Clinical Decision Support Consortium: Knowledge Management Portal and Repository

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Content Lifecycle to Support

Propose or Request New CDS Content or Change to Existing

- Knowledge publishing and content life-cycle management tools:
  - Knowledge Management Documentum’s Web Publisher and Content Management Services Portal
    - User-friendly, searchable library of content

Publish, Broadcast
Assign Maintenance Schedule

Model, Author
Test, and Deploy Content
KM Portal Submission Levels

Level 1
Unstructured
Format: .jpeg, .html, .doc, .xl

Level 2
Semi-structured
Format: xml

Level 3
Structured
Format: xml

Level 4
Machine Execution
Format: any
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)
Module 1: ASSESS

Description: Rules for monitoring HgbA1c

**Recommendation 1.1: Overdue HgbA1c**

Description: HgbA1c should be monitored biannually

**Scenario: Overdue HgbA1c**
Most recent HgbA1c NOT < 6 months old

**Recommended Action(s):**
Order HgbA1c now

**Recommendation 1.2: High HgbA1c Monitoring**

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

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

Message Request
Target: Physician
Patient is overdue for HgbA1c (rec q 6 months)

Procedure Request
Category: Lab test (c346 - 2.16.840.1.113883.6.96)
Type: HgbA1c (x12344 - 2.16.840.1.113883.6.1)
Implementation time: 0 days

Message Request
Target: Patient
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.
KM Portal Submission Levels

Level 1
Unstructured
Format: .jpeg, .html, .doc, .xl
+ metadata
derived from

Level 2
Semi-structured
Format: xml
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derived from

Level 4
Machine Execution
Format: any
+ metadata
derived from
1. Translation

2. Localization

3. Versioning
Overview

Portal User

Search

Filter based search

Key word search

New Search or Search within Results

View search results

View document metadata

Select from search results

View previous version

View derived-from document
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

<table>
<thead>
<tr>
<th>Clinical Domain:</th>
<th>Contributing Entity:</th>
<th>Intended Recipient Role:</th>
</tr>
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<tbody>
<tr>
<td>All Clinical Disciplines</td>
<td>All Entities</td>
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<tr>
<td>Nephrology</td>
<td>All Entities - PCH</td>
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<tr>
<td>Neurology</td>
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<td>Newborn/Neonatology</td>
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<td>Obstetrics and Gynecology</td>
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<table>
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<th>Search within results</th>
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### Results

<table>
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### View Details:

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

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**AHRQ National Resource Center for Health Information Technology**

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**CDS consortium**

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**AHRQ**
Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov
Screen 2 - With Results expanded

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

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

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Hide Details:
Description:
Processes and content lifecycles across the organization that create and curate the clinical knowledge that lives in

Metadata

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Previous Versions

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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