



AGENCY FOR HEALTHCARE RESEARCH AND QUALITY



October 2021 CDS Connect Work Group Call



CDS Connect

Agenda

Schedule	Topic
3:00 - 3:02	Roll Call, Michelle Lenox (MITRE)
3:02 - 3:05	Review of the Agenda, Maria Michaels (CDC)
3:05 - 3:50	Share and Discuss CDS Connect Priorities through September 2022, Lacy Fabian (MITRE)
3:50 - 3:55	What's New with CDS Connect This Month (MITRE)
3:55 - 4:00	Open Discussion and Close Out, Maria Michaels (CDC) <ul style="list-style-type: none">• Open discussion and announcements• Concluding comments, review next steps, and adjourn

Objectives

- Recap last year's priorities and themes and resulting new features in CDS Connect
- Prioritize activities for CDS Connect's next year through September 2022
- Discuss topics of interest to members relating to opportunities for CDS Connect

SHARE AND DISCUSS CDS CONNECT PRIORITIES THROUGH SEPTEMBER 2021

Lacy Fabian, MITRE

Last Year's General Themes and New Features



- "Must Have" General Themes:
 - ▶ Enforce Standards Compliance (Artifacts)
 - Update artifacts developed by CDS Connect to use FHIR R4 and CQL 1.5.
 - Support CQL 1.5 in CDS AT export, external CQL, and testing.
 - Support CQL 1.5 in CDS Connect Prototype Tools (CQL Services and CQL Testing).
 - Enhance support of CPG on FHIR constructs in CDS AT.
 - Perform FHIR server callbacks in CQL Services CDS Hooks implementation.
 - ▶ Expand the Use of Existing Artifacts
 - Expand site redesign to include patients, ease of CDS artifact search by knowledge type.
- "Should Have" General Themes:
 - ▶ Increase Trust
 - Improve maintainability, reusability, and efficiency of CDS AT source code.
 - Switch to the National Library of Medicine's (NLM) API key authentication in CDS AT and Prototype Tools.

Last Year's Trust Attributes to Rank Potential Stories within each Theme

- Trust attribute with (relatively) greatest influence on trust:
 - ▶ Evidence-based
 - The evidence instantiated within an artifact must apply to the clinical condition it is meant to support
- Trust attributes with (relatively) greater influence on trust:
 - ▶ Discovery & Accessibility
 - The evidence behind an executable knowledge artifact is documented (discoverable) from metadata associated with the artifact
 - ▶ Transparency
 - A knowledge artifact should be applied and used ethically to clearly convey all potential conflicts of interest and disclosures of interest related to its development or recommendation to detect bias or discrimination in its use
 - ▶ Feedback and Updating
 - Stakeholders have the functional ability to provide timely feedback and suggest improvements to a knowledge artifact
- Trust attributes with (relatively) lesser influence on trust:
 - ▶ Compliance
 - ▶ Competency
- Trust attributes with (relatively) least influence on trust:
 - ▶ Organizational Capacity
 - ▶ Patient-centeredness
 - ▶ Consistency

CDS Connect Objectives: Maintained, Up-to-date, Meeting Stakeholder needs

Accomplishments

- Enhanced usability, applicability, and expressiveness for authors using the CDS Authoring Tool
- Improved maintainability and re-usability of source code for developers of the CDS Authoring Tool
- Added four CDS artifacts to the Repository (totals 65)
 - ▶ Updated site content and graphics to include patients, promote WG participation, and further describe artifact update process
 - ▶ Streamlined CDS Connect account sign up for all stakeholders
 - ▶ Improved artifact search to add faceted search and simplify UI
 - ▶ Updated artifact data elements to align with CPG-on-FHIR specification (nearing beta testing)
 - ▶ Upgrade to Drupal 9.0 (final testing and deployment planning underway)
 - ▶ Continued review and update process with outside contributions
- Maintained stakeholder community, including account management, email list of approximately 600 interested parties, and 130+ member Work Group
- Began tracking monthly use statistics for CDS Connect

Goals

Stakeholders from myriad organizations want and trust CDS Connect...

- Monitoring and feedback of technical use and impacts on practice
- Maintainability and Reusability
- Interoperability, alternate data sources, and scalable CDS

DISCUSSION: CDS CONNECT PRIORITIZATION THROUGH SEPTEMBER 2022

Discussion: Work Group Prioritization Input

Mo

Must Have: Most vital things you can't live without; critical to the success of the project.

S

Should Have: Things you consider important, but not vital. Try to include this year if possible.

Co

Could Have: The “nice to haves.” Not critical to success of project.

W

Won't Have: Things that provide less value; least critical to project success.



Discussion: Weighing Priorities (1 of 2)

How would you rate the relative importance of each General Theme this year? Why?

1. **Enforce Standards Compliance (Artifacts)**

- Update artifacts already in Repository to ensure compliance with applicable standards
- Ensure CDS Connect provides consumable CDS now and in the future

Mo

Must Have: *Most vital things you can't live without; critical to the success of the project.*

2. **Enforce Standards Compliance (Repository)**

- Define and implement submission coding and metadata standards
- Ensure CDS Connect provides consumable CDS now and in the future

S

Should Have: *Things you consider important, but not vital. Try to include this year if possible.*

3. **Ensure Artifact Currency**

- Update / validate artifacts to ensure they reflect the most recent clinical guidelines
- Ensure that CDS Connect artifacts provide value to the CDS ecosystem

4. **Expand the Repository**

- Improve usability and workflow and support development / addition of new artifacts
- Expand the footprint for CDS Connect as primary government source for CDS artifacts

Co

Could Have: *The "nice to haves." Not critical to success of project.*

5. **Expand the Use of Existing Artifacts**

- Improve usability and update Repository to support expanded use of existing artifacts
- Demonstrate the value of CDS Connect

W

Won't Have: *Things that provide less value; least critical to project success.*

6. **Increase Trust**

- Implementing recommendations from the Trust Framework Work Group
- Enhance stakeholder confidence in CDS Connect

Theme: Enforce Standards Compliance (Artifacts)

- Support FHIR 4.0.1 (vs. 4.0.0) in the CDS AT for external CQL and CQL download.
- Add ELM XML representations to CDS AT artifact downloads.
- Improve format and layout of downloaded CQL in the CDS AT.
- Improve support for executing CQL 1.5 in CDS AT and open-source tools.*
- Update open-source tools* to follow latest standards and best practices (as applicable).

* CQL Services and CQL Testing Framework

Selecting the Next CDS Connect Option Year Two

“Must Have” Theme

Theme: Expand the Repository

- Complete existing workstreams including CPG-on-FHIR implementation and Drupal/PHP updates
- API for CDS artifact entry/upload to CDS Connect
- Refine presentation of content in each entry (e.g., glossaries, extra-long content)
- Improve management of content currently managed as code
- Add CQL “programmer’s editor” to CDS AT to allow for direct CQL entry
- Expand CDS AT custom modifiers to potentially support features such as inter-element logic, sorting results, and/or reshaping results
- Support returning structured data (e.g., MedicationRequest) as recommendations in CDS AT

Theme: Increase Trust/Expand Use of Existing Artifacts

- Make the site easier to use and making the user experience better
- Showcase success stories on the website
 - ▶ Inspire stakeholders and users to begin thinking about improvement and next generation of CDS Connect
- Expand site redesign to increase implementation and attract new users
- Expand artifact discovery features like sorting searching or using a fork or schematic to show other related CDS artifacts
- Continue improving maintainability, reusability, and efficiency of CDS AT source code





Discussion: Weighing Priorities (2 of 2)

How would you rate the relative importance of each Trust Attribute this year? Why?

1. **Competency:** An actor is deemed competent in role played in CDS ecosystem.
2. **Compliance:** A knowledge artifact should conform to defined standards and criteria including copyright and intellectual property.
3. **Consistency:** A knowledge artifact should repeatedly generate expected results over time when given requisite inputs.
4. **Discoverability & Accessibility:** The evidence behind an executable knowledge artifact is documented (discoverable) from metadata associated with the artifact.
5. **Evidence-based:** The evidence instantiated within an artifact must apply to the clinical condition it is meant to support.
6. **Feedback and Updating:** Stakeholders have the functional ability to provide timely feedback and suggest improvements to a knowledge artifact.
7. **Organizational Capacity:** An organization that sponsors knowledge artifact development should be capable of maintaining a knowledge artifact.
8. **Patient-centeredness:** When possible, a knowledge artifact should leverage patient-centered outcome research findings and/or patient-specific information.
9. **Transparency:** A knowledge artifact should be applied and used ethically to clearly convey all potential conflicts related to its development.

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WHAT'S NEW WITH CDS CONNECT

Matt Coarr and Chris Moesel, MITRE

Updates and New Features

- Authoring Tool
 - ▶ Ongoing improvements to the query builder (currently focused on usability)
 - ▶ Continued work to improve maintainability and re-use
- Repository
 - ▶ Drupal 9 upgrade of CDS Connect Repository is being deployed shortly
 - ▶ CPG-on-FHIR and API updates are ongoing in development
 - ▶ Fixed sorting of recently updated artifacts on search page and user account home page
- Link to CDS Connect: <https://cds.ahrq.gov/cdsconnect>

ANNOUNCEMENTS, OPEN DISCUSSION, AND CLOSE-OUT

Maria Michaels
Centers for Disease Control and Prevention