Clinical Decision Support Consortium
Technical Expert Panel

Status Report

February 1-2, 2010
Background: Purpose of CDS

• Clinical Decision support has been applied to
  – help clinicians improve diagnosis
  – increase quality and patient safety
  – improve adherence to guidelines for prevention and treatment
  – avoid medication errors

• Systematic reviews have shown that CDS can be useful across a variety of clinical purposes and topics
Background: CDS Limitations

Current adoption of advanced clinical decision support is limited due to a variety of reasons, including:

- Difficulty developing clinical practice guidelines that can be readily and unambiguously translated into a computable form.
- A lack of widely-adopted standards for representing and sharing clinical knowledge in a computable form.
- Absence of a central repository or knowledge resource where computable guidelines can be shared and stored.
- Poor support for clinical decision support in commercially available electronic health record systems.
- Challenges in integrating decision support into the clinical workflow.
- A limited understanding of organizational and social issues relating to clinical decision support.
CDS Consortium Goal

To assess, define, demonstrate, and evaluate best practices for knowledge management and clinical decision support in healthcare information technology at scale – across multiple ambulatory care settings and EHR technology platforms.
CDS Consortium Members

• Partners HealthCare
• Regenstrief Institute
• Veterans Health Administration
• Kaiser Permanente Center for Health Research
• Siemens Medical Solutions
• GE Healthcare
• NextGen
• UMDNJ
• MVIPA
• Mayo
Significance

The CDS Consortium will carry out a variety of activities to improve knowledge about decision support, with the ultimate goal of supporting and enabling widespread sharing and adoption of clinical decision support.
Six Specific Research Objectives

- Knowledge management lifecycle
- Knowledge specification
- Knowledge Portal and Repository
- CDS Knowledge Content and Public Web Services
- Evaluation
- Dissemination
Accomplishments (1 of 6)

**KMLA (Knowledge Management Lifecycle Assessment Team)**
- Continued analysis of the transcript data from previous site visits
- Completed Regenstrief webinar demonstrating user decision support in their order entry system
- Purchased Camtasia to allow KMLA to record future demos
- Setup meeting with UptoDate and First DataBank representatives
- Submitted paper on CDS Governance to JAMIA for review

**KTS (Knowledge Translation and Specification Team)**
- Completed evaluation of multi-layered model for Level 2 and Level 3 recommendations via GuideLine Implementability Appraisal (GLIA)
- Completed code development for Level 3 editing tool basic functions
Accomplishments (2 of 6)

KM Portal (Knowledge Management Portal Team)
• Finalized the “Terms of Use” and Consortium agreement for content with legal consultants and now is subject to CGC acceptance and signatures.
• Completed installation of Repository (Documentum) to QA
• Completed Version 1 KM Portal Users Guide
• Expanded the Level 4s to include both executable and non-executable knowledge assets, enabling portal users to upload 4 types of L4 documents:
  – Description: content describes an implementation
  – Executable: content executed by or imported into a system
  – Exported: content exported from a system
  – Illustration: content illustrates an implementation
Accomplishments (3 of 6)

Recommendations Team

• Received feedback from Health IT vendors on clinical knowledge management capabilities of their EHR

• Delivered presentation of paper describing CDSC clinical decision support recommendations (AMIA, San Francisco, CA)

• Submitted 3 recommendations to AHRQ
  – Clinical Professional Societies
  – Clinical Guideline Developers
  – Quality Measurement Developers
Accomplishments (4 of 6)

CDS Services

• Continued bi-weekly conference calls with Regenstrief on the upcoming integration with ECRS.
• Completed testing with LMR and Moved ECRS and related services to Production
• Began trial of ECRS services in LMR
• Completed resolution of technical issues relating to the configuration of the QA and Production infrastructure.
• Completed updates to the Anti-Platelet rules to include *Glucose-6-phosphate dehydrogenase deficiency* (G6PD) from both Allergy and Problem lists.
Accomplishments (5 of 6)

Demonstrations Team
• Resolved the reminder display issue (text wrapping and length of reminder) for clinics for whom actionable reminders are available. LMR will now display only the shorter message.

Dashboards Team
• Loaded Dashboard in Report Central on 1/18/10
• Continued work on CDS Dashboard analysis and evaluation plans.
• Automated the bi-monthly reminder data transfer to the Quality Data Warehouse
• Captured new data files from LMR for 08’ and 09’ reminders.
Accomplishments in (6 of 6)

Evaluations Team
• Working with Services, Demo and Dashboard teams to consolidate detailed analysis plans.

Content Governance Committee (CGC)
• Finalized edits to the “Content Access” section of CDSC Editorial policy
  – Content management, submission, governance, etc.
• Discussed possible legal models for publishing and sharing content on the Portal.
• Completed paper on “Comparison of site Diabetes Mellitus content” for submission to JAMIA.
Presentations & Publications Update


- AMIA-0072-A2009.R1. Governance for Clinical Decision Support A. Wright; D. Bates; B. Middleton; P. Nichol; D. Sittig


Plans for the Following Period (1 of 3)

Knowledge Management Lifecycle Assessment Team
- Continue data analysis and publications work
- Begin planning for final vendor site visit scheduled for late March, 2010
- Continue work on the webinar describing PHS KM processes.

Knowledge Translation and Specification Team
- Analyze data collected from GLIA assessment
- Begin development of advanced features for L3 authoring/editing tool (e.g., usability interface (UI) improvements, schema mapping editing and replacement, etc.)

Knowledge Management Portal
- Support CGC loading of initial set of knowledge assets to Portal
- Connect production KM repository to production KM Portal to make Portal live
Plans for the Following Period (2 of 3)

Recommendations Team
• Develop the rest of final recommendations to CCHIT, HITSP, Health IT and content vendors

CDS Services (continued on next slide)
• Repeat performance testing on the QA clustered hardware with QA tested code and output of data points
• Finalize data set to be stored and write specifications for Services Evaluations
• Continue to hold regular conference calls with Regenstrief regarding their upcoming integration with ECRS
• Implement health check monitoring of the CDSC Services
• QA test enhancements and bug fixes to the ECRS for release to production at the end of January

Demonstrations Team
• Continue ongoing testing of CDSC services in the LMR
• Continue coordinating initial work on demonstrations for future CDSC implementation at Regenstrief
Plans for the Following Period (3 of 3)

Dashboards Team
• Receive feedback on Designers’ and Clinician Dashboard’ views from the Steering Committee members.
• Monitor Dashboard performance and finalize the Evaluation Plan

Evaluation Team
• Continue to serve in the “consultant” role as each team completes its evaluation

Content Governance Committee
• Continue to discuss and refine draft of policy statements
• Continue analysis of actionable diabetes rules
  – For developing a metric for ranking rules (pending optional years funding)
• Plan an annual on-site meeting involving all CGC members to meet face-to-face (pending optional years funding)
Optional Year 1 Project List

- Revisit CDS Consortium sites that implemented CDS services
- Refine the CDS Knowledge Model
- Support and maintain KM Portal
- Submit recommendations to CCHIT or any other certifying body, HITSP, and vendors (health IT and knowledge)
- Support implementation and demonstration of the CDS web service at Regenstrief
- Demonstration of the CDS Web service at at Regenstrief
- Overall coordination of demo activities across sites
- Implement CDS dashboards at collaborating sites
- Manage evaluation and consult with teams
- Develop metrics for prioritizing CDS rule authoring/implementations efforts.
- Maintain clinical rules (for Level 4 specifications)
- Develop Editorial Policies for Submission and Maintenance of Content