



# CDS Connect

**CDS (Clinical Decision Support) Connect Work Group  
Meeting Summary  
December 19, 2019  
3:00-4:30 pm ET**

**Attendees 33 people including 6 phone dial-ins**

<b>Organization</b>	<b>Attendee Names</b>
<b>AHRQ Members</b>	Ed Lomotan, Roland Gamache, Steve Bernstein, Shafa Al-Showk
<b>Work Group (WG) Members</b>	Maria Michaels, Danny van Leeuwen, Ryan Mullins, Jeremy Michel, Julian Brunner, Noam Artz, Marc Sainvil, Joe Bormel, Barry Blumenfeld, Michael Wittie, Tom Read, Rich Boyce, Rolinda Lacson, Sandra Zelman Lewis, Daryl Chertcoff
<b>MITRE CDS Connect Members</b>	John Boiney, Eileen Chang, Matt Coarr, Lacy Fabian, Susan Haas, Lisa Ide, Chris Moesel, Noranda Brown

## **MEETING OBJECTIVES**

- Share key takeaways for CDS Connect based on recently attended conferences
- Update the Work Group on the outcome of theme and trust attribute discussion
- Introduce a topical series to hear from members on their lessons learned using CDS Connect
- Discuss topics of interest to members relating to opportunities for CDS Connect
- Closing

## **ACTION ITEMS**

- Work Group members may email the MITRE CDS Connect team with ideas on presenters or presentation topics for upcoming Work Group meetings.

## **MEETING SUMMARY**

### **Key Takeaways from Conferences**

The slides recapped the highlights and observations from MITRE CDS Connect team attendance at two recent conferences: the Patient-Centered Clinical Decision Support-Learning Network (PCCDS-LN) Annual Conference (October 21, 2019) and the American Medical Informatics Association (AMIA) Annual Symposium (November 16-20, 2019).

- The MITRE team shared observations of notable themes and topics discussed at PCCDS-LN that related to CDS Connect and provided an overview of the CDS Connect system demonstrations and panel sessions that the MITRE team participated in.



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- The MITRE team shared a summary of presentations given and attended at the AMIA Annual Symposium and highlighted notable themes and discussion topics.

## **Questions from Work Group (WG) Members**

There were no questions from WG Members

## **Update on CDS Connect Priorities for September 2019-2020**

Lisa Ide provided a summary of the topics and sentiments raised by Work Group members and other CDS Connect stakeholders and described the resulting themes and priorities for trust that will be used to help inform maintenance and update activities for CDS Connect this year.

## **Questions from WG Members**

A WG member commented that discussions using the term “bias” in the context of trust, CDS Connect, and artifacts might be perceived negatively to lay audiences. Instead, the member suggested the term “health equity” to identify “equal opportunity for evidence and use.”

## **Sharing Lessons Learned with CDS Connect: Proposed Topical Series**

Lacy Fabian introduced the proposal for new topical series for upcoming WG meetings which would provide WG members an opportunity to share lessons learned around CDS Connect for discussion and insight into the value and impact of CDS Connect. WG members were invited to reach out to MITRE or AHRQ to volunteer topics and suggest presenters.

## **Questions from WG Members**

A WG Member commented that AMIA provides a similar opportunity for presentations on the use of CDS. Lacy Fabian responded that the focus of this work group series is on CDS Connect, specifically, and suggested that this forum could serve as an opportunity for members to pilot their thoughts and then share forward to AMIA.

## **Sharing Lessons Learned with CDS: Translation of C. difficile Infection Treatment Clinical Pathway into Machine-readable and Shareable CDS**

As an exemplar for the proposed topical series, Dr. Jeremy Michel (ECRI Institute - Penn Medicine Evidence-based Practice Center) provided a presentation on lessons learned using CDS Connect during a project to upgrade an existing L2 representation of a CDS module for C. difficile infection (CDI) to an EHR-ready format. The new L3 and L4 artifacts developed have been uploaded to the CDS Connect Repository.

Some key lessons learned for CDS Connect described by Dr. Michel included:

- The review of documentation and value sets required to prepare for the upgrade resulted in the identification of misspellings and inconsistent terminology in the value sets and original guidelines. These items were documented and provided to the publisher and are available for review.
- Dr. Michel’s team was able to use the CDS Connect Authoring Tool (AT) to express 90% of the required code for the upgrade; the remaining 10% of the code required manual coding.
- Some concepts included in the guidelines could not be coded because there were no value sets defined within the guidelines (e.g., duration complications with respect to recurrent infections).
- The team was required to create new subpopulations when using the AT if multiple courses of action applied to a single population.
- The team was able to achieve its goal of creating a CDS tool that enabled “2 click” use.



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- The version control in CDS Connect was very effective at providing visibility into version history; however, it is unclear how to make it known when an artifact exists at different levels and/or in different stages. This team determined to keep the artifacts linked but considered creating separate artifacts.
- Testing and validation of the CQL, which is still ongoing, is taking place outside of the AT due to the custom code.
- The team found it easier to use the clinical pathway/L2 artifact as a source for creating the L3 and L4 artifacts vs. using the original guidelines as the source.

## Questions from WG Members

Question #1 - An AHRQ Member inquired about the tool used to generate the value sets. Dr. Michel responded that the tools and methods were based on his prior experience with quality measures and used a standardized query language (SQL) database and Guidelines Element Model (GEM) to support a librarian-based search within terminology. This search was the key to creating the value sets.

Question #2 – A WG Member asked whether there is a routine or process that could be automated to identify the CQL routines that you need to develop from the L2 artifact. Dr. Michel responded that it is possible to break out the logic from the L2 artifact and replace it with computer code. The GEM format is used as a “scaffold” to replace L2 logic elements with the code.

Question #3 – A WG Member commented that the process described aligns well with the approach being followed to adapt clinical guidelines for the digital age. Dr. Michel indicated that he was glad to hear his approach was in alignment with that effort.

## Closing

At the end of the meeting, it was announced that one of the topics planned for the January 2020 WG meeting will be FHIR Guidelines and CDS Connect including a discussion of CPG-on-FHIR.