Clinical Decision Support (CDS) Connect Work Group (WG)

Meeting Summary

October 21, 2021

3:00-4:00 pm ET

Attendees: 39 people, including 3 phone dial-ins

Organization	Attendees
AHRQ Sponsors	Steve Bernstein, Edwin Lomotan, Mario Teran, James Swiger (4)
WG Members	Bryan Bagdasian, Randolph Barrows, Edna Boone, Joe Bormel, Raghavan Chandrabalan, Chris D'Autremont, Rina Dhopshwarkar, Preston Lee, Sandra Zelman Lewis, Dan Malone, Jeremy Michel, Maria Michaels, Peter Muir, Ryan Mullins, Neeraj Ojha, Jerry Osheroff, Kerri Patterson, Nazario Ruben, Max Sibilla, Prableen Singh, Andrey Soares, Matt Storer, Kiran Ubriani, Danny VanLeeuwen (24)
MITRE CDS Connect Members	Noranda Brown, Sam Carrillo, Matt Coarr, Lacy Fabian, Susan Haas, Michelle Lennox, Chris Moesel, Allie Rabinowitz (8)

MEETING OBJECTIVES

- Review themes prioritized in 2020 and current progress on those topics
- Review of the contractual objective of CDS Connect
- Review of the MoSCoW Method as the proposed framework for ongoing prioritization
- Open discussion
- Close

ACTION ITEMS

- MITRE and AHRQ will review the suggestions from the CDS Connect WG on prioritizations for the next contract year.

MEETING SUMMARY

MITRE addressed the need to identify ways to continue developing and improving CDS Connect by reviewing WG themes from last year. Basing this approach on the MoSCoW Method, MITRE asked the WG for their opinions on actions or goals that should be emphasized during the final contract year in 2021. The WG weighted the benefits of expanding the Repository against increasing the trust and

expanded use of existing artifacts. The WG noted an overlap between the two themes in that improving the Repository and Authoring Tool features would enable users to locate and understand the contents of artifacts, which in turn could lead to increased trust and expanded use. The WG provided a variety of additional suggestions. MITRE will review the feedback internally—as well as with AHRQ, patient partners, and other relevant stakeholders—to determine development priorities for the final year of its contract with CDS Connect.

Welcome

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

CDS Connect Priorities: October 2021 – September 2022

Lacy Fabian (MITRE) began the WG meeting by reviewing the goal of the conversation: To prioritize overarching themes for MITRE to pursue in improving CDS Connect during MITRE's final contractual year. MITRE and AHRQ plan to use the WG feedback—in conjunction with internal discussion, AHRQ advising, and patient partner feedback—to create a framework for achieving those suggestions. Dr. Fabian explained that MITRE's staff, time, and funding are limited; therefore, MITRE and AHRQ also intend to use an agile approach when selecting work to complete as needs and opportunities arise.

2020 WG Themes– Recap of Priorities and Current Progress

Dr. Fabian continued to review the results of the prior 2020 WG activity to prioritize themes for MITRE to improve CDS Connect. The WG had emphasized the following "must have" consensus items, which MITRE has begun to address.

1. Compliance with current standards.
   a. MITRE enforced standards compliance by updating CDS Connect artifacts to use Fast Healthcare Interoperability Resource (FHIR) version R4 and Clinical Quality Language (CQL) version 1.5.
   b. MITRE supported CQL version 1.5 in CDS Authoring Tool exports, external CQL, testing, and CDS Connect Prototype Tools.
   c. MITRE enhanced the support of Clinical Practice Guidelines (CPG)-on-FHIR, as well as enabled FHIR server callbacks in CQL Services CDS Hooks implementation.
2. Expanding the use of existing artifacts within CDS Connect.
   a. MITRE improved the content and design of the CDS Connect website by incorporating patient partnership in the development of artifacts.
   b. MITRE expanded the artifact search functions by incorporating a feature that allows a user to search by knowledge type.

The WG also recommended the following "should Have," second-tier consideration, which MITRE has also taken under advisement.

3. Increase trust.
    a. The Patient-Centered Clinical Decision Support (PCCDS) Learning Network's Trusted Use Frameworks Working Group (TFWG) identified and ranked nine key areas of focus for trust. Using this framework, MITRE created a roadmap that prioritizes more than 200 trust-related suggestions.
    b. MITRE improved the maintainability, reusability, and efficiency of CDS Connect Authoring Tool source code.
    c. MITRE adopted the National Library of Medicine's (NLM) Application Programming Interface (API) key authentication within the CDS Connect Authoring Tool and Prototype Tools.

Contractual Objectives of CDS Connect: Maintain, Keep Up-to-Date, and Meet Stakeholder Needs

In addition to considering and implementing WG suggestions for CDS Connect improvements, MITRE is contractually obligated to maintain CDS Connect, to ensure that the site's content are up-to-date and meet current standards, and to stay informed of and meet stakeholder needs.

Proposed Framework for CDS Connect Effort Prioritization: MoSCoW Method

MITRE recommended using the MoSCoW Method when selecting themes to prioritize. According to the method, a task falls into one of the following categories.[1]

*   Must Have: The most vital alterations that are critical to the success of the project.

*   Should Have: Tasks the team considers important, but not vital; generally, the team will attempt to include that task in a current period of performance if possible.

*   Could Have: The "nice to haves" that are not critical to success of project.

*   Won't Have: Actions that provide less value and are least critical to project success.

Dr. Fabian reviewed the general themes that the WG has considered in the past (enforcing standards compliance for artifacts and the Repository, ensuring artifact currency, expanding the Repository, expanding the use of existing artifacts, and increasing trust). Dr. Fabian also noted that for this coming year, MITRE and AHRQ have prioritized the enforcement of standards compliance and currency to ensure the maintainability of CDS Connect. For example, FHIR will require a minor version upgrade, the Authoring Tool should allow the option to download Expression Logical Model (ELM)

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[1] "Moscow Method." Wikipedia, Wikimedia Foundation, 23 Aug. 2021, https://en.wikipedia.org/wiki/MoSCoW_method.

extensible markup language (XML) file formats, and the existing standards for executing CQL version 1.5 require improvement.

With this context, Dr. Fabian asked the WG for advice on whether MITRE's efforts should be focused on expanding the Repository, or instead on increasing trust and use of CDS Connect artifacts. Repository expansion might include further building CPG-on-FHIR capabilities, as well as other improvements to the Authoring Tool and API features. Alternatively, methods to increase trust and bolster the use of artifacts could include improvements that facilitate the user experience in accessing and understanding the resources within CDS Connect. Dr. Fabian noted the caveat that it is difficult to measure exactly how users interact with artifacts, as current metrics of artifact downloads and page views do not allow follow up with or further input from users. Instead, MITRE relies on the WG members and other site users to voluntarily share their experiences with the platform and the artifacts.

Open Discussion

A WG member suggested prioritizing the communication and socialization of tools. Now that CQL is further advanced, the next step might involve promoting CDS Connect and how its tools are able to be reused.

A WG member inquired if MITRE intends to include the CQL-to-ELM translator in the JavaScript CQL execution engine. MITRE responded that when considering developing a JavaScript version of the CQL translator in the past, it found that the translator is extremely complex. MITRE and AHRQ believe it difficult to justify spending extensive resources on a capability that already exists. MITRE perceives worth in exploring other approaches, however, such as invoking the Java translator from JavaScript or making API calls to an external translation service.

A WG member who is a patient representative inquired whether the updated standards relate to public health or patient-recorded data. MITRE clarified they relate instead to representation of CDS logic and algorithms, as well as the FHIR framework. Other communities continue their work to address standards for public health and patient-generated data; CDS Connect will support these elements as appropriate.

A WG member explored the second presented theme of increasing trust in and use of CDS Connect. The WG member had a positive experience using CDS Connect in locating artifacts while working on a project at the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The WG member suggested that CDS Connect create marketable vignettes of use cases that promote AHRQ generally, as well as the organizations who use CDS Connect products and features.

Another WG member seconded the focus on expanding the use of CDS Connect; the platform will not benefit from expansion if it is not yet in use. Increasing trust in the platform will further promote implementation of these tools at the point-of-care.

A third WG member echoed this need but noted that certain efforts cross-cut between the two identified themes. For instance, expanding custom modifiers that sort or shape results is technically an improvement to the Authoring Tool, but that expansion also increases the functionality of the platform (including identifying and understanding artifact metadata) that could lead to increasing trust.

MITRE expressed interest in improving the capabilities of the platform to make it easier to navigate the content. It also suggested that users might be interested in subscribing to artifacts, allowing them to receive notifications on changes or updates. Another option is to incorporate a hybrid of Authoring Tool-created logic with manually entered CQL for use by advanced users.

Multiple WG members emphasized the interest in creating such a hybrid model in areas that the Authoring Tool might not be capable of generating.

A WG member noted opportunities for improving integration with the Centers for Medicare & Medicaid Services' (CMS) Measure Authoring Tool (MAT). Clinical decision support and quality measurement are closely related; one could imagine a quality measure triggering the activation of a CDS artifact. Moreover, libraries within CQL could be shared or reused across tools, further enhancing the applicability of the platform.

A WG member returned to the importance of increasing trust in and use of CDS Connect artifacts, suggesting that information on historical use of the system should be readily available so that users can match past work with their current research needs.

MITRE asked any WG members who were not able to contribute their suggestions during the meeting to send a note within the Zoom chat feature. WG members submitted the following items.

- A WG member reported on a recent Politico article that reviewed the future of similar repositories: https://www.politico.com/newsletters/future-pulse/2021/10/20/nonprofits-app-store-adds-a-new-twist-to-health-info-sharing-798310

- A WG member requested additional information about MITRE prioritization plans, including CPG-on-FHIR resources for existing artifacts, such as PlanDefinition. (This would be an enhancement beyond the current Repository CPG-on-FHIR implementation.)

- A WG member highlighted the importance of expanding the Repository, noting that many of the artifacts within CDS Connect are not yet mature and active. The member suggested that a focus on increasing use should not neglect the fact that most current artifacts are not yet ready for use.

- A WG member suggested prioritizing a standard for publishing content and metadata across the different agencies and organizations. Another WG member agreed with this notion, asking CDS Connect to share the documents applicable to metadata-management models and governance processes.

- A WG member suggested prioritizing the patient-centeredness of CDS Connect artifacts, along with continued learning and feedback from stakeholders.

Closing

Maria Michaels announced that the November CDS Connect WG Meeting will be cancelled; the group will next convene in December.