

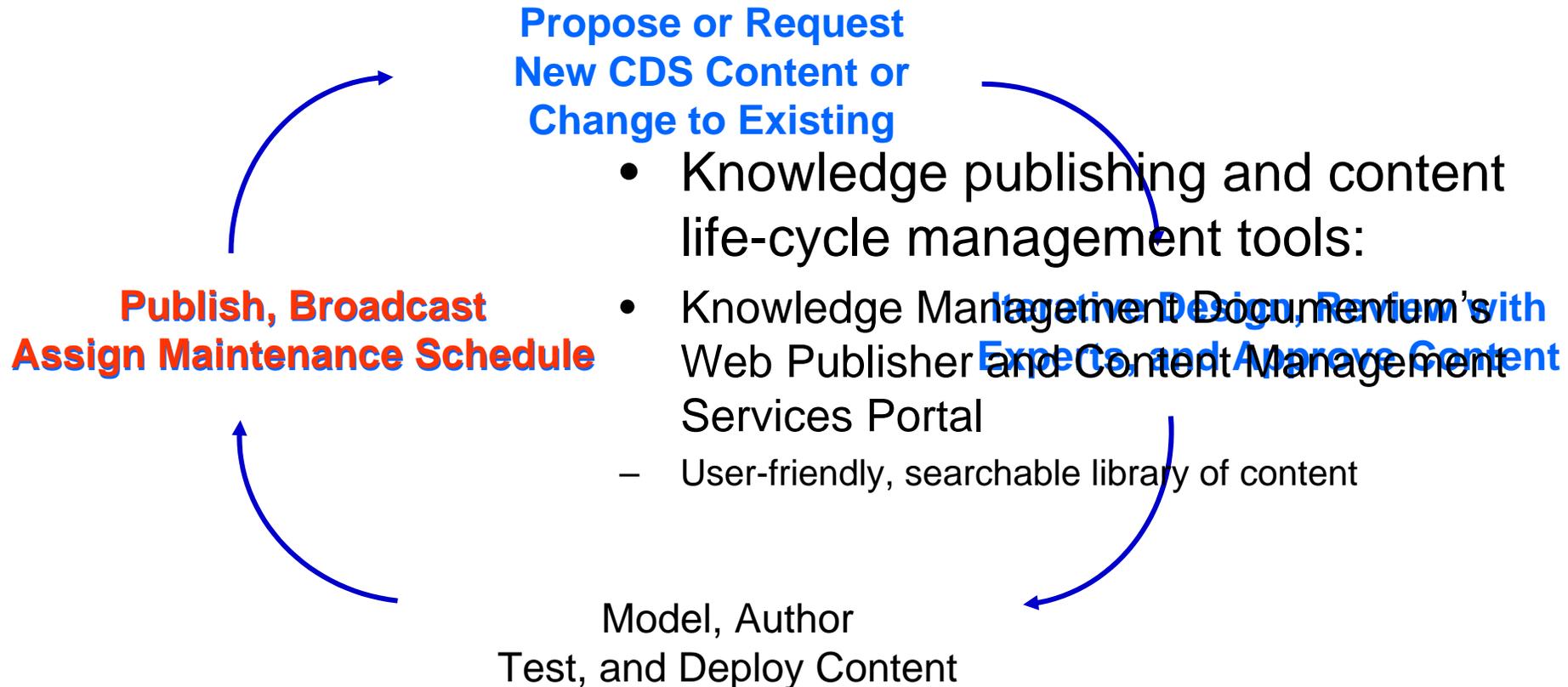
Clinical Decision Support Consortium: Knowledge Management Portal and Repository

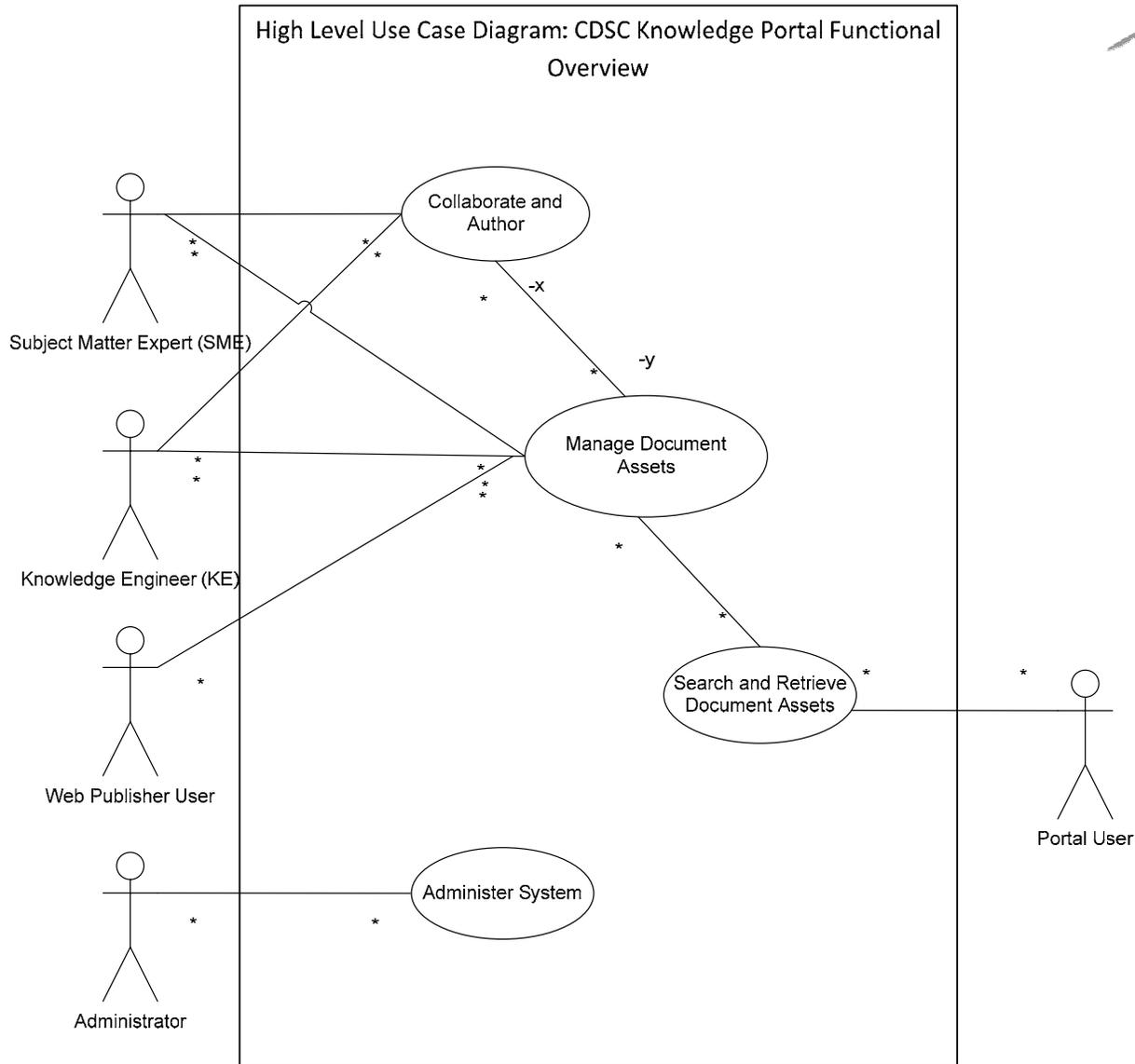
Saverio Maviglia, MD, MSc

*Senior Informaticist,
Clinical Informatics R&D
Partners Healthcare*

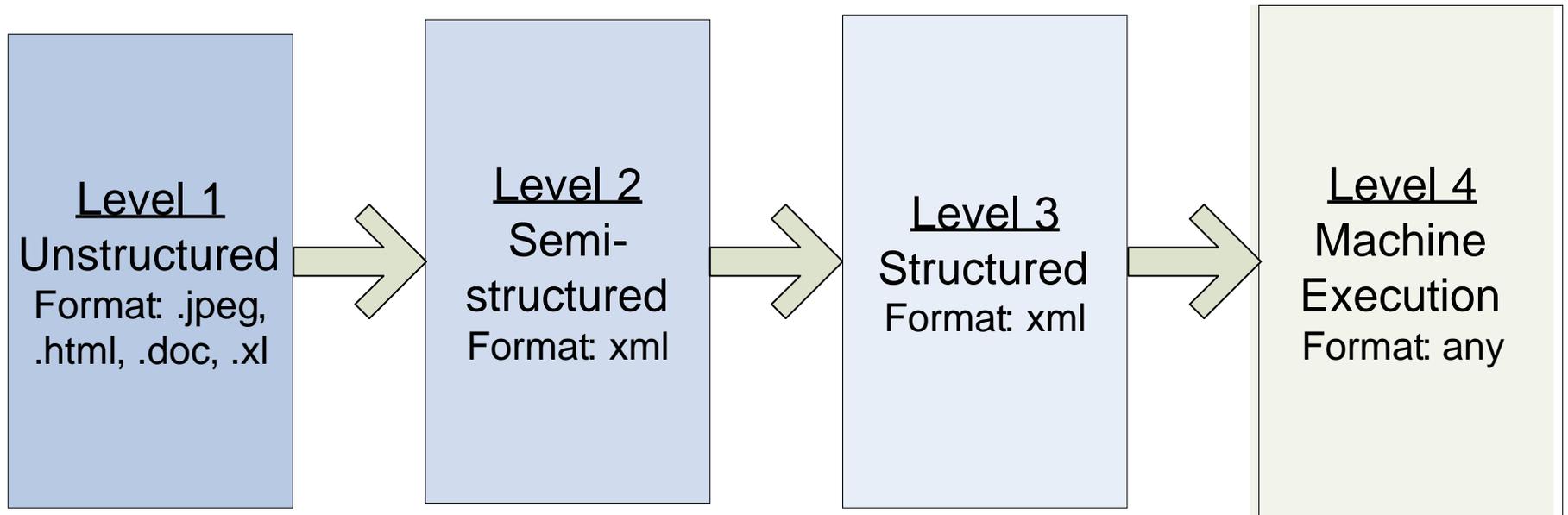
25 February, 2009

Content Lifecycle to Support





KM Portal Submission Levels



Major Goal in the Treatment of Diabetes in the Non-Pregnant Adult: Control the ABCs (A1c, Blood Pressure, Cholesterol)

A. A1c: Patients and providers should seek to achieve an A1c goal as close to the normal range (<6.1%) as possible, recognizing the important and increasing risks related to hypoglycemia as mean plasma glucose declines. Treatment change should be strongly considered when A1c ≥7%.

- Diabetic patients should have their HgbA1c measured biannually, more frequently if their diabetes is not well-controlled or if there has been a recent change in treatment

B. Blood pressure ≤130/80 mmHg

C. Cholesterol (Lipids)

- LDL <100 mg/dl in patients >40 years or in adults 30-40 years with additional risk factors for vascular disease
- LDL <70 mg/dl in patients with co-existing, or extensive risk factors for, vascular disease (when reaching that goal is practical)
- HDL >40 mg/dl
- Triglycerides <150 mg/dl (consider therapy when >200 mg/dl)

Altova Authentic - [DM_level2.xml]

File Edit Project XML XSL/XQuery Authentic View Browser Tools Window Help

Module 1: ASSESS

Description: Rules for monitoring HgbA1c

Recommendation 1.1: OverdueA1c

Description: HgbA1c should be monitored biannually

Scenario: OverdueA1c
Most recent HgbA1c NOT < 6 months old

Recommended Action(s):
Order HgbA1c now

Recommendation 1.2: HighA1cMonitoring

Description: For poorly controlled diabetic patients, HgbA1c should be monitored more frequently than biannually

Scenario: High A1c between 3 and 5 months old
Most recent HgbA1c between 3 and 5 months old which is > 7%

Recommended Action(s):
Order HgbA1c now

Authentic Browser

DiabetesL3.xml DM_level2.xml

No content selected CAP_NUM SCRL



Recommendation 1.1: OverdueA1c

Description: HgbA1c should be monitored biannually

Recommendation Scenario: OverdueA1c

Description: No HgbA1c result within last 6 months

Expression: HgbA1cResults6months->isEmpty()

Data mapping: HgbA1c results in last 6 months - The set of all HgbA1c results within the last 6 months

Lab Type: HgbA1c **Code:** x111 **Code System:** 2.16.840.1.113883.6.1

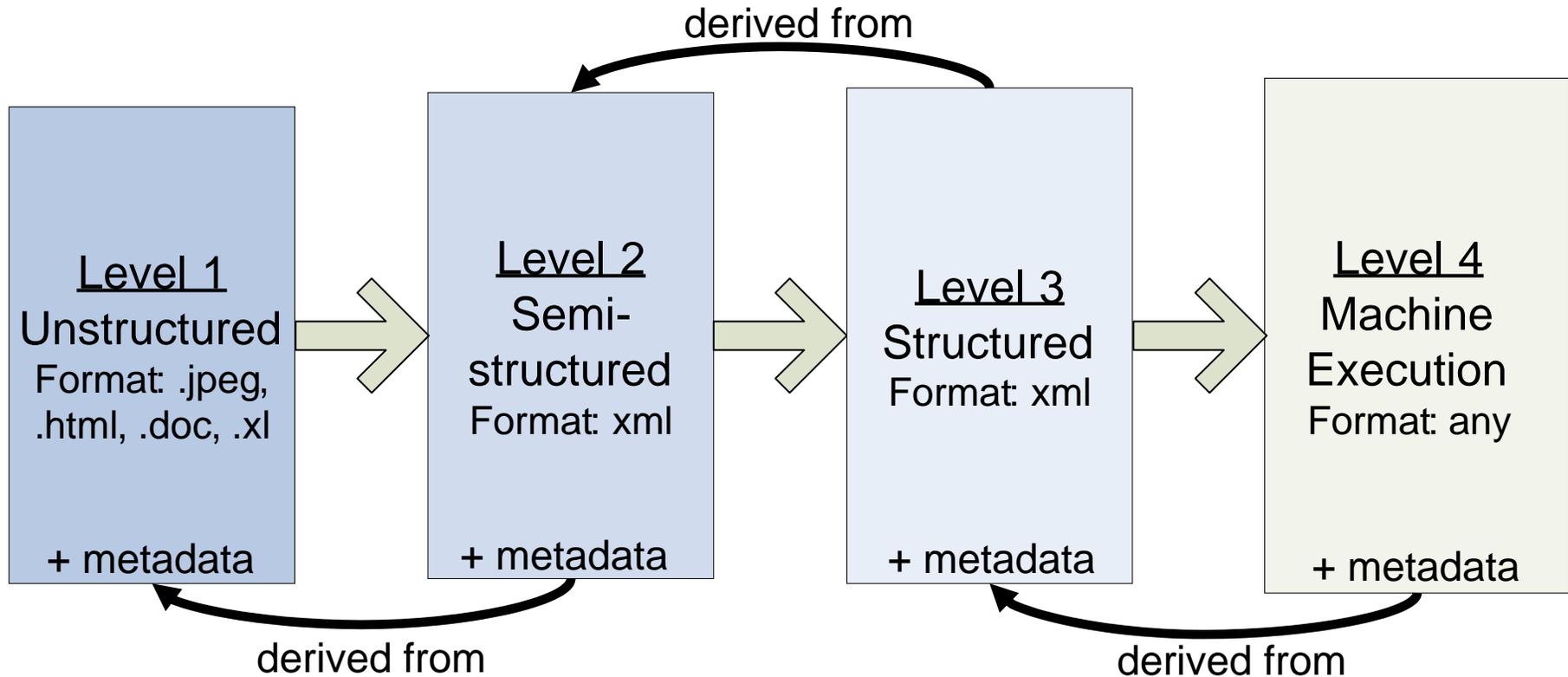
Status: completed **Code:** completed **Code System:** 2.16.840.1.113883.5.14

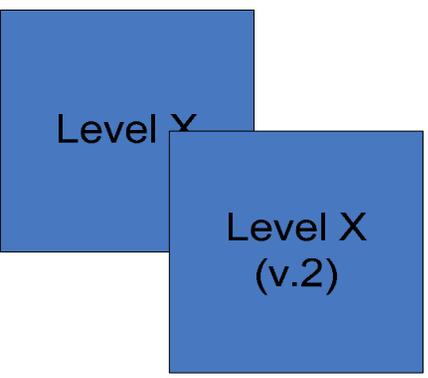
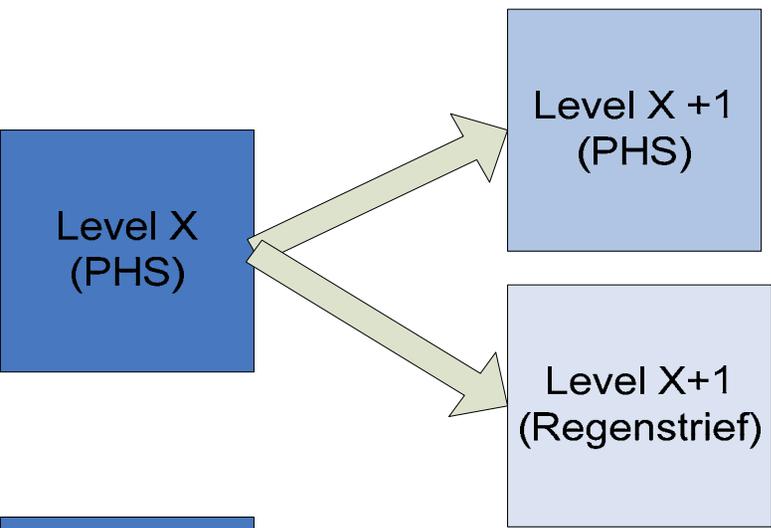
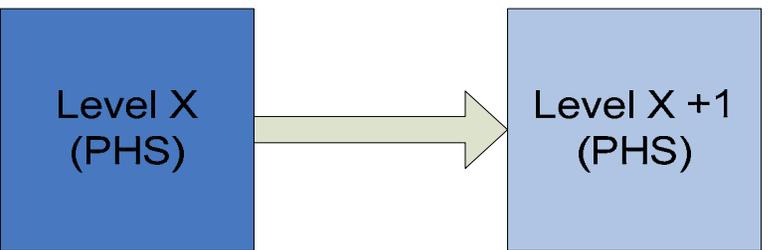
Expression: Let month : CodedValue = Factory.CodedValue("SNOMED-CT", "258706009") in patient.laboratoryResult->select(resultType.codeSystem = "LOINC" and resultType.code= "x111" and resultStatus.codeSystem = "Local" and resultStatus.code = "Completed" and resultDateTime.high.occurredWithin(6, month))
Set(LaboratoryResult) HgbA1cResults6m

Recommendation Action(s): Order HgbA1c now

| | |
|------------|--|
| AND | <p>Message Request</p> <p>Target: Physician</p> <p>Patient is overdue for HbA1c (rec: q 6 months)</p> |
| | <p>Procedure Request</p> <p>Category: Lab test (x346 - 2.16.840.1.113883.6.96)</p> <p>Type: HgbA1c (x12344 - 2.16.840.1.113883.6.1)</p> <p>Implementation time: 0 days</p> |
| | <p>Message Request</p> <p>Target: Patient</p> <p>Hemoglobin A1c (Hgb A1c) is a blood test that measures your average blood sugar levels over the previous three months. Most people with diabetes have an Hgb A1c test every 6 months. If it's been more than 6 months since your last test, you may want to discuss Hgb A1c testing with your doctor.</p> |

KM Portal Submission Levels



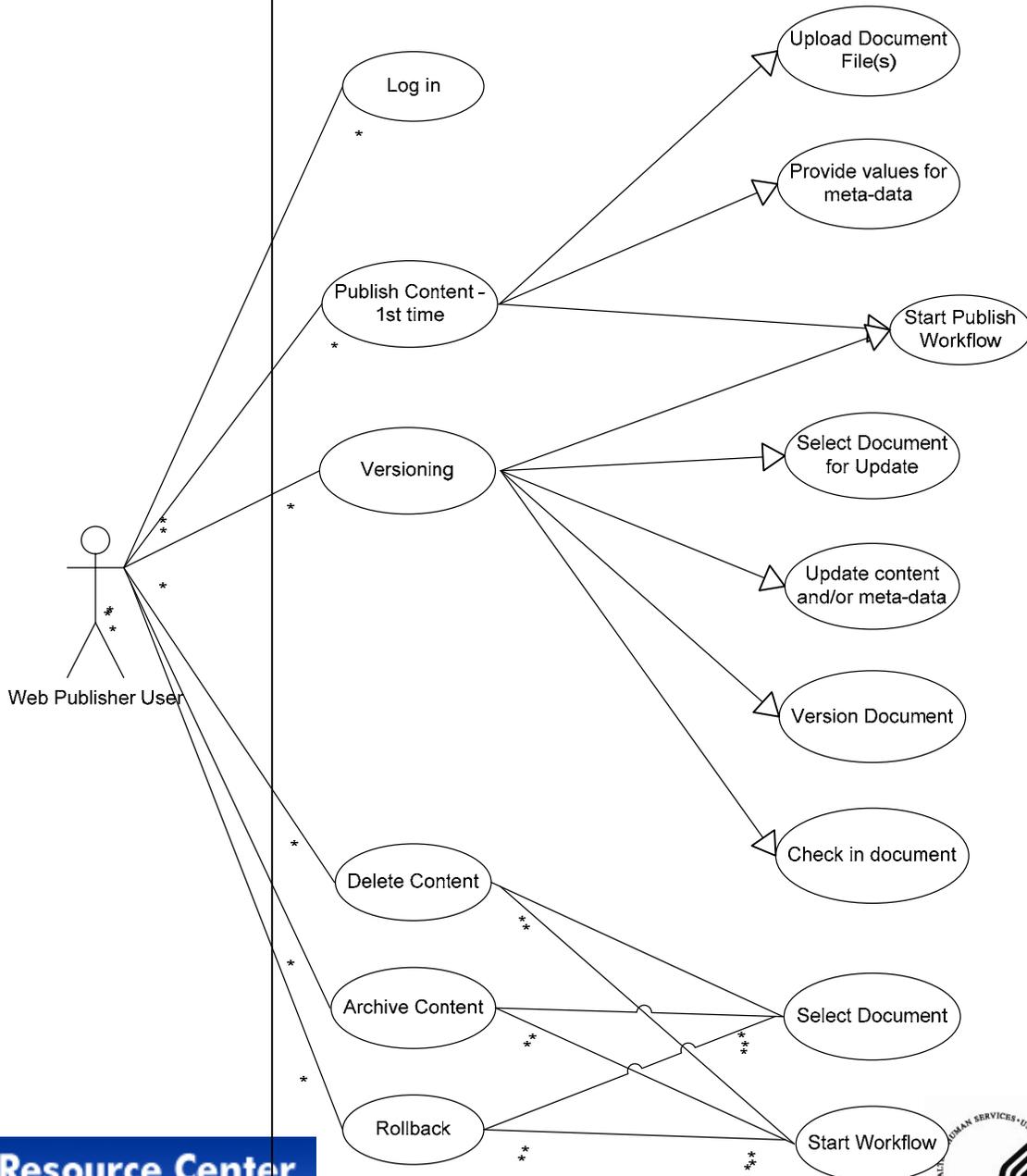


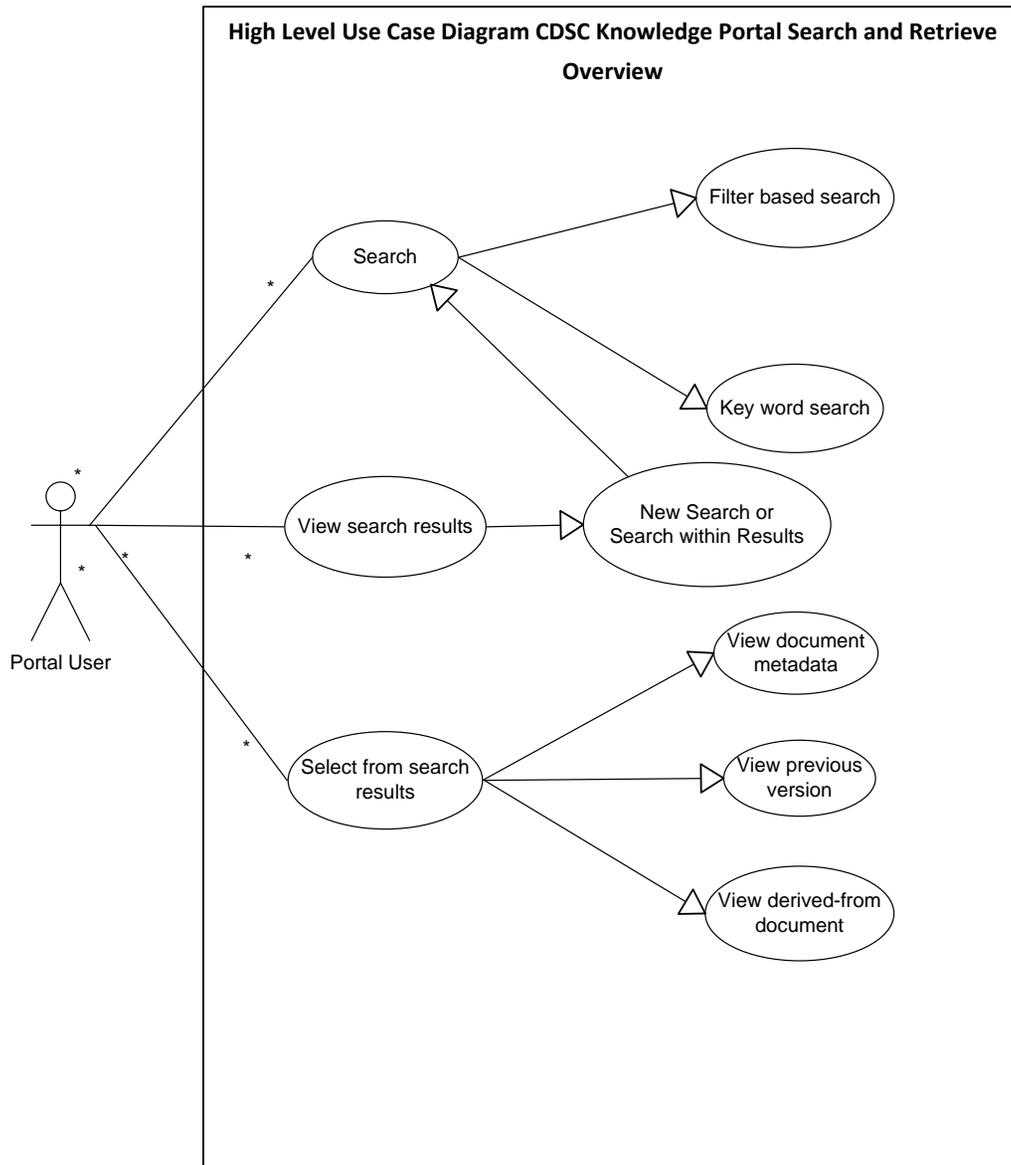
1. Translation

2. Localization

3. Versioning

High level Use Case Diagram: Manage Document Assets





Search & Retrieve Functionality

- Search
 - Filter based search (Metadata search)
 - Key word search (free-text search)
 - Combination of Keyword and Filter Search
 - Search within the search results
- View
 - View document using native editors
 - View previous version(s) of document
 - View the metadata of each document
 - View the “derived from” document
 - View “children of” documents (future)

Metadata

- Content Type (ex. Alert)
- Clinical Domain (ex. Dermatology)
- Specification Level (ex. Semistructured)
- Clinical Information System (ex. Meditech)
[Level 4 only]
- Contributing Entity (ex. Regenstrief)
- Patient Population (ex. Pediatric)
- Intended Recipient Role (ex. Pharmacist)

Screen 1 - With Results Collapsed



Clinical Domain :

- All Clinical Disciplines
- Nephrology
- Neurology
- Neurosurgery
- Newborn/Neonatology
- Obstetrics and Gynecology
- Ophthalmology
- Nephrology
- Neurology
- Neurosurgery
- Newborn/Neonatology
- Obstetrics and Gynecology
- Ophthalmology

Clinical Information System :

- Meditech
- GE
- PHS

Contributing Entity :

- All Entities
- All Entities - PCHI
- BWH

Content Type :

- All Content Types
- Assessment
- Drug Information

Patient Population :

- Adult
- All Patient Age Groups
- Geriatric

Specification Level :

- Level 1 - Unstructured
- Level 2 - Semi-structured
- Level 3 - Structured

Intended Recipient Role :

- Nurse
- Patient
- Physician

Published From : 2/2/2009

Published To : 2/2/2009

Enter Keyword : Aortic Surgery

Search All Files
 Search within results

Submit Search

| Results | | |
|--|-----------------------------|---|
| Document Title | Specification Level | Derived From |
| Aortic Surgery Post Op – BWH | Level 4 - Structured | Aortic Surgery Post Op – GE |
| View Details : | | |
| Document Title | Specification Level | Derived From |
| Aortic Surgery Post Op – BWH | Level 4 - Structured | Aortic Surgery Post Op – GE |
| View Details : | | |
| Document Title | Specification Level | Derived From |
| Aortic Surgery Post Op – BWH | Level 4 - Structured | Aortic Surgery Post Op – GE |
| View Details : | | |
| Document Title | Specification Level | Derived From |
| Aortic Surgery Post Op – BWH | Level 4 - Structured | Aortic Surgery Post Op – GE |
| View Details : | | |

Clinical Domain :

- All Clinical Disciplines
- Nephrology
- Neurology
- Neurosurgery
- Newborn/Neonatology
- Obstetrics and Gynecology
- Ophthalmology
- Nephrology
- Neurology
- Neurosurgery
- Newborn/Neonatology
- Obstetrics and Gynecology
- Ophthalmology

Clinical Information System :

- Meditech
- GE
- PHS

Contributing Entity :

- All Entities
- All Entities - PCHI
- BWH

Content Type :

- All Content Types
- Assessment
- Drug Information

Patient Population :

- Adult
- All Patient Age Groups
- Geriatric

Specification Level :

- Level 1 - Unstructured
- Level 2 - Semi-structured
- Level 3 - Structured

Intended Recipient Role :

- Nurse
- Patient
- Physician

Published From : 2/2/2009

Published To : 2/2/2009

Enter Keyword : Aortic Surgery

Search All Files

Search within results

Submit Search

Results

| Document Title | Specification Level | Derived From |
|--|-----------------------------|---|
| Aortic Surgery Post Op – BWH | Level 4 - Structured | Aortic Surgery Post Op – GE |

Hide Details:

Description :

Processes and content lifecycles across the organization that create and curate the clinical knowledge that lives in

Metadata

| | |
|-------------------------------|--------------------------|
| Content Type : | Order Sets and Templates |
| Clinical Domain : | Neurosurgery |
| Clinical Information System : | Meditech |
| Specification Level : | Level 3 - Structured |
| Contributing Entity : | BWH |

Previous Versions

| Version : | Document Title : |
|-----------|--|
| X - 1 | Aortic Surgery Post Op – BWH |
| X - 2 | Aortic Surgery Post Op – BWH |
| X - 3 | Aortic Surgery Post Op – BWH |

The KM Portal and Repository Team

- Team Lead: Tonya Hongsermeier
- Technical Lead: Hong Lou
- PM: Cathyann Harris
- Analyst: Saverio Maviglia
- Analyst: Aziz Boxwala
- Lead Documentum Developer: Paul Rapoza
- Lead Net Developer: Mahesh Shanmugam