C-CDA Value Set Release Package Annual Update Process
2023

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1 Continuous Activities for C-CDA Committee Members

1.1 Jira

The community of C-CDA specification users will submit proposed specification changes (including Termination updates) to the C-CDA Specification Project (https://jira.hl7.org/projects/CDA/summary) in the HL7 Jira. To gain access to create/update tickets in this Jira project, contact the HL7 project manager for this project for permissions to be updated.

Note: As of completion of the 2023 annual update, Josh Prociou is the point of contact to assist with Jira and Confluence account management for HL7.

- How to create an account to HL7’s Confluence site: See instructions on Create Issue - Jira (hl7.org)
  - NOTE: the same account for Jira will be used for Confluence
  - When requesting an account for the C-CDA Value Set update, note in the message that you will need permissions to edit and create pages.
- Creating Confluence pages
- See Documentation & Help - HL7 Documentation & Help - Confluence

Tip: Because all major updates to an HL7 specification must go through the balloting process, it is helpful to understand how Jira is used in balloting. The HL7 Jira instructions related to balloting can be found on this Confluence page: https://confluence.hl7.org/display/HL7/Jira+Ballot+Process

1.1.1 Track all open Value Set items for next annual update project

Each year there is a table in the C-CDA Value Set Update for tracking any value set issues that either were not addressed (due to timing, etc.) in the last release or were submitted between the updates. These issues can be reported and added into the table by anyone that has a HL7 Confluence account.

An example table is available at this link: https://confluence.hl7.org/pages/viewpage.action?pageId=120757052#CCDAValueSetUpdatefor2022-2021-2022ValueSetIssueTracker.

The 2024 Value Set update page at C-CDA Value Set Update for 2024 - Structured Documents - Confluence (hl7.org) has a table that includes outstanding items from the 2023 Value Set update. Any Jira tickets that are related to the update can be logged on this page for review during the next update. Section 1.1.2 of this document provides additional information regarding Jira tickets that may not be logged yet in the table.

Triage incoming Jira issues

Jira issues addressed during this annual C-CDA value set update process are tagged as "Terminology" in the Jira issue Grouping field and are applied to one of the specifications of this annual update process (see the Specification field in the Jira issue).
Appropriate use of the “Terminology” tag as Jira issues are submitted throughout the year will reduce burden at the start of the value set release package update project. At times, there may be issues tagged as “Terminology” erroneously and the tags should be removed. Conversely, there could be the scenario that there is a terminology issue that was not tagged appropriately. Socializing to the HL7 Community the need to ensure appropriate tagging can reduce the burden at the start of the project to ensure all Jira issues are labeled appropriately. To identify Jira tickets that may be related to terminology but have not been appropriately tagged, we developed the following Jira query.

- **Jira search:** Groupings (project = CDA or "Project Description" is empty) and (text ~ "terminology" or text ~ "term" or text ~ "value set" or text ~ "valueset") and createdDate >= 2022-03-01 and status in ("Resolved - change required", Submitted, Triaged)

Additional links that may be helpful:
- **Terminology Dashboard tracks all** Jira tickets that are tagged with Terminology. Note: Users must have a HL7 Jira account to access this link.
  - [Terminology Dashboard - Jira (hl7.org)](https://terminologydashboard.jira.com)
- **Resolution statuses**
- **How to submit a Jira ticket if an issue is discovered during the update period**
- **Additional documentation to support Jira queries.**
  - [Advanced searching | Jira Software Data Center and Server 9.10 | Atlassian Documentation](https://confluence.hl7.org/pages/viewpage.action?pageId=19136736#AdvancedSearching)
  - [https://confluence.hl7.org/pages/viewpage.action?pageId=19136736#AdvancedSearching](https://confluence.hl7.org/pages/viewpage.action?pageId=19136736#AdvancedSearching)
- **Coordination/alignment between CDA and FHIR**
  - [C-CDA to and from US Core Mapping - Cross-Group Projects - Confluence (hl7.org)](https://confluence.hl7.org/pages/viewpage.action?pageId=19136736#CrossGroupProjects)

Tip: Look for tickets that were marked Resolved-Change Required after the last value set update was published to catch the tickets that were resolved too late to be included in last year's update.

1.2 Structured Documents Workgroup

The HL7 Structured Documents (SD) Workgroup (WG) meets weekly on structured document standards, specifically the CDA implementation guides. The weekly meetings are open to the public, and the call
information is available on Confluence (https://confluence.hl7.org/pages/viewpage.action?pageId=40737257).

During these calls, the SD WG discusses and votes on proposed resolutions for CDA related Jira issues. The role of the C-CDA Value Set team is to propose updates to address Jira issues that have been submitted and tagged as “Terminology” and present those proposals to the SD WG for approval. A member of the C-CDA Value Set team should join these weekly calls during the project period, and Jira issues related to this annual update process should be added to the Structured Documents weekly agenda.
2 Initiate Project Management for Annual Value Set Update Project

2.1 Update/adjust Confluence site for the project

Currently the C-CDA annual value set update pages are located in the Structured Documents Workgroup Confluence pages under the Consolidated CDA (C-CDA) Project:
(https://confluence.hl7.org/display/SD/Consolidated+CDA+%28C-CDA%29+Project)

The Value Set Update project team should review the past year’s project content pages, timeline and schedule for an approximate project schedule and milestones. See the 2023 page as an example: C-CDA Value Set Update for 2023 - Structured Documents - Confluence (hl7.org)

To get access and rights to create, edit and delete the HL7 Confluence site pages for this project, project team members should use this link: Create Issue - Jira (hl7.org)

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**Tip:** When requesting an account for the C-CDA Value Set update, note in the message that you will need permissions to edit and create pages.

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**Requesting a new Jira/Confluence account**

HL7 Jira/Confluence accounts are free and available to anyone (including non-members). By requesting an account, you are indicating that you understand and agree to abide by HL7's Acceptable Use Policy.

Accounts are only needed to create/update content. This account will be separate from your HL7 membership account, though the email addresses should be the same. To submit ballot comments, you must sign up on the Ballot Desktop in addition to requesting an account. Users should only request multiple Jira/Confluence accounts if they will be balloting for multiple organizations or otherwise need accounts with different permissions. (Note this in your request if it applies to you.)

Do NOT create a new account if your email address or name has changed or you have forgotten your user information - instead send an email to webmaster@hl7.org.

Submissions will be processed in 1-2 business days (to allow verifying you are a real human and checking for duplicate accounts). We may contact you by email if there are questions about your request. Once approved, you will receive an email asking you to set a password.

Additional documentation on updating and creating Confluence pages can be found here Documentation & Help - HL7 Documentation & Help - Confluence
2.2 Determine target code System versions with ONC

The USCDI process will set the target code system version to use in the Program Release for the upcoming year. This should be established prior to establishing the detailed project plan because the timing of code system version availability in VSAC will impact when certain tasks can begin. The code systems versions available on VSAC can be found on this page: https://www.nlm.nih.gov/vsac/support/authorguidelines/code-systems.html.

2.3 Determine scope of Implementation Guides from which the Value Sets will be pulled


Any Implementation Guides listed on the Product Brief page including the Companion Guides, defining new template versions and additional templates for regulatory requirements, and Supplemental Implementation Guides, defining new template versions and templates for additional use cases, will be in scope for the project. Confirm that all value sets from all the guides are included in the review.

Tip: For value sets or code systems that are in HL7 THO HL7.TERMINOLOGY\HL7 Terminology Home Page and not in VSAC, contact your HL7 Project Manager or enter a ticket at UTG Change Proposals.

2.4 Hold NLM Kickoff Meeting

With the contact information provided from HL7, set a meeting time with VSAC team and C-CDA Value Set teams. During the meeting, confirm the following:

1. Confirm target Release Date
2. Review any process changes from prior year
3. Review expectations from SOW, HL7, NLM.
4. Determine the IG’s that will be included in the current review process.
5. Subscribe to current year’s Collab Site
   a. Link for accessing the VSAC Collab Site: https://vsaccollab.nlm.nih.gov/collab/page/site/c-cda-r21-20200626/dashboard (updated link will be provided by NLM)
6. Schedule additional meetings as needed meetings with involved parties to discuss timeline, assign duties, expectations.

Additional items to note:

- NLM will provide a finalized schedule to the C-CDA Value Set team after this meeting. Updates to any Confluence pages with schedules should be made to align with the final version. Also, save a copy of the updated schedule received from NLM.
As of 2021, ONC does not fund delta report development and no delta report file was provided. ONC may determine that this function should be added in future releases and the request for this report would be addressed at this meeting.

2.4.1 Sample instructions provided by NLM

Below is a previous message sent from NLM to the C-CDA Value Set team after the initial kick off meeting to provide an example of how the timeline is established.

Instructions for C-CDA Team:

NLM and C-CDA met for a kickoff meeting on 6/8. We will schedule a pre-submission meeting in late July.

All value sets must be in the Approved or Published status by 07/13.

All specifications (final spreadsheet template) must be submitted by C-CDA to the C-CDA Collaboration Site By 07/13.

For the upcoming C-CDA Program Release, VSAC will use your latest published definition for all your value sets.

The manual ‘Assign Release,’ in VSAC Authoring, is rare and only necessary if you need to use an earlier-than-latest published definition version of a value set. If necessary, C-CDA may ‘Assign Release’ to a value set definition only after NLM creates the release structure for C-CDA in My Program Releases, scheduled 07/20.

C-CDA Team reviews the VSAC C-CDA Download page to verify and update text/links/content, due 07/13.

C-CDA Team reviews the pre-release downloadable spreadsheet, provided to C-CDA by NLM on 08/04.

2.4.2 Sample Downloadable Files Provided by VSAC

Files that are available can be found at https://vsac.nlm.nih.gov/download/ccda:

- C-CDA R2.1 Value Sets: Excel, Text, and XML (Text format includes readme.txt, packaged in the Text zip file)
- code system Versions Currently in C-CDA R2.1 Value Sets: Excel
- C-CDA R2.1 Value Sets Available in VSAC: Web page table
- C-CDA R2.1 Value Sets Unavailable in VSAC: Web page table

If desired, users can download C-CDA value sets using the VSAC Browser:
2. Click on the orange Search button in the HL7 C-CDA Value Sets program tile.
3. In the Matched Value Sets table of the Search Results, increase rows to 120, using the dropdown.
4. Select the check box at the top of the table (check all), select the Download link, choose Download Type.
5. If there are more than 120 C-CDA value sets, advance to the next page to download the remainder. Limiting downloads to 120 value sets per download is necessary to protect the load on the servers.

2.4.3 Sample My Program Releases

1. NLM will provide access to the C-CDA Value Set team for the VSAC Collaboration website (https://vsaccollab.nlm.nih.gov/collab/page/). All C-CDA Value Set team members will need to have an account on VSAC’s site prior to being able to access the VSAC Collaboration website. Usernames will need to be provided to NLM upon request. To set up the initial account for VSAC, visit https://vsac.nlm.nih.gov/. The VSAC Collaboration site will provide a platform for sharing documents and any discussion that is needed during the project. Project lead should confirm all C-DDA Value Set team members have access to the Collaboration Site.
2. Within the Collaboration site, there will be a Wiki with instructions, and it is recommended to turn on email notifications for updates to the site. There is a widget for Value Set Site Content for all the documents that will be shared to and from NLM, Data Lists for any issue tracking or meeting agendas, and one for Discussion Threads for communication with NLM.
4. NLM provides draft downloadable spreadsheets for C-CDA Value Set team to review, submitted to CVSAC Collaboration Site.

2.5 Create detailed project plan

After meeting with the NLM team, the project manager will develop a project plan and timeline based on prior year’s work and make any adjustments as needed. The C-CDA Value Set team will need to meet typically on a weekly basis to review progress and discuss how to address any known issues. These meetings are open to any HL7 member and should be added to the HL7 calendar at http://www.hl7.org/concalls/Default.aspx by contacting the Structured Documents Co-chairs to have the meeting added to the calendar. Weekly updates will be needed at the Structured Documents Workgroup. The schedule for when the Structured Documents Workgroup (SDWG) meets is also available at the HL7 calendar site.

Important deadlines to be considered is the last day for the NLM team to request inclusion of new HL7 code systems in VSAC, must be 3 weeks before needed. Insertion of non-HL7 code systems are not funded by the current Inter-Agency Agreement. Additionally, the C-CDA Value Set team may submit spreadsheet templates
early for more time with “My Program Release” dashboard.

2.6 Update/adjust Confluence

In accordance with any changes made to the project plan, ensure that the appropriate updates are reflected on Confluence as well. Create additional pages as needed for Announcements, Meeting information, etc. Review the prior year’s pages for additional information.

2.7 Announce project deadlines

After the project plan is completed and approved by the both NLM and the C-CDA Value Set team, announcements should be shared on Zulip Chat C-CDA Stream and listservs for all HL7 workgroups with CDA IGs that are in scope from the project.

- HL7 Zulip C-CDA Stream (894) #C-CDA - FHIR Community - Zulip
  - c-cda.95cddcd9329ef26f843400a279ab33219.show-sender@streams.zulipchat.com
- Example at (894) #C-CDA > 2023 C-CDA Value Set Update Now Available in NLM VSAC - FHIR Community - Zulip

To confirm HL7 workgroup sponsors for each CDA IG within scope of the project, navigate to the Standards-based Product Grid (Standards-based Product Grid | HL7 International) and enter the title of the IG.

Click a Product for more information

After selecting the appropriate guide and navigating to the product page by clicking on the title, scroll to the bottom of the page to identify the responsible work group as shown below.
After identifying the responsible workgroups for all IG’s in scope, navigate to http://www.hl7.org/myhl7/managelistservs.cfm and create an account for HL7 if needed or log in to your HL7 account. Once logged in, select the work group name from the “All Public Lists” on the left of the screen and select JOIN.

Once you have joined the group, you will see a message with the email address for the listserv as shown below.

Alternatively, you can navigate to Work Groups - Health Level Seven | HL7 International and select the name of the work group. Select Listservs from the tabs to see the email address to send the announcements to. If you are not currently subscribed to the listserv, you can select JOIN from this page as well. You must be subscribed to the listserv to send messages to the work group.
2.7.1.1 Example announcement

Title: 2021 Annual Value Set Update Cycle Has Started for C-CDA R2.1

On March 4, 2021, Structured Documents WG announced it has begun the annual update of value sets used by templates defined in C-CDA R2.1 and its companion and supplemental implementation guides (IGs). This includes the value sets used in the following IGs:

- HL7 Implementation Guide for CDA® Release 2: Consolidated CDA Templates for Clinical Notes (US Realm) Draft Standard for Trial Use Release 2.1
- HL7 C-CDA Templates for Clinical Notes R2.1 Companion Guide, Release 2
  - HL7 C-CDA Templates for Clinical Notes R2.1 Companion Guide, Release 2 Appendix A
  - HL7 C-CDA Templates for Clinical Notes R2.1 Companion Guide, Release 2 Appendix B UDI
  - HL7 C-CDA Templates for Clinical Notes R2.1 Companion Guide, Release 2 Appendix C Provenance
- HL7 CDA® R2 Implementation Guide: C-CDA R2.1 Supplemental Templates for Pregnancy Status, Release 1 – US Realm
- HL7 CDA® R2 Implementation Guide: C-CDA R2.1 Supplemental Templates for Nutrition, Release 1 - US Realm
- HL7 CDA® R2 Implementation Guide: C-CDA R2.1 Supplemental Templates for Infectious Disease, Release 1, STU 1 - US Realm
- HL7 CDA® R2 Implementation Guide: Consolidated CDA Templates for Clinical Notes; Occupational Data for Health Release 1.1 – US Realm

This year the C-CDA value set annual update also will be identifying value sets aligned with the value sets used in US Core profiles for draft USCDI V2 data elements. If you have interest or prior mapping work in this area which you would like to contribute to this analysis, it would be appreciated.

The work will be discussed during the weekly SDWG calls on Thursday from 10am - noon ET. The task force doing the analysis and updates also meets on Tuesdays 4pm-5pm ET. A C-CDA Value Set Update for 2021 Confluence page has been established for this aspect of the C-CDA project. SDWG is
tentatively targeting the new value set expansion release package to be published on the NLM Value Set Authority Center in August 2021.

Terminology issues reported through Jira for these specifications **before April 13th, 2021**, will be considered for this update cycle. If you have questions, please contact Lisa Nelson (Lnelson@max.md).
3 Perform Value Set Prep

3.1 Confirm that we intend to include legacy codes in expansions

Due to the approach taken by VSAC, this choice is currently a global choice across all value sets in the release. Therefore, we must confirm that all legacy codes that exist in the value set definitions selected to be used for the release should be included in our expansions. If a specific value set should NOT have current legacy codes, an updated version must be created that removes them.

3.2 Update the source-of-truth list of all value sets used by C-CDA R2.1

1. Perform a value set inventory and update the “Starter List” of C-CDA R2.1 value sets from the prior year’s Release Package, accounting for any new or changed templates that caused new value sets to be added or existing value sets to be deleted or changed.
   a. Each IG should have a list of value sets that are included in the IG, usually as a table at the end of the IG. Alternatively, reviewing any change log that is available in the IG should provide a cross reference for newly added value sets. Note that there are times that the IG export from Trifolia does not provide a complete list of value sets included in the IG and a manual review of the IGs may be needed to confirm any changes, especially if there was an update to the IG since the last Value Set Annual Update.
2. Identify any new C-CDA R2.1 Supplemental IGs and add value sets used by those IGs to the list of value sets in scope for the Annual Update
3. Individually identify all member value sets used by any Grouping value sets.
   a. Update the tab for all Grouping value sets to show the associated Member value sets (just like the other tab, but with two additional columns for Grouping Value Set name and OID)
4. Confirm the source-of-truth for a value sets in the release where the source-of-truth is not VSAC.

3.3 Review prior year value set definitions and expansion

Note any of the following:

1. Definition should be modified from extensional to intentional as much as possible.
2. Updates needed based on code system changes (independent of Jira Issues) for example CVX, RxNorm, or any other code system that has changed and new concepts need to be added to extensional value sets.
3. Changes to harmonize across product families with similar value sets.
4. Determine if any new legacy codes need to be retained during the process of reviewing the expansion that was used in the prior release using the code system version chosen for the new release. Codes that are no longer active are candidates for being legacy codes in the upcoming release. All codes that are to be kept as legacy codes should stay in the value set definition.
3.4 Identify value set definitions that need to be added to VSAC based on the release value set list

1. If the code system is supported by the NLM, mark the new value set as VSAC being the source of truth.
   a. For value sets that will be sourced from VSAC, but they do not yet exist, create their definitions in VSAC.
2. If the code system is not supported by the NLM, mark the value set(s) with the correct location of the source of truth.

3.5 Determine if any previously unavailable value sets are now available in a referenced location.

Review the prior year release prep sheet tab for value sets unavailable in VSAC for a list of value sets that were not available in the previous release. Confirm if the value set OIDs are currently not available by searching established repositories for each OID. Typically, searching for the OID in a web browser will provide information on any updated reference information. If any are now available in an established repository, update the spreadsheet by adding the appropriate links to the established repository and additional information as needed.

3.5.1 Update the code system Review tab

For any value set that now has an established location, it also will have a specified code system. If the value set is going to be sourced through the VSAC, the code system will also need to be added to the Value Set Prep spreadsheet in the code system Review tab. The code system version that will be used for the expansion also needs to be noted in the documentation.

Tip: Complete this step prior to the deadline for identifying new code systems to NLM provided in the project plan
4 Process HL7 Jira issues for terminology

4.1 Review the list of Jira Comments for C-CDA R2.1 and any companion or supplemental IG’s

1. Identify any issues related to value set update and add a tag on these comments for the annual terminology update. Note: SDWG should tag Jira issues as "Terminology" prior to the Value Set update.
   a. One option is to use the Terminology Dashboard - Jira (hl7.org)
   b. Additionally, one can use the Issue Navigator - Jira (hl7.org) with the Search of
      ii. 2023 update included the following search (project = CDA or "Project Description" is empty) and (text ~ "terminology" or text ~ "term" or text ~ "value set" or text ~ "valueset") and createdDate >=2022-03-01 and status in ("Resolved - change required", Submitted, Triaged)

2. Triage the Jira Issues for each valueSet, proposing needed change and comment disposition. Engage with SDWG to resolve and vote on all issues to be addressed.
   a. Overall process and steps for resolving Jira issues can be found at the following links:
      ii. Managing Specification Feedback - HL7 - Confluence

3. Define the release set material and send to NLM so we can use the release manager.

   a. Confirm the list of value sets the Steward will review.
      i. Note that some are value sets where the organization is already the steward.
      ii. Others may be of interest due to the content or usage - the maintenance change may be to recommend a change in the stewardship.
      iii. Review the Purpose Statements.
      iv. Fix any bad Purpose statements.
         1. The purpose statements need to be explicit with respect to the kind of concepts that need to be in the value set AND the definition takes into
consideration the scope of the definition to make sure the definition and the concepts in the value set match.

v. Each year we add some new rules that help make purpose statements more consistently specified. “Bad purpose statements” may simply mean they include one of the items we are attempting to clean up.

Tip: Community instructions on how to submit Jira issues can be found on Confluence: https://confluence.hl7.org/display/HL7/Specification+Feedback

4.2 Develop proposed dispositions for how to address issues and get approval from SDWG

After confirming that all Jira tickets are compiled on the prep sheet that are related to the value set update, sort the tickets based on the value set(s) that would be impacted by the ticket. This is important to consider possible conflicting resolutions when determining dispositions. Once any related and duplicate tickets are associated, begin to draft dispositions for approval at the Structured Documents Work Group meetings. Ensure that there are no conflicting resolutions affecting a value set or code system.

If the issue is tagged for "Errata", the C-CDA Value Set team should propose a disposition status and put the ticket on the schedule for the SD WG to vote on. If the issue is tagged "Ballot", the approved changes will be made and included in the next ballot and will be assessed by the community there. The issue should still be reviewed and voted on during the value set update, but the ballot team will execute the value set change (assuming the next ballot cycle is in September).

4.3 Document associated approved Jira tickets in the source of truth value set list prep sheet

Within the prep sheet, note dates of scheduled votes and confirm proposed dispositions are added into Jira for community review.
5 Perform Value Set definition updates

1. Identify Value set definitions needing review.
   a. Make Value set definition changes.
2. Determine where each value set is used, assess if usage is correct and concepts make sense, achieve what is desired for the coming year.
3. Understand the relationship of the value sets to the data elements using the value set in specific contextual areas of the data models (templates for CDA).
4. Confirm if the concepts in the value set make sense for the identified usage.
   a. Consider the constraints on the data element in the model and the constraints of the value set binding.
5. Identify any changes needed to advance evolutionary strategies to improve data quality over time, seek greater alignment, or expand the richness of what is expressed and shared between systems.

5.1 Determine what impact will result from changes in the underlying code systems used to build the Value Sets, as defined.

1. Create a deadline for determining the version of each code system to be included. When selecting the code system version, note the timing dependencies. All content expansions have to be completed prior to the final submission of the Release Package Request. The version of the code system that is to be used must already be available in VASC in time to permit those expansions to be QA’d.
2. Determine if any provisional SNOMED CT or LOINC codes are needed and work with VSAC to address how to include them. https://www.nlm.nih.gov/vsac/support/usingvsac/provisionalcodes.html
3. If the value set definition is “intensional” (defined as a logical expression) does the new value set expansion using the updated version of the code system produce the right set of concepts for the intended use of the value set?
   a. If no, adjust the value set definition.
      i. For example, exclude unwanted concepts. You may need to allow for legacy codes to be included in the value set definition.
   b. If the value set definition is “extensional” (defined as an enumerated list of concepts), are changes needed to add new concepts that have become available in the updated version of the code system.
4. Document other changes you may want to advance as incremental changes to raise expectations and shift toward higher data quality.
5. Document any Rubric Rules you would like to propose for inclusion in the SDWG process defined to raise the bar for implementer expectations.
   a. See C-CDA R2.1 Companion Guide R2 for a detailed explanation about how this layered approach to conformance works and a description of how this process is used to incrementally change and improve C-CDA templates.
When adding a disposition that includes an update to a code system, the disposition should include information about which code system will be updated. If codes are to be added, include their definition and their proposed placement in the code system.

5.2 Review and block vote

Review all dispositions that have been drafted. JIRA tickets can be voted on in block votes or as individual tickets as needed. A message should be sent at least one week prior to the scheduled vote to the Structured Documents listserv. The message can include links to each item that will be voted on or you can create a filter in JIRA for the block vote and provide that information instead. Contact the current Structured Document Work Group Chairs to determine the current process for adding the vote to the agenda.

Additionally, if there is a JIRA ticket that the C-CDA Value Set Update team does not have a clear disposition for, a request for time to discuss with Structured Documents Work Group can be made to the current Chairs to allow for community input. At times, there may be a need to address issues with additional workgroups or the reporter of the issues as well.

After SDWG votes and approves dispositions for JIRA tickets, update the spreadsheet with the vote information and adjust any dispositions that were changed during the meeting.

5.2.1 Sample Email regarding Block Vote

Attached please find proposed resolutions for Jira issues identified for consideration in the C-CDA R2.1 value set annual update. This also includes proposed resolutions for value set issues in the C-CDA Templates Clinical Notes (CDA).

This block vote will be addressed in the SDWG meeting on Thursday 5/13/2021 between 10am ET and noon. If you would like to pull any issues from the Block Vote, please send me your request, or issues can be discussed prior to the vote in SDWG. Please visit the HL7 Conference Call center to find the zoom meeting details.

5.3 Execute JIRA changes and perform general review

1. After SDWG votes and approves dispositions for JIRA tickets, update the spreadsheet with the vote information and adjust any dispositions that were changed during the meeting.
2. Mark JIRA tickets - Change applied and confirm final dispositions reflect any changes that occurred during the vote.

5.4 Update the LOINC Value Sets for Document Types

1. All are Intensionally Defined
a. All are described with an “in clause.”

Tip: Extensional value sets are an enumerated list of codes, Intensional value sets are a rule-based list.

2. Each Definition includes, in notes, the query you execute in the Search LOINC tool.
   a. You must execute the query, then copy and paste a set of codes into the intensional definition.
   b. Note: Scale=Doc is not the same as Class =Doc Ontology
3. You need to check the remap codes to review any potential issues here.

5.5 Proof and update the additional files included in the Release Package

Recommend that for next year the Readme.txt file be modified to include a section for new value sets, retired value sets, and value sets that have changed with a reference to the materials that describe how they have changed. Review value set definitions to ensure all versions are published.

5.6 Submit draft Release Package request

Once the review is complete, submit the following to NLM.

- Final and error-free specification spreadsheet template, submit to C-CDA Collaboration Site
- Finalized value sets (must click “Approve”) in VSAC Authoring
- Any changes needed for VSAC Download page: submit description of changes to C-CDA Collaboration Site
  - Ensure updates to the (?) icon on the unavailable value sets point to the correct link and have the correct language.
- Readme File—check for any changes.
  Review My Program Release Draft from NLM
1. Review value set definitions to ensure that the version that we want to be included in the release is the current published version.
2. If there is any value set that must use a definition version that is NOT the LATEST version, then the “Definition Section Rule” must be changed to specify the inclusion of the desired version (that also must be published.)
3. If a value set that was not included in the material sent to NLM and is therefore not in the "Program Release Items" list, at this point it can be added (with NLM approval) using the "Warning: Additional User-Assigned Value Sets" tab.
4. In "My Program Release" UI, review Expansion Profile and confirm that the Expansion Rule to be used is:
   a. Expansion Rules
      i. Code System Versions: Author-selected code system versions
      ii. Code Status: Active codes only
iii. Legacy/Retired Codes: VSAC applied the most recent code system version that includes the code in an active status.

5. As a quality check, review pre-released downloadable files that are created by the "Export Unassigned Program Release Results" button.

6. As a final quality check, proof and update the additional files included in the Release Package (ReadMe, etc.) and deliver to NLM in their requested modality.
6 Finalize the Release Package Request

NLM C-CDA publication date in VSAC assumes error-free C-CDA submission. NLM requires twenty business days for program release production. NLM must delay this publication date if C-CDA needs error corrections or C-CDA requests changed specifications after the submission date.

Perform final checks prior to submitting the Release Package request.
1. Reviewed the Release Package sheet to confirm the contents were correct.
2. We updated the statements and source of truth locations for the Value Sets not in VSAC.
3. We edited a word document that holds the copy for the Readme.txt file.
4. We edited a word document that holds the copy for the Downloads Page.
5. We noted the changes that will be needed for the Confluence Page. https://confluence.hl7.org/display/CDA/C-CDA+Value+Set+Expansions+Package+Registry Which we should plan to update on the day the Release Package becomes available, which is 8/10/2021. We should describe the basic pattern for the changes to make to update the page.

NOTE: As of 2023 VSAC now offers a comparison tool Program Releases - VSAC Tools (nih.gov)
1. Change the current VS Release Package to a historical version.
2. Make the new Current VS Release Package the one that is released on 8/10/2021.
4. Note that the errata releases should either go away or be moved into the Historical releases in reverse chronological order.

6.1 Final Release Package Request submission

Final Submission- C-CDA team submits the following to NLM.
- Final and error-free specification spreadsheet template, submit to C-CDA Collaboration Site
- Finalized value sets (must click “Approve”) in VSAC Authoring
- Any changes needed for VSAC Download page: submit description of changes to C-CDA Collaboration Site. Note: Review the text for the (?) icon that provides the location of value sets that are not in VSAC.
- Readme File—check for any changes.

6.2 Review My Program Releases

When NLM provides the pre-release downloadable files, repeat all steps in “Review My Program Release Draft from NLM” and report any inconsistencies or changes to NLM by the agreed upon deadline.
6.3 Review draft downloadable spreadsheet and Program Release Files

NLM creates the new C-CDA release structure for you in VSAC. When available, review My Program Releases draft downloadable spreadsheet. Compare both the submission and the pre-release documents to ensure that they both align. Report any errors or omissions to NLM.

6.4 Authorize NLM to produce the Final Program Release

After confirming no additional changes are needed, confirm with NLM that the Final Program Release can be produced.

6.5 Announce availability of 2022 C-CDA Value set Program Release

NLM will inform the team of when the Program Release is available for download. Announce to any applicable HL7 listserv and chat.fhir.org.

6.5.1 Sample Announcement

We are pleased to announce that the C-CDA R2.1 2021-08-10 Value Set Program Release is now available in VSAC:

VSAC Welcome Page: (see the HL7 C-CDA Value Sets tile): https://vsac.nlm.nih.gov/welcome


VSAC Download: https://vsac.nlm.nih.gov/download/ccda?rel=20210810

There are several ways you can access the C-CDA value sets:

VSAC Welcome Page https://vsac.nlm.nih.gov/welcome: The Search button of the HL7 C-CDA Value Sets program block leads you to the VSAC Search Value Sets web browser, presorted by this HL7 C-CDA release. The Download link leads you to the C-CDA Value Sets section of the Download tab and supplies prepackaged downloadable files.

VSAC Download Tab https://vsac.nlm.nih.gov/download/ccda?rel=20210810: Here, you can download the Excel, pipe-delimited text files, and XML files of the C-CDA value sets; Code System Versions Currently in C-CDA R2.1 Value Sets; a list of C-CDA R2.1 Value Sets Available in VSAC; and, a list of C-CDA R2.1 Value Sets Unavailable in VSAC. The published downloadable C-CDA R2.1 2021-08-10 release excludes 23 C-CDA value sets for which VSAC does not have the required supporting code systems.

VSAC Search Value Sets Tab https://vsac.nlm.nih.gov/valueset/expansions?pr=ccda: In the VSAC web browser, you can search, sort, filter and view details for all or individual C-CDA value sets; use the Export Search Results button to download a catalog of C-CDA value set expansions; increase the paging up to 120 rows, and use the checkboxes to download all C-CDA value set expansions as Excel, XML, or Text files.
VSAC SVS API https://www.nlm.nih.gov/vsac/support/usingvsac/vsacsvsapiv2.html: Given a C-CDA value set identifier (OID) that you can obtain by any of the above methods, use an SVS API call, such as:

[https://vsac.nlm.nih.gov/vsac/svs/RetrieveMultipleValueSets?id=2.16.840.1.113883.1.11.16866&release=C-CDA R2.1 2021-08-10&ticket=your-service-ticket]

For additional information on API authentication and usage, see our API documentation.

Please send any questions or feedback regarding VSAC functionality to: NLM Customer Support at https://support.nlm.nih.gov/

6.6 Project close-out/Set-up for next update

To ensure a seamless transition for the next update cycle, create new Confluence pages for the next annual Value Set update. As appropriate edit page content to become a starting point for the next project year (e.g. project plan, timeline, etc. as known). Populate the confluence page with any incomplete or unaddressed items on the pages that are created for future teams to be aware of.
7 Appendix/Notes

7.1 Prerequisite Knowledge

- Jira
- VSAC
- VSAC Collaboration tool
- HL7 Confluence

7.2 Quick links

- **HL7**
  - Main site [www.hl7.org](http://www.hl7.org)
  - HL7 listservs [Work Groups - Health Level Seven | HL7 International](https://listserv.hl7.org)
- **C-CDA**
  - Consolidated CDA (C-CDA) Project: ([https://confluence.hl7.org/display/SD/Consolidated+CDA+%28C-CDA%29+Project](https://confluence.hl7.org/display/SD/Consolidated+CDA+%28C-CDA%29+Project))
- **Confluence**
  - How to create an account to HL7's site [Create Issue - Jira (hl7.org)](https://jira.hl7.org)
    - NOTE: the same account for Jira will be used for Confluence
  - Creating Confluence pages
    - [Documentation & Help - HL7 Documentation & Help - Confluence](https://confluence.hl7.org/pages/viewpage.action?pageId=40737257)
- **Jira**
  - Groupings (project = CDA or "Project Description" is empty) and (text ~ "terminology" or text ~ "term" or text ~ "value set" or text ~ "valueset") and createdDate >= 2022-03-01 and status in ("Resolved - change required", Submitted, Triaged)
  - Terminology Dashboard tracks all JIRA tickets that are tagged with Terminology.
    - Note: Users must have a HL7 JIRA account to access this link.
      - [Terminology Dashboard - Jira (hl7.org)](https://jira.hl7.org)
  - Resolution statuses
  - How to submit a JIRA ticket if an issue is discovered during the update period
- **Specification Feedback - HL7 - Confluence**
  - Additional documentation to support Jira queries.
  - Overall process and steps for resolving Jira issues.

- **Coordination/alignment between CDA and FHIR**
  - [C-CDA to and from US Core Mapping - Cross-Group Projects - Confluence (hl7.org)](https://confluence.hl7.org/pages/viewpage.action?pageId=19136736#SpecificationFeedback-Understandingmanagementactions)

- **HL7 Zulip C-CDA Stream [894] #C-CDA - FHIR Community - Zulip**
  - [c-cda.95cdd9329ef26f843400a279ab33219.show-sender@streams.zulipchat.com](https://confluence.hl7.org/pages/viewpage.action?pageId=19136736#SpecificationFeedback-Understandingmanagementactions)
  - Example at [894] #C-CDA > 2023 C-CDA Value Set Update Now Available in NLM VSAC - FHIR Community - Zulip

- **VSAC/NLM**
8  Guide on how to update value sets in VSAC

Log into your account after NLM has updated authoring permissions and navigate to the Authoring tab at the top of the page.

Select “My Value Set Definitions” from the available menu. Select Program: HL7 C-CDA and the prior year release version to search for the value set that needs to be updated.

The value set will open in a new tab. To edit the Metadata, select the Metadata tab and then the Edit button. From this area, you can update the name, Author, Steward, Clinical Focus, Data Element Scope and the Inclusion and Exclusion Criteria. Updates to these fields to not require an updated version of the value set to be created. Select Save when you have completed your updates.
To change the Definition of a value set, select the Definition Tab, then the New Version Button. From this tab you can add or remove codes from the value set, update the code system version, and preview the expansion as needed.

Prior to saving an update, select Validate from the left menu to validate the changes.

When an updated version is created, it must be approved by the owner of the value set and will take up to one business day to show updates in VSAC.

If the value set needs to be converted to be Intensional, Extensional or a Grouping value set, select Convert to from the left-hand menu and select the applicable option.

To create a new value set, select the drop-down menu on the right of the main tab for Value Set Definitions. In the dropdown you will select one of the following:

- Extensional (enumerated list)
- Intensional (rule-based list)
- Group Existing value set Definitions (grouping)
After completing the Metadata tab and selecting Save, enter the appropriate information in the Definition tab to create the new value set.