CDS Connect

**CDS Connect Work Group
Meeting Summary
April 18, 2019
3:00-4:30 PM EST**

Attendees

AHRQ Sponsors	Ed Lomotan, Anca Tabakova, Mary Nix, Shafa Al-Showk, Steve Bernstein
Work Group Members	Alexandra Burn, Andrey Soares, Barry Blumenthal, Bijal Shah, Bryan Bagdasian, Christian Boxley, Crystal Snare, Danny van Leeuwen, David Foley, Diane Montella, Jeremy Michel, Joshua Richardson, Julia Skapik, Ken Kawamoto, Linda Wedemeyer, Majid Afshar, March Sainvil, Maria Michaels, Michael Wittie, Nedra Garrett, Nikhil Patel, Noam Artz, Patrick Dowling, Preston Lee, Raajiv Ravi, Randolph Barrows, Ryan Mullins, Sandra Lewis, Steve Hasley
MITRE CDS Connect Project Members	Ginny Meadows, Chris Moesel, Dave Winters, Dylan Mahalingam, Howard Gershen, Lacy Fabian, Noranda Brown, Sharon Pacchiana, Sharon Sebastian

The MITRE Corporation operates the Centers for Medicare & Medicaid Services (CMS) Alliance to Modernize Healthcare, a federally funded research and development center (FFRDC) dedicated to strengthening the nation's health care system. MITRE operates CAMH in partnership with CMS and the Department of Health and Human Services.

Agenda

- Welcome and brief review of meeting objectives and the agenda
- CDS Connect Sustainability Path project – update on status and feedback
- Demonstration of proposed design for importing external Clinical Quality Language (CQL) into the Authoring Tool (AT)
- Update on the Option Year (OY) 2 pilot and artifact development
- Share information on CDS Connect participation at the American Medical Informatics Association (AMIA) Clinical Informatics Conference (CIC) and the American Council for Technology and Industry Advisory Council (ACT-IAC) Conference
- Closing

Action Items

- None

Meeting Summary

Welcome

MITRE started the meeting by welcoming participants and reviewing the names of work group (WG) members participating in the call. Maria Michaels then reviewed the agenda and facilitated the rest of the discussion.

Overall:

The meeting opened with a discussion of the current status of the CDS Connect Sustainability Path project. In addition, the meeting included a demonstration and discussion on the proposed design for importing external CQL into the CDS AT, as well as an update on the OY2 pilot status and artifact development. Updates were provided on CDS Connect outreach efforts and attendance at the AMIA CIC and ACT-IAC conferences. During each presentation, WG member ideas, suggestions and concerns were encouraged.

CDS Connect Sustainability Path Project, Lacy Fabian (MITRE)

Lacy reviewed the current progress made with the CDS Connect Sustainability project and described their next steps. The team has completed the initial documentation of the CDS Connect current state and an environmental scan. Most recently they have focused their efforts on discussions with various organizations to describe the different sustainment models and obtain feedback on the sustainer model criteria. This information is documented in a draft report, scheduled to be finalized in June 2019. The Sustainability team will formulate the results of their analysis and recommendations in a formal document, to be followed by a CDS Connect transition plan issued in September 2019.

The team has been circling back to participants that previously contributed their ideas and thoughts, and discussing two possible models with them:
- Public
- Public/Private Evolution (this model would include implementation services as well as other offerings)

Their analysis of these two models is continually evolving through their discussions with their sponsor, the Agency for Healthcare Research and Quality (AHRQ), and other organizations and participants.

Lacy displayed a slide with a graphic depicting the "Framework for CDS Connect" and explained how the Sustainability project team has built on the different activities, inputs and outputs depicted in the graphic. This work included review of the measures and tangible activities such as the use of the artifacts in the Repository and other signs of progress. These measures and activities are considered in the analysis of the key performance indicators.

When considering the potential future state success, the team is considering the market incentives and drivers of the two models, public sustainment and public/private evolution, and determining the capabilities, benefits and tradeoffs for both. Lacy described the public model as similar to the current CDS Connect environment, as a top down effort aligned with a federal mission. The public/private model analysis includes reviewing organizations in need of scalable CDS, possibly as part of a Learning Health System. Both models have differences and similarities across areas like functional requirements, systems components, processes, ownership, development, outreach and community resources.

Lacy invited feedback from the WG. WG member comments:

    a. A WG member asked if the Sustainability team had considered partnerships with major medical societies or other workgroups that produce guidelines, who might consider creating their guidelines as CDS artifacts.

        i. Lacy responded that they had talked to a number of guideline groups as well as others who are curating evidence-based guidelines, and there seems to be many groups that are poised to move into this space.

        ii. Maria Michaels also mentioned the work being done for "Adapting Clinical Guidelines" as well as the promotion of CDS Connect as examples of this type of work.

    b. A WG member provided the following question in the chat box: "Does "Public", in this context, essentially mean Government?"

        i. Lacy responded this wasn't necessarily true but agreed that CDS Connect could be something that helped meet the mission statement of other federal entities. However, she said that it's not just the federal government arena that is being considered.

    c. A WG member was not sure he understood the difference between the two options of public and public/private and asked for further clarification.

        i. Lacy responded that the primary differences are defined in the market incentive text the team created. The Public model involves making the CDS Connect resource available to others, although users may have to figure out how to use it. The Public/Private model expands the services to include additional paid services, such as implementation services, although CDS Connect may still be free to use.

    d. A WG member asked about the involvement of point-of-care clinicians and citizen experts in these models? He thinks this may be a gap in both models.

        i. Lacy mentioned that there is an option that includes point-of-care participation in governance, and this may be an important feature for outreach and activity, but possibly not an important capability for the potential sponsor.

        ii. Mary Nix, AHRQ, commented that reviewing the use cases created as guides might help address these observations.

    e. A WG member wondered how someone would go about integrating an artifact from CDS Connect to a local electronic health record (EHR) instance.

        i. MITRE responded that this would depend on the EHR, and the ability to support a standard format and Clinical Quality Language (CQL) code, both of which may be capabilities in development today, making native integration difficult. MITRE created an open source tool, CQL services, which uses the standard for CDS Hooks, and many of the larger EHR vendors are incorporating this. MITRE has also integrated CDS using a Substitutable Medical Application, Reusable Technologies (SMART) on Fast Healthcare Interoperability Resources (FHIR) app. He cautioned that integration is not plug and play, and often depends on the EHR and standards incorporated.

        ii. Another WG member agreed that integrating an artifact from CDS Connect into an EHR would depend on the artifact and more specifically, how it is represented as well as the capabilities of the EHR to support CQL directly. In addition, the open source CQL Services prototype tool could be used to expose the CDS over a CDS Hooks application programming interface (API), if the EHR supports CDS Hooks.

    f. A WG member commented that what is being proposed is similar to the model of the Health Services Platform Consortium (HSPC), e.g., more of a public/private hybrid model. He mentioned that realizing the value of the end user is difficult. He also suggested that the curation of content should be the responsibility of trusted stewards such as specialty societies.

   i. Another member mentioned that a public/private model might include content stewarded by a network of specialty societies, with development and operational costs shared across the government agencies and 501(c)3 organizations similar to HSPC.

 g. Another WG member wondered if the team had discussed different sustainability models for the components of CDS Connect (e.g., the Repository, AT, prototype tools, content management, etc.)

   i. Lacy confirmed that this has been considered.

CDS Authoring Tool: Review Design for Importing External CQL, Noranda Brown (MITRE)

Chris Moesel introduced this topic by providing background on the request for importing external CQL into the AT. Although the AT is very robust, it cannot support all features available in CQL in a user-friendly way. In addition, some CDS authors may wish to leverage existing CQL that has been authored elsewhere. Thus, CDS Authoring Tool users have suggested adding the ability to import external CQL into the AT to integrate with the CQL being authored using the AT. Noranda Brown designed this feature, and feedback on the draft design was requested. Noranda then provided a demonstration of the design for exporting external CQL into the CDS AT.

WG member comments:

 a. A WG member thanked the MITRE team for this development effort, as they feel it will be very useful.

OY2 Pilot Status and CDS Artifact Development, Ginny Meadows (MITRE)

Ginny Meadows reviewed the completed pilot activities, as well as those that are currently in progress, and upcoming tasks. She also reviewed the final list of US Preventive Services Task Force recommendations that are being piloted, and provided an overview of the Level 2 artifact development for each. She described the approach that b.well is taking to design the intervention notifications and educational content. The educational content includes videos and quizzes that the user can complete to receive points towards different rewards. b.well's platform will also provide the ability to assist the user in scheduling an appointment with their primary care physician to discuss the recommendation, as well as links to other resources such as healthfinder.gov.

CDS Connect Outreach and Demonstrations, MITRE

Ginny Meadows provided information on a panel discussion occurring at the AMIA 2019 Clinical Informatics Conference in Atlanta on May 2. The title of the presentation is *To Share is Human! CDS Connect: A Growing National Repository of Shareable, Interoperable Clinical Decision Support.* Panelists include Ed Lomotan, AHRQ; Ginny Meadows, MITRE; Maria Michaels, Centers for Disease Control and Prevention; Jeremy Michel, Children's Hospital of Pennsylvania; and Kristen Miller, Medstar.

Sharon Sebastian provided information on CDS Connect participation at the American Council of Technology and Industry Advising Council *Igniting Innovation* conference and awards on May 23. The conference includes 40 exhibitors of competitively selected, cutting-edge innovations. Finalists and overall award winners will be selected by the attendees.

Open Discussion and Closeout

No one had any additional discussion, and the meeting was adjourned.