name	IHE_PAT_TF_Supplement_APSR_Appendix_Value_Sets		
Creation date	30/07/2010		
Version	Trial Implementation		
Historique			
Version	Date	Changes from Previous Release	Action
Draft for public comment	30/07/2010		Publication
Trial Implementation	March 3, 2011	Change of publication format (from word document to excel file) in order to ease import in Terminology Servers Updated of value sets Explicit links between element templates and value sets	Publication in ihe.net

- Scope : Element Content Modules
 - Specimen collection procedure
 - AP observation

Profiles & Technical Frameworks

APSR – Vocabulary constraints

- Also available through Web services
 - STS (Standard Terminology Server)

WebService

Phast RLIO - Webservice - Version 2.1.25 du 04/03/2011

Les opérations suivantes sont prises en charge. Pour une définition formelle, prenez connaissance de la [Description du service](#).

- [CTS2 Beta ChangeCodeSystemStatus](#)
Changes the state of a code system (includes inactivation, activation etc.)
- [CTS2 Beta CheckConceptToConceptDomainAssociation](#)
Determine whether the supplied coded concept exists in a code system in use for the specified concept domain
- [CTS2 Beta CheckConceptValueSetMembership](#)
Determine whether the supplied coded concept exists in the supplied value set
- [CTS2 Beta CheckValueSetSubsumption](#)
Determine whether one of the two supplied value sets subsumes the other
- [CTS2 Beta ComputeSubsumptionRelationship](#)
Subsumes tests whether the parent coded attribute subsumes (is implied by) the child
- [CTS2 Beta CreateAssociation](#)
Relates a single specific coded concept (source) to a corresponding single specific coded concept (target) within the same or another code system
- [CTS2 Beta CreateAssociationType](#)
Create a new relationship type, an instance of which may be used to link two concepts
- [CTS2 Beta CreateCodeSystem](#)
Create a new Code System to contain a set of new coded concepts

Profiles & Technical Frameworks

New Profiles in Development (2011-12)

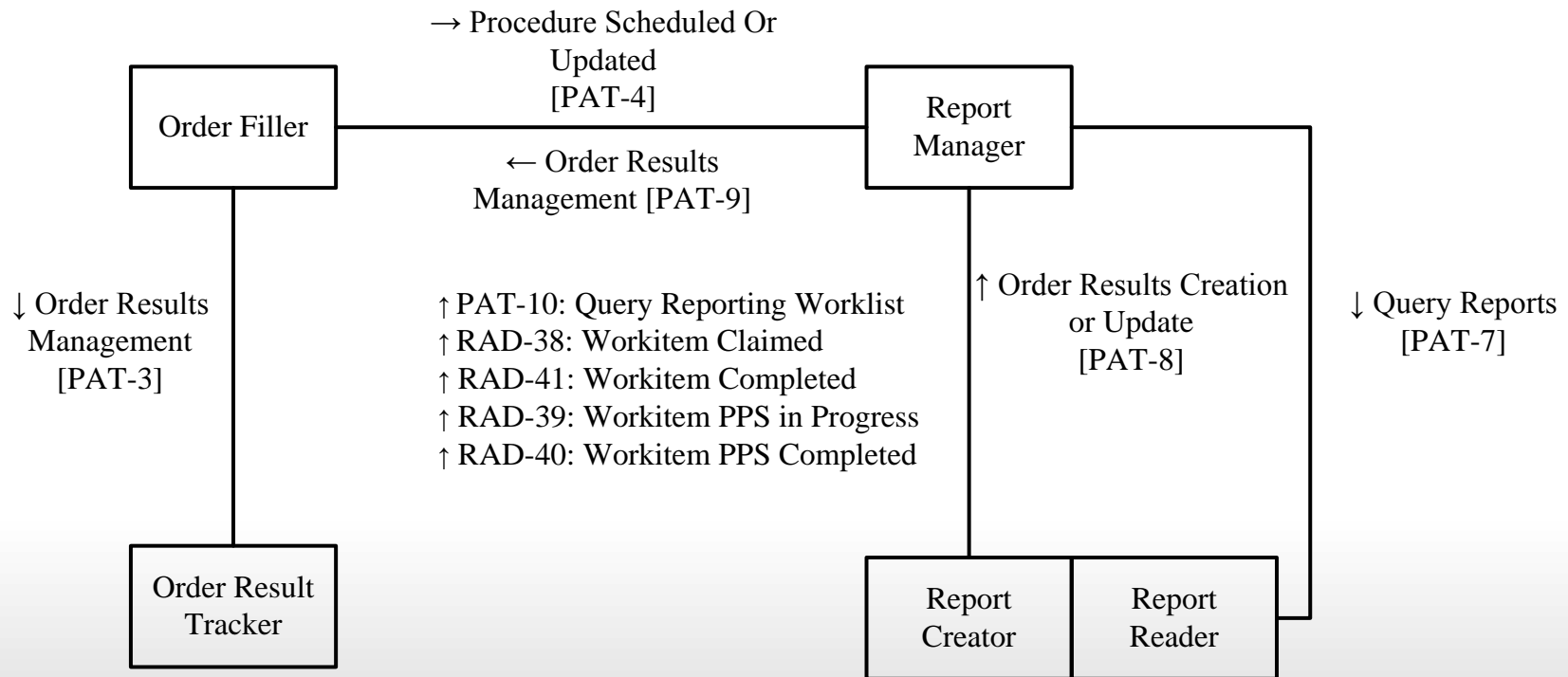
Anatomic Pathology Reporting Workflow (APRWF)

- Defines the actors and transactions involved in the management of anatomic pathology
- Systems it would impact
 - Anatomic Pathology Information System
 - Acquisition modalities
 - Image viewers
- Impact/Benefits
 - To improve the management of reporting tasks introducing reporting worklists and observation results queries
 - To allow external systems to retrieve the report in a raw format allowing them to further process that information.
 - This will allow, for example, showing the report along with links to the DICOM images which could be opened with the chosen viewer

Profiles & Technical Frameworks

New Profiles in Development (2011-12)

APRWF – Actors & Transactions



How to Participate in Anatomic Pathology

IHE International Membership is Free.

- Apply for IHE International Organizational Membership
 - Visit: www.ihe.net/apply
 - Approved monthly by IHE International Board
 - [Review IHE's 400+ Organizational Members](#)
- Participate in IHE Domains & Committees
 - *IHE Organizational Members only*
 - *12 Clinical and Operational Domains*
 - Each Domain has one planning and one technical committee
- Non-members participate in comment periods and implement IHE Technical Frameworks

Anatomic Pathology Committee

Responsibilities

Planning Committee

- Recruitment
- Education
- Review IHE Profiles Proposals
- Identifies committee priorities and problems
- Highlight major projects now in progress

Contact Information

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- Google Group email
– ihe-anatomic-pathology-committee@googlegroups.com
- [Committee's page on ihe.net](#)
- [Committee's wiki home page](#)

How to Participate in Anatomic Pathology

Participate IHE's Profile Cycle

- Committee work follows the IHE Profile Cycle
 - Annual eighteen (18) month cycle
 - Each IHE domain has its' own independent schedule
 - Opportunities for IHE members and non-members to participate in cycle
- Detailed overview of IHE Cycle next

IHE Profiles Drafted & Revised



Published For Public Comment

Trial Implementation Posted



Test at IHE Connectathons



Publish in IHE's Product Registry

months 14-18

IHE Technical Framework Developed

months 6-13



Demonstrate at a



Profile Selection by Committees

IHE Call for Proposals Opens

months 1-5

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Install Interoperable products in Clinical Settings worldwide



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IHE Profile Cycle Stages	Participation Status	Open Date	Close Date	Learn More
<i>Call for Proposal</i>	Open		Sept 15 ,2011	Anatomic Pathology profile proposals
<i>Profile Selection</i>	Closed	N/A	Sept 2011	Scheduled meetings
<i>IHE Profiles drafted in IHE Committees</i>	Closed			Scheduled meetings
<i>Public Comment 1</i>	Open		May 2012	IHE.net- Documents now in PC IHE's Wiki- PC Process explained
<i>Trial Implementation Published</i>	Open	N/A	Sept 2012	Scheduled meetings
<i>IHE Connectathon Registration</i>	Open			IHE N.A. Connectathon Registration.
<i>IHE Connectathon Dates</i>	Open			IHE N.A. Connectathon.



Thank you for your attention
Questions?



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- Apply for IHE International's Free Membership
 - Visit: www.ihe.net/apply

Learn More about IHE Connectathons

- IHE Connectathons: www.iheusa.org/connectathon.aspx
- IHE N.A. Connectathon is January 9-14, 2011
 - Testing dates extended this year. Read more:
http://www.iheusa.org/connectathon_participant.aspx#testingextended
- IHE N.A. Connectathon Registration Opens: August 22-September 30, 2011
 - View the Participate Guidelines online:
<http://www.iheusa.org/connectathon.aspx>
- Attend information webinars on the Connectathon during the IHE Webinar Series. View the full agenda online at www.ihe.net