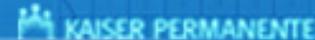


# Clinical Decision Support Consortium Technical Expert Panel

## 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

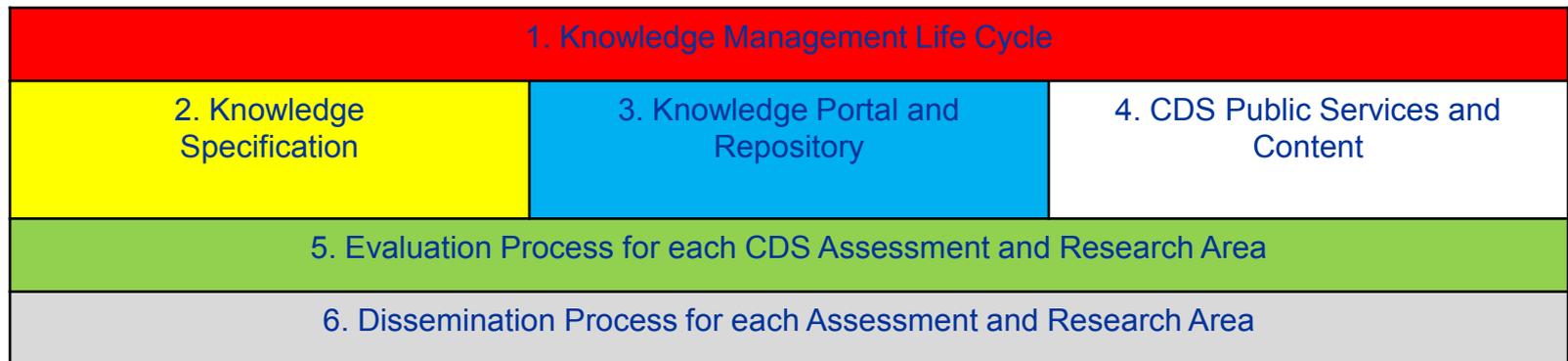
- Partners HealthCare
- Regenstrief Institute
- Veterans Health Administration
- Kaiser Permanente Center for Health Research
- Siemens Medical Solutions
- GE Healthcare
- NextGen
- UMDNJ
- MVIPA
- Mayo

# 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-0356-A2009. “Accelerating the Translation of Knowledge into Clinical Decision Support: Three National Demonstration Projects”** *B. Middleton; R. Shiffman; R. Greenes*
- **AMIA-0072-A2009.R1. Governance for Clinical Decision Support A.** *Wright; D. Bates; B. Middleton; P. Nichol; D. Sittig*
- **AMIA-0477-A2009.R1. Key Standards Recommended for Achieving a National Repository of Clinical Decision Support Interventions** *D. Sittig; A. Wright; J. Ash; B. Middleton*
- **AMIA-0016-A2009.R1. Studying Clinical Decision Support in the Field** *J. Ash*
- **AMIA-0023-A2009.R1. A Set of Preliminary Standards Recommended for Achieving a National Repository of Clinical Decision Support Interventions.** *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/implementation efforts.
- Maintain clinical rules (for Level 4 specifications)
- Develop Editorial Policies for Submission and Maintenance of Content