Integrating the Healthcare Enterprise

IHE Patient Care Coordination (PCC) Technical Framework Supplement

CDA® Document Summary Sections (CDA-DSS)

Revision 2.1 – Trial Implementation

Date: September 27, 2019

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Foreword

This is a supplement to the IHE Patient Care Coordination Technical Framework. Each supplement undergoes a process of public comment and trial implementation before being incorporated into the volumes of the Technical Frameworks.

This supplement is published on September 27, 2019 for trial implementation and may be available for testing at subsequent IHE Connectathons. The supplement may be amended based on the results of testing. Following successful testing it will be incorporated into the Patient Care Coordination Technical Framework. Comments are invited and can be submitted at http://www.ihe.net/PCC_Public_Comments.

This supplement describes changes to the existing technical framework documents.

"Boxed" instructions like the sample below indicate to the Volume Editor how to integrate the relevant section(s) into the relevant Technical Framework volume.

> *Amend Section X.X by the following:*

Where the amendment adds text, make the added text **bold underline**. Where the amendment removes text, make the removed text **~~bold strikethrough~~**. When entire new sections are added, introduce with editor's instructions to "add new text" or similar, which for readability are not bolded or underlined.

General information about IHE can be found at www.ihe.net.

Information about the IHE Patient Care Coordination domain can be found at ihe.net/IHE_Domains.

Information about the organization of IHE Technical Frameworks and Supplements and the process used to create them can be found at http://ihe.net/IHE_Process and http://ihe.net/Profiles.

The current version of the IHE Patient Care Coordination Technical Framework can be found at http://ihe.net/Technical_Frameworks.

55   CONTENTS

Introduction to this Supplement

Current CDA[1] content profiles do not capture specific summary information about a document based on user need. Nor do they capture summary information about content in varying section(s) that is needed to be communicated to the reader (e.g., provider and/or patient) in a concise way. This profile will provide a way to communicate precise information about a document or section(s) in a useful way.

Open Issues and Questions

1. How should HL7[2] C-CDA[3] templates be handled in the Supplement template (Volume 6) when there is a need to internationalize content? Should there be in internationalized 'template'?

2. As an actor in this profile, will these summary sections get added to all CDA documents that are produced or rendered or is it done for one section only? How will this be grouped with existing content profile? IHE need to solve the problem of grouped actors.

Closed Issues

None.

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[1] CDA is the registered trademark of Health Level Seven International.

[2] HL7 is the registered trademark of Health Level Seven International.

[3] C-CDA is the registered trademark of Health Level Seven International.

General Introduction and Shared Appendices

*Update the following appendices to the General Introduction as indicated below. Note that these are **not** appendices to Volume 1.*

160

Appendix A – Actor Summary Definitions

Add the following actors to the IHE Technical Frameworks General Introduction Appendix A:

No new actors.

Appendix B – Transaction Summary Definitions

165 *Add the following transactions to the IHE Technical Frameworks General Introduction Appendix B:*

No new transactions.

Appendix D – Glossary

*Add the following **new** glossary terms to the IHE Technical Frameworks General Introduction Appendix D.*

170

No new glossary terms.

Volume 1 – Profiles

Copyright Licenses

Add the following to the IHE Technical Frameworks General Introduction Copyright section:

175   Not applicable

Domain-specific additions

None

180 | *Add new Section X*

X CDA Document Summary Sections Profile (CDA-DSS)

CDA Document Summary Sections Profile is a content profile that describes the different types of section templates that can summarize content in the document or add summary content that is not already included in the document.

185 The intent of this profile is to provide document summary section templates that can be included in specific CDA document types. For example, providing a Care Teams Section in a Discharge Summary or a Consult Note.

The document summary sections can be created by summarizing pertinent information. The data that goes in the summary sections can be user defined or can be based on specified use cases 190 provided in this profile.

The document summary sections can be rendered for viewing. They can also be imported when possible (i.e., contains discrete entries) by the user if desired.
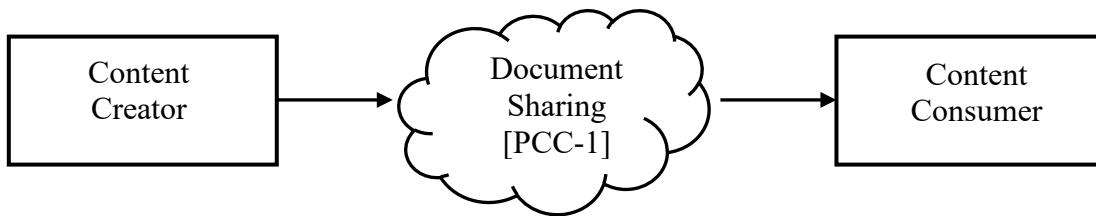
X.1 CDA-DSS Actors, Transactions, and Content Modules

This section defines the actors, transactions, and/or content modules in this profile. General 195 definitions of actors are given in the Technical Frameworks General Introduction Appendix A at http://www.ihe.net/Technical_Frameworks

Figure X.1-1 shows the actors involved in the CDA-DSS Integration Profile and the relevant transactions between them.

200 **Figure X.1-1: CDA-DSS Actor Diagram**

The CDA-DSS Profile introduces actor options for the Content Creator and Content Consumer. These options are used in addition to the Content Creator and Content Consumer Options defined by other Patient Care Coordination profiles.

Table X.1-1 lists the transactions for each actor directly involved in the CDA-DSS Profile. In 205 order to claim support of this integration profile, an implementation must perform the required transactions (labeled "R"). Transactions labeled "O" are optional. A complete list of options

defined by this profile and that implementations may choose to support are listed in Volume 1, Section X.2.

Table X.1-1: CDA-DSS Integration Profile - Actors and Transactions

Actors	Transactions	Optionality	Section in TF
Content Creator	Document Sharing [PCC-1]	R	PCC TF-2: 3.1
Content Consumer	Document Sharing [PCC-1]	R	PCC TF-2: 3.1

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Table X.1-2 lists the content module(s) defined in the CDA-DSS Profile. To claim support of this profile, an actor shall support all required content modules (labeled "R") and may support optional content modules (labeled "O").

Table X.1-2: CDA-DSS – Actors and Content Modules

Actors	Content Modules	Optionality	Reference
Content Creator Content Consumer	IHE Document Summary Section Template ID 1.3.6.1.4.1.19376.1.4.1.2.16	O	PCC TF-3: 6.3.1.S4
	Notes Summary Section Template ID 2.16.840.1.113883.10.20.22.2.65:2016-11-01	O	PCC TF-3: 6.3.1.S5
	Care Plan Summary Section Template ID 1.3.6.1.4.1.19376.1.5.3.1.1.26.1.8	O	PCC TF-3: 6.3.3.S1
	Encounter Summary Section Template ID 1.3.6.1.4.1.19376.1.5.3.1.1.26.1.9	O	PCC TF-3: 6.3.1.S2
	Care Teams Section Template ID 2.16.840.1.113883.10.20.22.2.500:2019-07-01	O	PCC TF-3: 6.3.1.S6
	Active/Planned Medication Summary Section Template ID 1.3.6.1.4.1.19376.1.5.3.1.1.26.1.10	O	PCC TF-3: 6.3.1.S3

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X.1.1 Actor Descriptions and Actor Profile Requirements

X.1.1.1 Content Creator

A Content Creator that supports the CDA-DSS Profile shall support the Summary Section Option. See PCC TF-2: 3.1.1.

220

1. The Content Creator SHALL create a document with at least one document summary section.

  2. The Content Creator MAY create content conforming to a profile supporting a Medical Summary as defined in PCC TF-2: 6.3.1.2 Medical Summary.

  3. The Content Creator MAY create content conforming to a profile supporting a
225 Consolidated CDA Implementation Guide Document.

X.1.1.2 Content Consumer

The Content Consumer that supports the CDA-DSS Profile shall support the Summary Section Option. See PCC TF-2: 3.1.1.

  1. The Content Consumer SHALL be capable of rendering document summary sections.

230 2. The Content Consumer MAY render a content profile supporting a Medical Summary as defined in PCC TF-2:6.3.1.2 Medical Summary.

  3. The Content Consumer MAY render a content profile supporting documents as defined by C-CDA Implementation Guide

X.1.2 Content Modules

235 Table X.1.2-1 lists the content module(s) defined in the CDA-DSS Profile. To claim support with this profile, an actor shall support all required content modules (labeled "R") and may support optional content modules (labeled "O").

Table X.1.2-1: CDA-DSS Profile Content Modules

Content Modules	Optionality	Template ID
IHE Document Summary Section	O	1.3.6.1.4.1.19376.1.4.1.2.16
Notes Section	O	2.16.840.1.113883.10.20.22.2.65:2016-11-01
Care Plan Summary Section	O	1.3.6.1.4.1.19376.1.5.3.1.1.26.1.8
Encounter Summary Section	O	1.3.6.1.4.1.19376.1.5.3.1.1.26.1.9
Care Teams Section	O	2.16.840.1.113883.10.20.22.2.500:2019-07-01
Active/Planned Medication Section	O	1.3.6.1.4.1.19376.1.5.3.1.1.26.1.10

240 ## X.2 CDA-DSS Actor Options

Options that may be selected for this profile are listed in the Table X.2-1 along with the actors to which they apply. Dependencies between options when applicable are specified in notes.

Table X.2-1: CDA-DSS – Actors and Options

Actor	Option Name	Reference
Content Creator	Summary Section Rendering Option	PCC TF- 2: 3.1.1
Content Consumer	Summary Section Rendering Option	PCC TF- 2: 3.1.1
Content Consumer	Summary Section View Option	PCC TF- 2: 3.1.1

X.2.1 Summary Section View Option

The Content Consumer that supports the Summary Section View Option SHALL be able to render the document summary section(s).

X.2.1.1 Summary Section Rendering Option

A Content Creator that supports the Summary Section Rendering Option SHALL provide instruction for how to render the document summary sections. The Content Consumer supporting the Summary Section Rendering Option SHALL be capable of rendering the document summary sections using the instructions provided by the Content Creator.

X.3 CDA-DSS Required Actor Groupings

The CDA-DSS Profile defines additional behavior in the context of other CDA documents. A Content Creator or Content Consumer may provide this behavior for one set of document types (e.g., XDS-MS) but not for another set of document types (e.g., EDR). Therefore, a Content Creator or Content Consumer would be grouped with the appropriate actor in a supported profile based on the content type (e.g., XDS-MS), but there are no required groupings. A Content Creator that creates summary sections for one type of document is not required to generate summary sections for all types of documents.

Table X.3-1: CDA-DSS - Required Actor Groupings
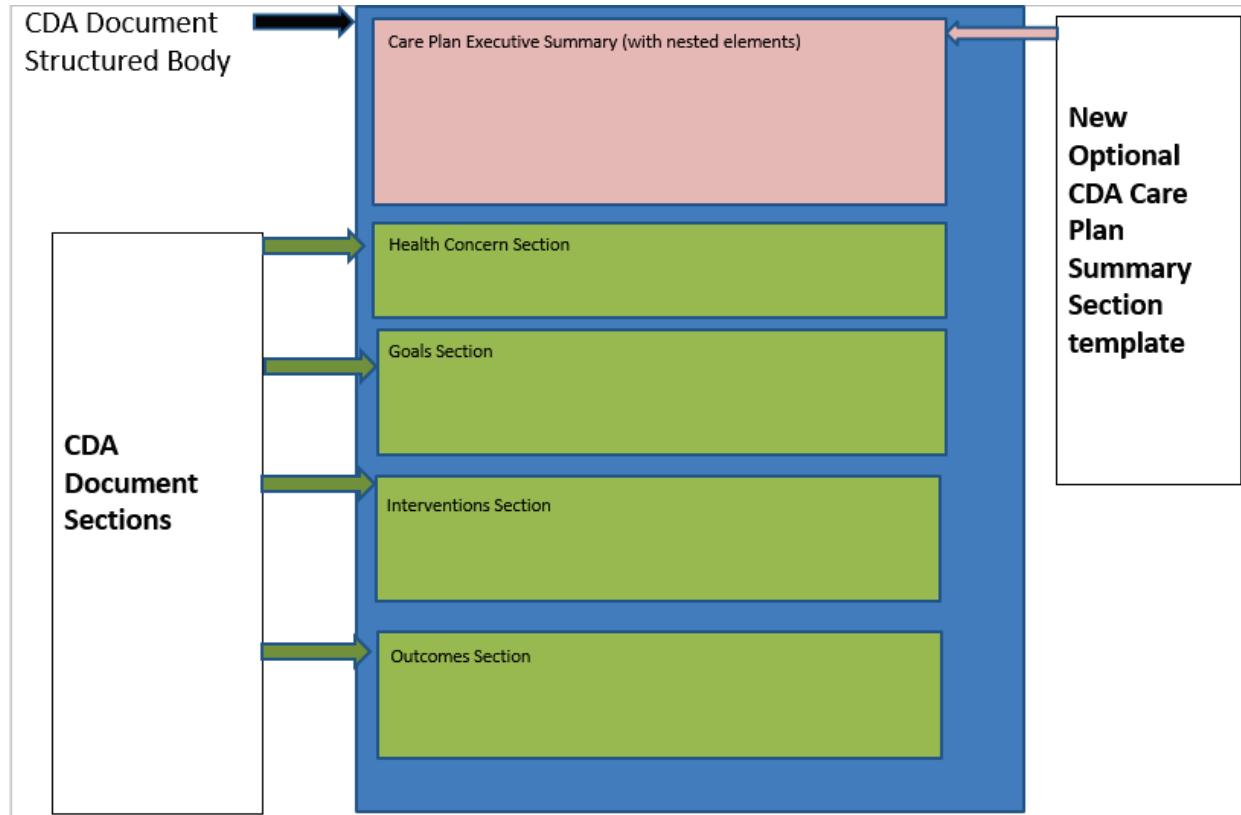
CDA-DSS Actor	Actor(s) to be grouped with	Reference	Content Bindings Reference
Content Creator	None required	--	--
Content Consumer	None required	--	--

X.4 CDA-DSS Overview

Providing a concise summary of a document based on specific user expectations can be time saving for a provider. It can also reflect what the patient needs to see in a way that is not too overwhelming. This profile enables the ability to provide relevant and pertinent information in sections that are concise and that support a specific purpose that the receiver and sender specifies. This allows the large amount of information in a CDA document to be provided yet at the same time not become overwhelming for the person viewing the rendered document.

The definition of a document summary section is based on specific use cases. A document summary section can be added to any CDA document that is an open template. A document summary section can be constructed dynamically, or a pre-defined section template can be used.

1. Machine automated: The Content Creator can create summary sections in a CDA document based on existing data in the document. The Content Creator may be the system that created the original document or may be a system that imports a CDA document, generates the summary sections and generates a new CDA document with those changes. This approach will use pre-defined templates in the software of the Content Creator.

2. Dynamic, user defined: A document author is creating a new CDA or reviewing an existing CDA. The human enters new data that the Content Creator uses to make one or more summary sections. This new data is not extracted from the existing document data. It is the responsibility of the document author to ensure that the new summary sections are consistent with the clinical content of the remainder of the document.

3. Dynamic at rendering stage: The Content Consumer is rendering a document for a human to review. The Content Consumer can extract data from the document and render a summary view for the human. The Content Consumer does not alter the original document.

The following is an example of how care plan content may be represented in a CDA document with a Care Plan Summary Section template:

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Figure X.4-1: Example of Placement of a Care Plan Summary Section template in a CDA document

X.4.1 Concepts

A document summary section can be rendered for viewing or added to a CDA document when the document is created. A document summary section can also be rendered and viewed when a CDA document is received.

1. A Content Creator can create a user defined document summary section view based on user defined criteria.

2. A Content Consumer can render a user defined summary section view based on user defined criteria when a CDA document is received. Note the Content Consumer does not alter the received CDA document.

3. A Content Creator can create a predefined document summary section based on identified use cases when a CDA document is generated.

4. A Content Consumer can render a predefined Summary Section based on identified use cases when a CDA document is received and presented to a user. Note the Content Consumer does not alter the received CDA document.

X.4.1.1 Considerations for User Defined Document Summary Section Views

When a CDA document is received, a document summary section view can be generated. The receiving system uses business logic to determine the content that is viewed. The following concepts can be taken into consideration to create varying views.

X.4.1.1.1 Status and Dates

Changes in the status of a data item often change the context of meaning of the data item **in relationship to a particular point in time**. However, these status updates **do not** change the fundamental meaning of the item.

Status updates are changes such as "this medication has been discontinued", or "this problem is now resolved". Status updates report on the normal evolution of a data item over time.

Implementers of the Summary Section View Option will need to examine the status to determine if the statuses of two data items are different. Decision of what to do with statuses of compared items should be part of the clinical workflow to support care. Within a given CDA, these statuses should be consistent.

A receiving system (Content Consumer) receives a CDA document and compares the patient problems that have been documented in the system with problems received in the document. The system business rule is to provide a summary section view containing comparable problems with applicable statuses and related dates. For example, the receiving system contains a documented cough problem, active status, onset date of March 1, 2017 (effective time low) and no resolved date (effective time high). The document that was received has the same cough problem, resolved status, onset date dated March 21, 2017 (effective time low) and resolved date of June 5, 2017 (effective time high). The system presents a summary section view with this information to the provider. This will assist in driving clinical workflows such as reconciling clinical data, as well as support for clinical decision making.

X.4.1.1.2 New or Previously Unknown Data or Relationships

When a CDA document is received, the receiving system business rules can determine if the sections in the CDA document contains data items that are not known by the system and render Summary Sections Views containing these data elements. The presented information can be used to assist in driving clinical workflows such as reconciling clinical data, as well as support for clinical decision making. This is consistent with current system behavior.

X.4.1.1.3 Changes in Treatment, Diagnosis or Related Information

When a CDA document is received, the receiving system business rules can determine if there are changes in the received document from previously documented content in the receiving

340 system. The changes in the received document can create new "facts" that supplant or replace previously documented data items.

Perhaps the most common example is a change in dose for a particular medication, or substitution of a different medication for an existing medication that is being discontinued. In these cases, the new content provides an update to the existing documented content.

345 The presented information can be used to assist in driving clinical workflows such as reconciling clinical data, as well as support for clinical decision making.

X.4.1.1.4 Corrections to previously reported Treatment or Diagnosis

When clinicians have determined information previously sent was erroneous, they may send updates with the corrected information. The receiving system received data elements from a
350 previous CDA document containing incorrect data elements and the incorrect data elements were imported by the receiving system. The receiving system receives a subsequent CDA document with corrected data elements. Business rules can support a summary section view of the replacement data elements.

For example, a receiving system receives a CDA document with a problem section containing
355 problems diabetes, asthma and pneumonia. The receiving system subsequently imports the three problems. The receiving system later receives a **replacement document** with a problem section containing problems diabetes, asthma and migraine (the pneumonia has been removed and migraine has been added). Business rules can determine that a replacement document has been provided because the replacement document contains a CDA relatedDocument element with
360 @typeCode of RPLC. The replacement document contains a problem section with a removed problem and a newly added problem. The receiving system can render a user defined document summary section showing a comparison of the problems from the problem section of both documents. The presented information can be used to assist in driving clinical workflows such as reconciling clinical data, as well as support for clinical decision making.

365 ### X.4.1.1.5 Rendering Trends

This concept is used to render data elements that provides the ability to display trending of values such as vital signs and/or result observations, etc. The receiving system can gather data points in the received CDA document base on the observation effective time. This provides the ability to display the following:

370 - Most recent data elements.

- Data elements based on relevant trends such as displaying the comparison between the lowest and highest values (e.g., lowest weight value and the highest weight value) along the relevant effective time. This will provide the ability to show clinical relevance such as the time period it has taken for the patient's weight to trend
375   upwards.

- Values can be grouped by time precision of minute such as heart rate per minute or respiratory rate per minute. Other values can be grouped by day precision such as

height or head circumference. Displaying grouped values together provides ability to determine clinical trends such as increase/decrease weight along with trends in blood
380 pressure and heart rate.

X.4.1.2 Care Teams Section

Care Team is defined as a party who manages and/or provides care or service as specified and agreed to in the care plan, including clinicians, other paid and informal caregivers, communication sponsor and the patient. Note: In some settings, the Care Team is a separate
385 group of people whose responsibility it is to formalize a care plan and possibly even to implement or coordinate its implementation. This group of people may or may not include any or all members of the patient's team of healthcare professionals. Members of the Care Team are typically selected because of their comprehensive knowledge of the patient's condition(s) and/or due to their knowledge of the healthcare business rules governing aspects of patient care or its
390 financing. For this reason, the term Care Team is capitalized to indicate the specific group of individuals who create the content of the structured document referred to as care plan.[4]

Care team constructs used in the CDA Care Teams Section are meant to support the foundation of effective communication, interaction channels and maintenance of current clinical context awareness for the patient, caregivers and care providers to promote care coordination. Care team,
395 communication and interactions are the heart of collaborative coordination of care.[5] The following scenarios depicts the need to describe and communicate care teams and care team members.

Scenario #1: Care Teams involved in the care and treatment of a patient case of Type II Diabetes Mellitus with complications. The patient has an ongoing chronic condition that requires multiple
400 types of care teams for the ongoing management and treatment of his condition. **Post Condition:** All Care Teams remains active.

Scenario #2: Care Team for a patient involved in the care and treatment of a previous successful case of a high-risk pregnancy. The patient would like to have a second child sometime in the future and would like to engage the care of this Care Team. **Post Condition:** Care Team is
405 inactive but will become active when the patient initiates future pregnancy plans.

Scenario #3: Care Team for a child with special needs involved in the care and treatment of unplanned inpatient admission for treatment of metabolic disorder. The patient has an ongoing chronic condition that requires multiple types of care teams for unplanned management and treatment of the exacerbation nature of his condition. **Post Condition:** All Care Team remains
410 inactive until need arrives to become active.

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[4] Retrieved 03/05/2017 from http://www.hl7.org/implement/standards/product_brief.cfm?product_id=452

[5] Retrieved 07/18/2017 from http://www.hl7.org/implement/standards/product_brief.cfm?product_id=452

Scenario #4: Care Teams for a patient involved in the care and treatment of a case of late stage Alzheimer's. The patient requires total assistance with activities of daily living. The patient's younger daughter has been her primary caregiver. However, the younger daughter is moving out of town with plans on returning home periodically to help care for her mother. The patient's niece will take over as her primary caregiver when the daughter is away. **Post Condition:** The daughter is inactive on the care team while she is away. She becomes active when she is home and has resumed caring for her mother.

Scenario #5: Patient requests copy of current care plan and wants to know the members of a past care team that the patient had a positive outcome with. **Post Condition:** Current care plan represents active concerns, goals, interventions and active care team members. The additional information for historical care teams would represent a mix of inactive and active care team members.

X.4.2 Use Cases

X.4.2.1 Use Case #1: User Defined Summary Section View

This use case involves a Primary Care Physician (PCP) generating a User Defined Summary Section View based on content in a CDA document he has received. The information in the User Defined Summary Section View can be used to better direct the patient's care.
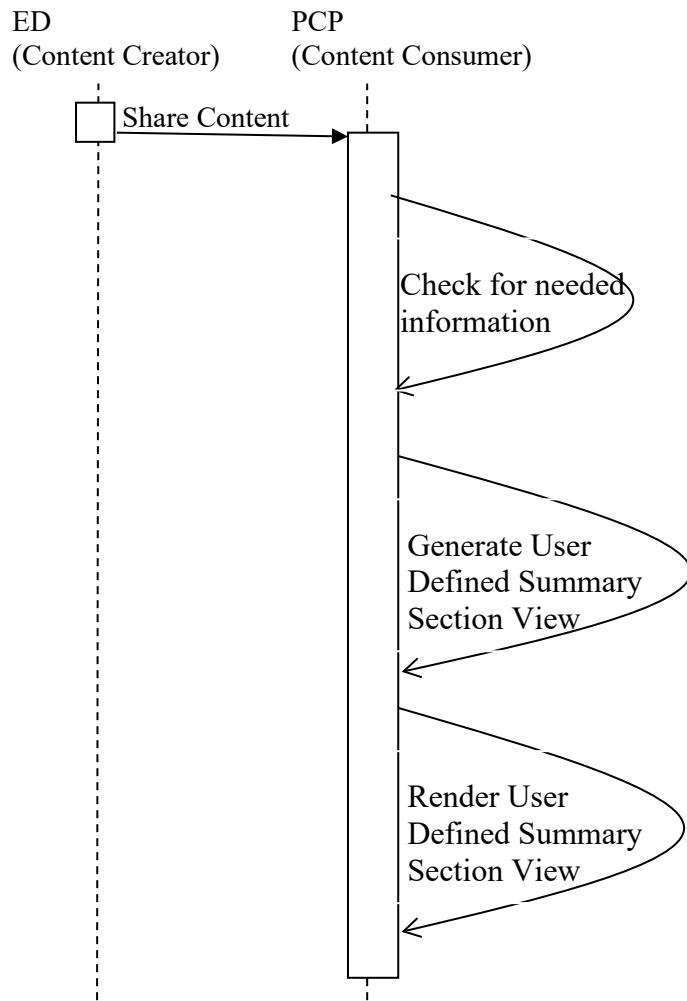
X.4.2.1.1 User Defined Summary Section View Use Case Description

This use case involves a patient being seen by his PCP for an emergency department (ED) follow-up encounter. The patient was seen in the ED recently for complaints of chronic back pain. The PCP has access to the patient's continuity of care document (CCD[6]) generated at the completion of the ED visit. The following is an example of how the User Defined Summary Section View is used. The PCP would like to view a document summary section which lists all the ED visits this patient has had in the past six months including the reason for the visit and a list of medications prescribed during each of those ED visits. This may assist the provider in determining if a patient may be demonstrating drug seeking behavior.

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[6] CCD is the registered trademark of Health Level Seven International.

X.4.2.1.2 User Defined Summary Section View Process Flow

ED
(Content Creator)

PCP
(Content Consumer)

Share Content

Check for needed information

Generate User Defined Summary Section View

Render User Defined Summary Section View

440   **Figure X.4.2.1.2-1: Basic Process Flow in CDA-DSS Profile**

Pre-conditions:

The ED CCD must contain the information needed to satisfy the user defined preferences that would go in the User Defined Summary Section View.

Main Flow:

445   The Content Consumer provides the ability to check the CCD generated by the ED for the needed information based on the Content Consumer user defined preference. The user defined preference includes encounters of ED visit type and encounter dates within the past six months. The user preference also includes medication information that is associated with the applicable ED encounters found in the ED CCD.

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450 **Post Conditions:**

A User Defined Summary Section View is generated containing a list of ED visits in the last six months. Each encounter has the medications prescribed/administered during the encounter.

X.4.2.2 Use Case #2: Care Plan Summary Section

This use case involves a Primary Care Physician (PCP) generating and sharing a Care Plan
455 Summary Section based on content in a care plan document or in a document containing care plan sections. The PCP would like to view the care plan content with its applicable linkages to get a better understanding of the various health concerns that may be related to the same goals along with the applicable interventions. This will help the PCP in understanding which interventions are effective in assisting the patient attain desirable outcomes so that he is better
460 able to direct his patient's care.
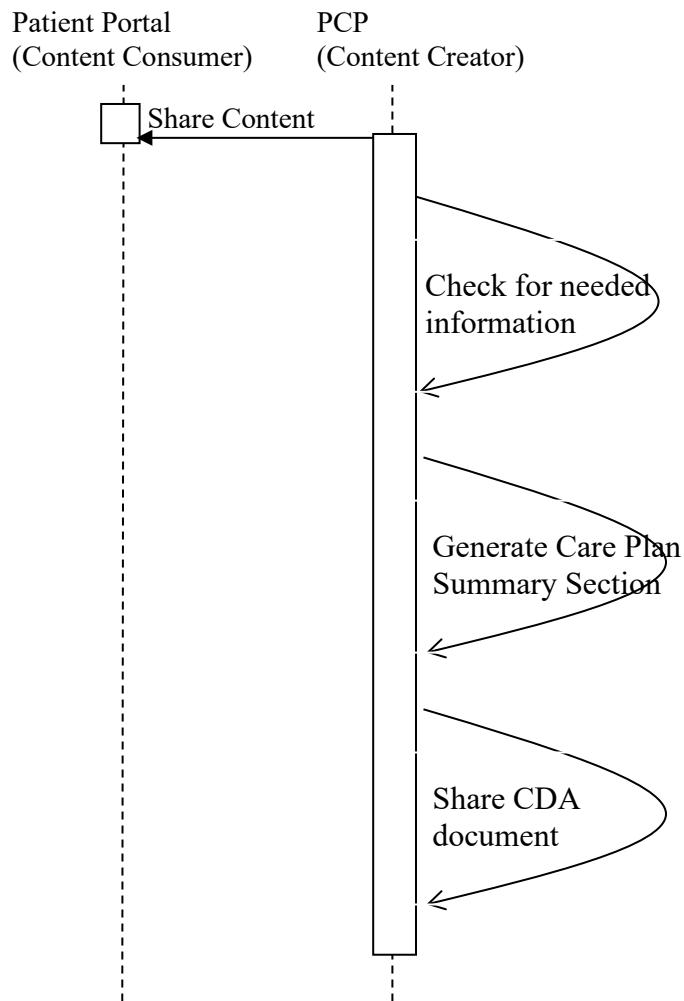
X.4.2.2.1 Care Plan Summary Section Use Case Description

This use case involves a patient visiting their Primary Care Physician for a routine visit. The patient arrives at the clinic with a list of health concerns that he wishes to discuss. The patient's sleep apnea, an existing condition, is getting worse. He has also developed frequent headaches.
465 The PCP makes note of these new health concerns and performs a physical examination. He notes that the patient's weight has increased since his last visit, which may be an aggravating factor. They agree to create a new care plan goal to reduce the patient's weight by ten percent and re-evaluate the condition when that goal has been reached before considering any more invasive treatment. In the meantime, the PCP prescribes an analgesic to help with the headaches.

470 The PCP produces a care plan document at the end of the visit and shares it with the patient, as he wants to provide his patient with a meaningful recap of what they discussed during the visit. This document contains the health concerns with related goals, interventions and planned interventions as well as outcomes discussed during this visit. The PCP would like for the patient to fully understand the care plan they have agreed on. The care plan includes a Care Plan
475 Summary Section that is shows the care plan content with its applicable linkages.

X.4.2.2.2 Care Plan Summary Section Process Flow

Figure X.4.2.2.2-1: Basic Process Flow in CDA-DSS Profile

Pre-conditions:

480   The PCP care plan document must contain the information needed to satisfy the Care Plan Summary Section rendering.

Main Flow:

The content creator provides the ability to check the care plan document for the information needed to create the care plan summary section. At a minimum, the care plan document includes
485   a health concern section with health concerns linked to the applicable goal(s). The goal references and is referenced by content in the interventions section. The interventions are referenced by content in the health status and evaluation section.

Post Conditions:

490   A Care Plan Summary Section is generated containing the care plan document components showing the relevant linkages. The document containing the Care Plan Summary Section is shared with the patient.

X.4.2.3 Use Case #3: Encounter Summary Section
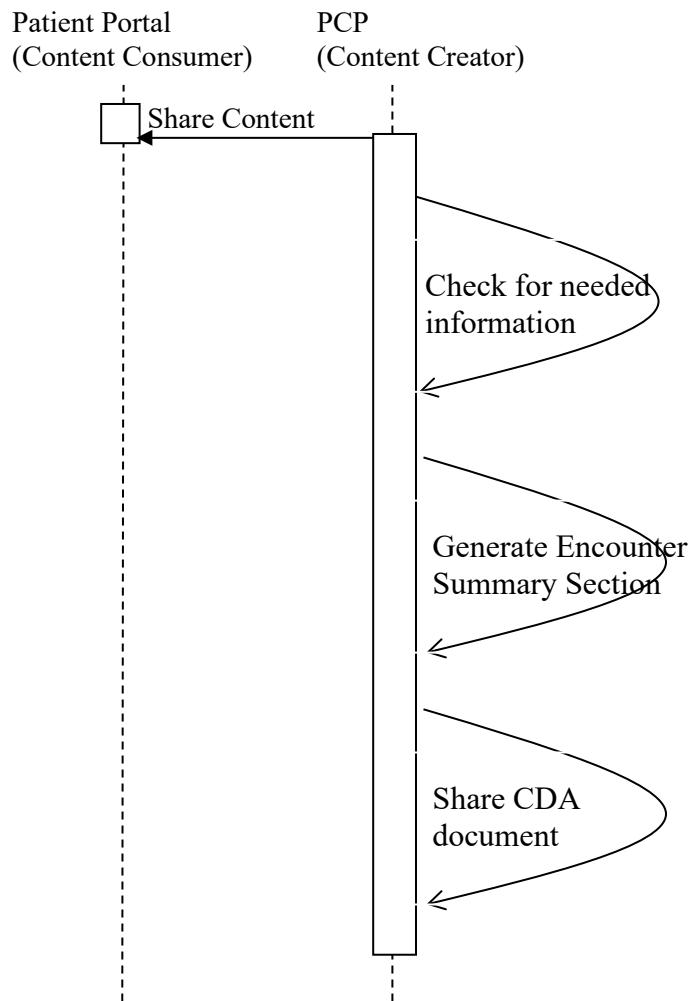
This use case involves a Primary Care Physician (PCP) generating and sharing specific information that was discussed, planned and accomplished during a specific encounter. An
495   Encounter Summary Section is based on content in an encounter based CDA document that is concise and is provided to the patient as a reminder or to assist the patient in keeping abreast of specifics of an encounter. This will assist the PCP better direct the patient's care and supports the patient's engagement in his care.

X.4.2.3.1 Encounter Summary Section Use Case Description

500   This use case involves a patient visiting his Primary Care Physician for a routine visit. The patient arrives at the clinic with a list of problems that he wishes to discuss. The patient's joint pain, an existing condition, is getting worse. He has also developed frequent heartburn. The PCP makes note of these new problems and performs a physical examination. He notes that the patient's weight has decreased since his last visit, which may be due to decrease appetite related
505   to his heartburn complaint. The PCP refers the patient to an ear, nose and throat (ENT) specialist. In the meantime, he starts the patient on an acid reducing medication, adjusts the amount of anti-inflammatory over-the-counter medication the patient is currently taking. He also prescribes a new narcotic pain medication for the patient to help with the joint pain.

The PCP produces as encounter based document at the end of the visit and shares it with his
510   patient. He wants to provide his patient with a meaningful recap of what they discussed during the visit. The encounter based document contains the medications that were changed, added and reviewed during this visit as well as instructions and procedures performed. However, due to the requirements of the document type specification it also contains other medications and problems, along with other types of information, such as immunizations, that were not addressed. The PCP
515   would like to generate an Encounter Summary Section specific to the things that were pertinent to his interactions with the patient during the encounter.

X.4.2.3.2 Encounter Summary Section Process Flow


Figure X.4.2.3.2-1: Basic Process Flow in CDA-DSS Profile

520 **Pre-conditions:**

The PCP CDA encounter document must contain the information needed to satisfy the Encounter Summary Section rendering.

Main Flow:

The content creator provides the ability to check the CDA document for the information needed
525 to create the Encounter Summary Section. At a minimum, the CDA document includes the pertinent encounter related content. This information will be used to populate the Encounter Summary Section. For example, the PCP would like to generate an Encounter Summary Section with medications that were changed, prescribed or discontinued during the encounter, as well as applicable procedures that were done and instructions that were provided. The document will

530 need to contain the applicable medications, procedures and instructions information. This information is used to populate the Encounter Summary Section.

Post Conditions:

An Encounter Summary Section containing the relevant medication, procedure and instructions components is generated. The encounter document containing the Encounter Summary Section is
535 shared with the patient.

X.4.2.4 Use Case #4: Active/Planned Medications Summary Section

This use case involves a Consulting Physician generating and viewing medication information in a referral document he has received.
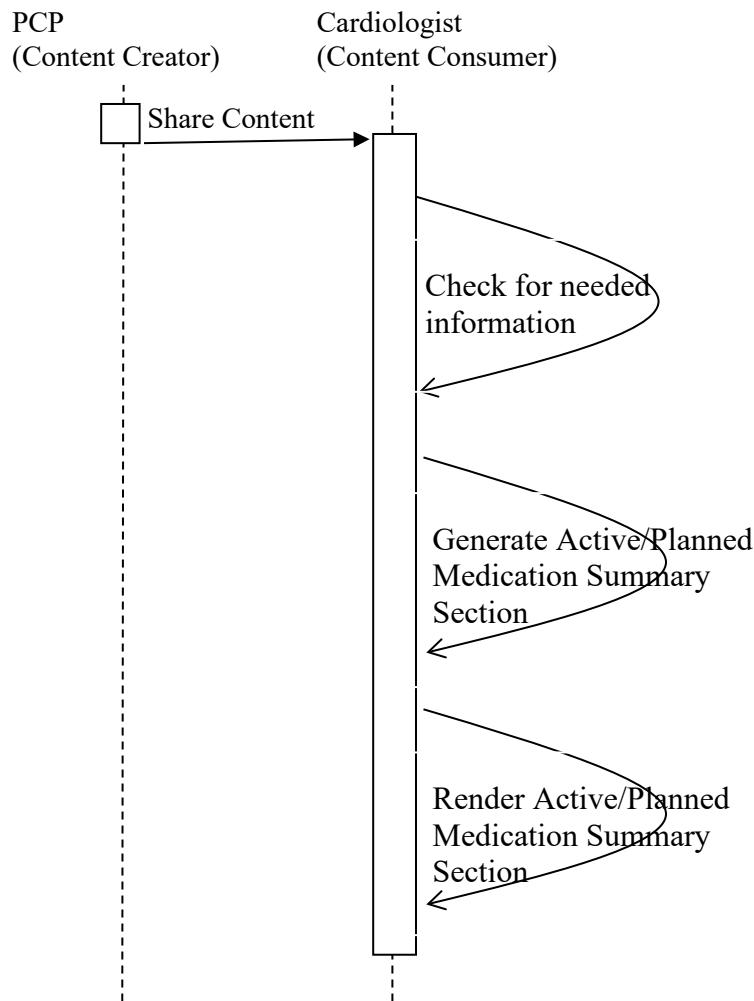
X.4.2.4.1 Active/Planned Medications Summary Section Use Case Description

540 This use case involves the referral of a patient from their Primary Care Physician to a specialist (Consulting Provider). The patient, who is a diabetic, arrives at the primary care provider's clinic for a yearly physical. During the physical exam, the PCP notes some signs of irregularities with the patient's cardiac system. The PCP decides to refer the patient to a Cardiologist for further evaluation and treatment of the issue.

545 The PCP produces a referral document at the end of the visit and shares it with the specialist. This document contains the problems, physical exam, allergies, procedures, lab results and medications for the patient.

The specialist receives the document and notices the medication section is extremely long with a list of medications that the patient is currently taking, medications that have been prescribed but
550 the patient has not started taking and medications that the patient is no longer taking. To further determine how to diagnose and treat the patient, the cardiologist would like to see all current and planned medications along with their related indications.

### X.4.2.4.2 Active/Planned Medications Summary Section Process Flow

Figure X.4.2.4.2-1: Basic Process Flow in CDA-DSS Profile

Pre-conditions:

The PCP referral document must contain the information needed to satisfy the Active/Planned Medications Summary Section rendering.

Main Flow:

The content creator provides the ability to check the referral document for the information needed to create the Active/Planned Medications Summary Section. At a minimum, the referral document includes the pertinent medication related content. This information will be used to populate the Active/Planned Medications Summary Section. For example, the specialist would like to generate an Active/Planned Medications Summary Section with medications that are

565 active (patient is currently taking) and mediations that are planned (patient is to start taking at a future time), as well as applicable indications for each medication.

Post Conditions:

An Active/Planned Medications Summary Section is generated containing the relevant active and planned medications along with the applicable indications. The Active/Planned Medications 570 Summary Section is rendered to be viewed by the Specialist.
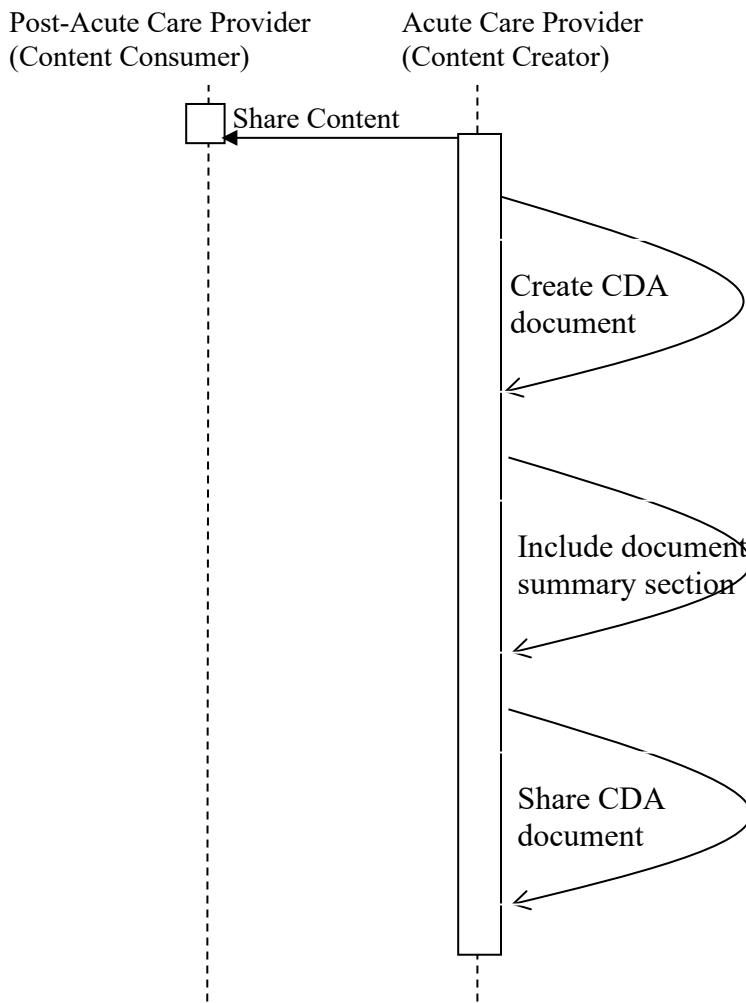
X.4.2.5 Use Case #5: IHE Document Summary Section

A provider is sending a CDA document and would like to communicate specific information to the receiving provider about the document or relevant information in the document. The provider creates the CDA document and include a document summary section which contains the needed 575 information.

X.4.2.5.1 Document Summary Section Use Case Description

This use case involves the transition of a patient from one care setting to another. The patient suffered a recent traumatic brain injury and is transferring from an acute rehabilitation care setting to a post-acute care setting. The transferring provider creates a CDA Transfer Summary 580 Document. He would like the receiving provider to know the purpose of the document and portions or items in the document that the receiving provider should pay special attention to. The Transfer Summary document contains the problems, physical exam, allergies, procedures, lab results and medications for the patient. The transferring provider includes a document summary section which contains information about the purpose of document. He also calls attention to the 585 patient's care team members and specific procedures and results in the document.

X.4.2.5.2 Document Summary Section Process Flow

Post-Acute Care Provider
(Content Consumer)

Acute Care Provider
(Content Creator)

Share Content

Create CDA
document

Include document
summary section

Share CDA
document

Figure X.4.2.5.2-1: Basic Process Flow in CDA-DSS Profile

590 **Pre-conditions:**

The transferring provider creates a CDA Transfer Summary document and includes an IHE
Document Summary Section.

Main Flow:

The content creator provides the ability to create a CDA document which includes the IHE
595 Document Summary Section. For example, the transferring provider generates a Transfer
Summary document which contains pertinent procedures and results to which he would like to
call the receiver's attention. He would also like to call the receiver's attention to members of the
patient's care team and their applicable roles as well as their best means of contact. He includes

this information in the IHE Document Summary Section and adds it to the document. The document also includes the other sections with the content he refers to.

Post Conditions:

A Transfer Summary document is generated containing the IHE Document Summary Section and the relevant content. The Transfer summary document is shared with the receiving provider.

X.4.2.6 Use Case #6: Notes Section

A Consulting Provider is sending a CDA document and would like to communicate a specific note to the Primary Care Provider. The Consulting Provider creates the CDA document and includes a Notes Section (Template ID: 2.16.840.1.113883.10.20.22.2.65:2016-11-01).
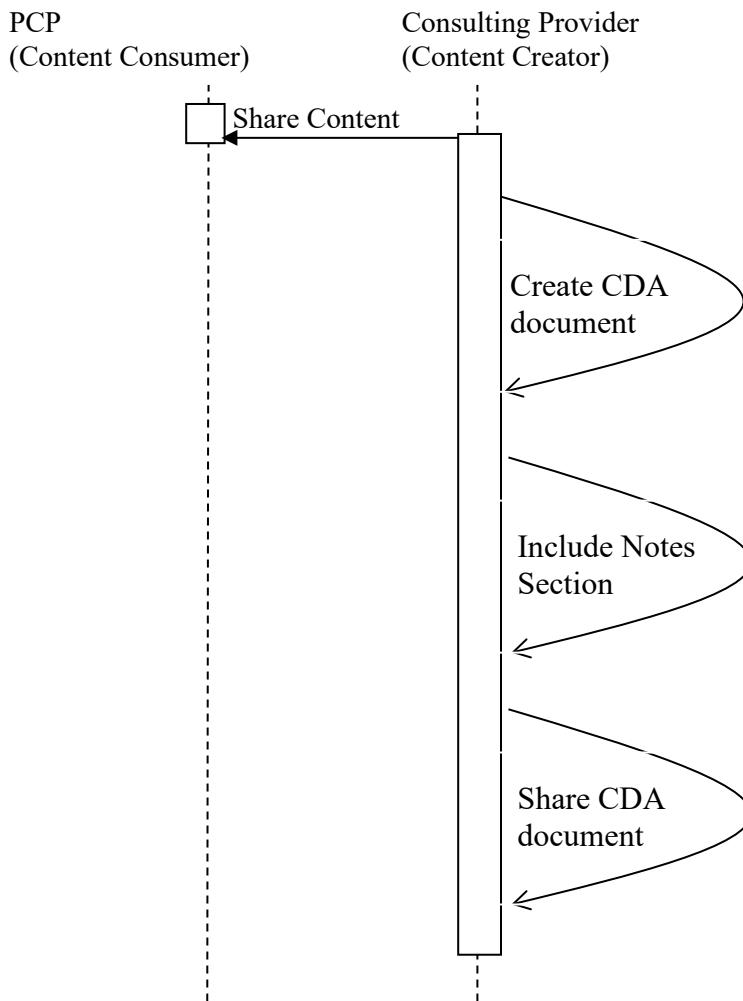
X.4.2.6.1 Notes Section Use Case Description

This use case involves the consultation of a patient by their specialist (Consulting Provider) with plans for their Primary Care Provider (PCP) to resume care.

The patient, who has new onset atrial fibrillation, arrives at the specialist's clinic for a follow-up consult visit. During the visit, the specialist discusses the recent diagnosis and plan of treatment with the patient. The specialist decides to return care of the patient back to the PCP.

At the end of the consultation period, the specialist creates a CDA Consultation document to share with the PCP. This document contains the problems, physical exam, allergies, procedures, lab results and medications for the patient. The specialist would like to include a consultation letter with the CDA consultation document. The specialist includes a Notes Section template that contains the consultation letter.

620 **X.4.2.6.2 Notes Section Process Flow**

Figure X.4.2.6.2-1: Basic Process Flow in CDA-DSS Profile

Pre-conditions:

The consulting provider creates a CDA Consultation Note document and include a Notes
625 Section.

Main Flow:

The content creator provides the ability to create a CDA document which includes the Notes
Section. For example, the consulting provider generates a Consultation Note document which
contains problems, physical exam, allergies, procedures, lab results and medications for the
630 patient.

He would like to include a consultation letter. He includes this information in the Notes Section
and adds it to the document.

Post Conditions:

A Consultation Note document is generated containing the Notes Section and other relevant
635   content. The Consultation Note document is shared with the PCP.
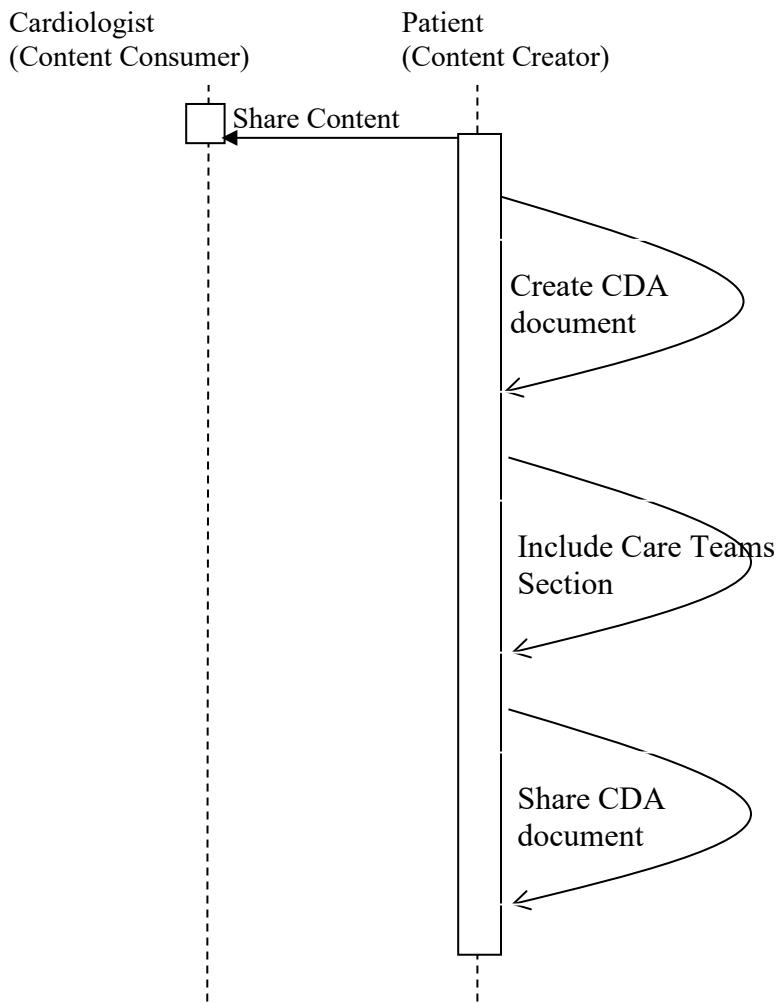
X.4.2.7 Use Case #7: Care Teams Section

A patient is a being treated by two different Primary Care Providers at different times of the year
(Snowbird). The patient is sending a CDA document to the provider that is about to take over his
care. The patient would like to communicate his Care Team information, so the provider would
640   know who to contact in case information about his care is needed. The patient creates a CDA
document and includes a Care Teams Section (Template ID:
2.16.840.1.113883.10.20.22.2.500:2019-07-01).

X.4.2.7.1 Care Teams Section Use Case Description

Mr. Jonathan Allan is a 77 year old male 'snowbird'. He lives in Michigan during the summer
645   and lives in Florida the rest of the year. When he is in Michigan, his daughter Emily is his
primary caregiver. When he's in Florida, his son Eric is his primary caregiver. He has diabetes
and has also undergone multiple open heart surgeries to correct irregular heartbeats and other
ailments related to the heart. He is currently planning his return to Michigan. He makes an
appointment with his cardiologist in Michigan. He updates his care team information and
650   includes it in his CDA document. He would like to share this information with his cardiologist in
Michigan.

X.4.2.7.2 Care Teams Section Process Flow

Figure X.4.2.7.2-1: Basic Process Flow in CDA-DSS Profile

655 **Pre-conditions:**

The patient creates a CDA document and includes a Care Teams Section.

Main Flow:

The content creator provides the ability to create a CDA document which includes the Care Teams Section. For example, the patient generates a CDA document which contains a list of his 660 health concerns, goals, and medications he is currently taking.

He would like to include contact information about members of his most recent care team. He includes this information in the Care Teams Section and adds it to the document.

Post Conditions:

A CDA document is generated containing the Care Teams Section and other relevant content. The CDA document is shared with the cardiologist.

X.5 CDA-DSS Security Considerations

See ITI TF-2.x: Appendix Z.8 "Mobile Security Considerations".

X.6 CDA-DSS Cross Profile Considerations

The Content Creator and Content Consumer Actors are those used by all PCC profiles. The options introduced by these actors are in addition to other PCC profile options. For example, an implementation that includes a Content Creator in the XDS-MS Profile might declare use of the Summary Section Rendering Option. Similarly, an implementation that includes a Content Consumer in the XDS-MS Profile might declare conformance to both the Summary Section Rendering Option as well as the Summary Section View Option.

665

670

675

Volume 2 – Transactions

Add Section 3.Y

No new transactions.

Appendices

680 None

Volume 2 Namespace Additions

N/A

685

Volume 3 – Content Modules

5 IHE Namespaces, Concept Domains and Vocabularies

Add to Section 5 IHE Namespaces, Concept Domains and Vocabularies

5.1 IHE Namespaces

NA

690

5.2 IHE Concept Domains

NA

5.3 IHE Format Codes and Vocabularies

5.3.1 IHE Format Codes

No new Format Codes.

695

5.3.2 IHEActCode Vocabulary

No new IHEActCode Vocabulary items.

5.3.3 IHERoleCode Vocabulary

No new IHERoleCode Vocabulary items.

6 Content Modules

700 ## 6.3.1 CDA Document Content Module

None

6.3.3 CDA Section Content Modules

Add to Section 6.3.3.10 Section Content Modules

6.3.3.10.S1 Care Plan Summary Section Content Module

705 **Table 6.3.3.10.S1-1: Care Plan Summary Section**

Template Name	Care Plan Summary Section				
Template ID	1.3.6.1.4.1.19376.1.5.3.1.1.26.1.8				
Parent Template	CDA Section Template 2.16.840.1.113883.10.12.201				
General Description	Provides the ability to render care plan sections components with it applicable linkages				
Section Code	52521-2, LOINC, "Care Plan Summary"				
Opt and Card	**Condition**	**Data Element or Section Name**	**Template ID**	**Specification Document**	**Vocabulary Constraint**
Text only section					

6.3.3.10.S1.1 Care Plan Summary Section Template

The purpose of the Care Plan Summary Section template is to render the linkages that occur with Care Plan section elements. This template SHALL be generated and/or rendered only if the applicable Care Plan components exist in the containing document. This section SHALL NOT be
710 used to replace existing CDA Care Plan sections. The following guidance is provided to support generation and/or rendering of the Care Plan components linkages:

For each health concern (the hook) look for all goals that references the health concern. When found, output the Health Concern text and the goal text showing the relationship between the health concern and the goal.

715 For each goal, look for all interventions that reference the goal or are referenced by a goal. When found output the text of the entry relationship elements associated with the intervention act. For each intervention found, output the associated outcome observation. When found output the outcome observation text.

For each goal look for all planned interventions that reference the goal or are referenced by a
720 goal. When found output the text of the entry relationship elements associated with the planned intervention act

For each goal look for all milestone goals that is referenced by a goal. When found output the goal text.

725 For each goal look for all outcomes that references the goal. When found output the outcome text.

Make sure to consider negation indicator where applicable. Make sure to apply the negation indicator when interpreting the data elements.

```
730   <component>
        <section>
          <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.26.1.8"/>
          <id root=' ' extension=' '/>
          <code code='52521-2' displayName='Care Plan Summary'
            codeSystem='2.16.840.1.113883.6.1' codeSystemName='LOINC'/>
735       <title>Care Plan Summary</title>
          <text>
            Text as described above
          </text>
        </section>
740   </component>
```

Figure 6.3.3.10.S1.1-1: Specification for Care Plan Summary Section

6.3.3.10.S2 Encounter Summary Section Content Module

Table 6.3.3.10.S2-1: Encounter Summary Section

Template Name	Encounter Summary Section
Template ID	1.3.6.1.4.1.19376.1.5.3.1.1.26.1.9
Parent Template	CDA Section Template 2.16.840.1.113883.10.12.201
General Description	Provides ability to summarize information that was discussed, planned and accomplished during a specific encounter.
Section Code	34133-9, LOINC, "Episode Summary">

Opt and Card	Condition	Data Element or Section Name	Template ID	Specification Document	Vocabulary Constraint
Text only section					

6.3.3.10.S2.1 Encounter Summary Section Template

745 Scan the CDA document for data associated with an encounter that is the same as the DocumentationOf/ServiceEvent encounter. Content associated with the applicable encounter can be used to determine the needed information. Implementations may consider content from any section to be placed in the encounter summary section. For illustration purposes, the following information can be used. This is for example purposes only. Other data types can be used.

Medications Started This Visit:

Scan the medication section for medication start date the same as the encounter date. When found output the product name, sig, start date/time, end date/time, indication text.

Medications Stopped This Visit:

Scan the medication section for medication stop date the same as the encounter date. When found output the product name, sig, start date/time, end date/time, indication text.

Procedures Performed This Visit:

Scan the procedure section for procedure effective time the same as the encounter date. When found output the procedure text, effective time, instructions provided text.

```
<component>
  <section>
    <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.26.1.9"/>
    <id root=' ' extension=' '/>
    <code code='34133-9' displayName='Episode Summary'
      codeSystem='2.16.840.1.113883.6.1' codeSystemName='LOINC'/>
    <title>Encounter Summary</title>
    <text>
      Text as described above
    </text>
  </section>
</component>
```

Figure 6.3.3.10.S2.1-1: Specification for IHE Encounter Summary Section

6.3.3.10.S3 Active/Planned Medication Summary Section Content Module

Table 6.3.3.10.S3-1: Active/Planned Medication Summary Section

Template Name	Active/Planned Medication Summary Section
Template ID	1.3.6.1.4.1.19376.1.5.3.1.1.26.1.10
Parent Template	CDA Section Template 2.16.840.1.113883.10.12.201
General Description	This section summarizes active and/or planned medications and associated indications.
Section Code	77604-7, LOINC, "Active/Planned Medication Section"

Opt and Card	Condition	Data Element or Section Name	Template ID	Specification Document	Vocabulary Constraint
Text only section					

6.3.3.10.S3.1 Active/Planned Medication Summary Section Template

The purpose of the Active/Planned Medication Summary Section template is to render medications that are active/planned which are located in medication related sections in the document. This summary section is meant to contain medications the patient is currently taking (active medications) and/or medications that are planned for the patient to start taking (planned medications) and their applicable indications.

This template SHALL be rendered only if the applicable medication components exist in the containing document. For example, if the CDA document contains a section with a list of medication entries of varying statuses and the user (person) would like to see a list of active/planned medications, an Active/Planned Medication Section template can be generated or rendered. This section SHALL NOT be used to replace existing CDA medications sections. For illustration purposes, the following guidance is provided:

Active Medications:

Scan the medication section for medication considered to be active. When found output the product name, sig, start date/time, end date/time, indication.

Planned Medications:

Scan the medication section for medications with future start date. When found output the product name, sig, start date/time, end date/time, indication.

Scan the plan of treatment section for planned substance administration. When found output the product name, sig, start date/time, end date/time, indication.

```
<component>
  <section>
    <templateId root="1.3.6.1.4.1.19376.1.5.3.1.1.26.1.10"/>
    <id root=' ' extension=' '/>
    <code code='77604-7' displayName='Medication treatment plan.brief'
      codeSystem='2.16.840.1.113883.6.1' codeSystemName='LOINC'/>
    <title>Active/Planned Medication Summary</title>
    <text>
      Text as described above
    </text>
  </section>
</component>
```

Figure 6.3.3.10.S3.1-1: Specification for IHE Active/Planned Medication Summary Section

810 **6.3.3.10.S4 IHE Document Summary Section Content Module**

Table 6.3.3.10.S4-1: IHE Document Summary Section

Template Name	Document Summary Section			
Template ID	1.3.6.1.4.1.19376.1.4.1.2.16			
Parent Template	CDA Section Template 2.16.840.1.113883.10.12.201			
General Description	Provide pertinent information about the document.			
Section Code	55112-7, LOINC, "Document Summary"			
Opt and Card	**Condition**	**Data Element or Section Name**	**Template ID**	**Specification Document**	**Vocabulary Constraint**
Text only section				

6.3.3.10.S4.1 IHE Document Summary Section Template

Text only section. The IHE Document Summary Section template conforms to IHE Cardiology Document Summary Section template.

815

```
<component>

  <section>
    <templateId root='1.3.6.1.4.1.19376.1.4.1.2.16'/>
    <id root=' ' extension=' '/>
    <code code='55112-7' displayName='DOCUMENT SUMMARY'
      codeSystem='2.16.840.1.113883.6.1' codeSystemName='LOINC'/>
    <text>
      Text as described above
    </text>
  </section>

</component>
```

Figure 6.3.3.10.S4.1-1: Specification for IHE Document Summary Section

830 **6.3.3.10.S5 Notes Section Content Module**

Table 6.3.3.10.S5-1: Notes Section

Template Name	Notes Section				
Template ID	2.16.840.1.113883.10.20.22.2.65:2016-11-01				
Parent Template	CDA Section Template 2.16.840.1.113883.10.12.201				
General Description	The Notes Section allows for inclusion of clinical documentation which does not fit precisely within any other C-CDA section.				
Section Code	LOINC (Note Types)				
Opt and Card	**Condition**	**Data Element or Section Name**	**Template ID**	**Specification Document**	**Vocabulary Constraint**
Note Activity Entry (see Section 6.3.4.E1)					
1..*		Note Activity Entry	2.16.840.1.113883.10.20.22.4.202:2016-11-01		

6.3.3.10.S5.1 Notes Section Template

Notes Section template referenced by

Health Level Seven (HL7) CDA R2 IG: C-CDA Templates for Clinical Notes STU Release 2.1.
835 The Notes Section SHOULD NOT be used in place of a more specific CDA section. Notes Section LOINC code can be one of all LOINC codes where the scale = document.

```
<section>
      <!-- Notes Section -->
      <templateId root="2.16.840.1.113883.10.20.22.2.65" extension="2016-11-01"/>
      <code code="11488-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Consultation note"/>
      <title>Consultation Notes</title>
      <text>
         <list>
            <item ID="ConsultNote1">
                <paragraph>Dr. Specialist - September 8, 2016</paragraph>
                 <paragraph>Evaluated patient due to symptoms of...</paragraph>
            </item>
         </list>
      </text>
      <!-- Note Activity entry -->
      <entry>
         <act classCode="ACT" moodCode="EVN">
                <templateId root="2.16.840.1.113883.10.20.22.4.202" extension="2016-11-01"/>
                <code code="34109-9" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Note">
                     <!-- Code must match or be equivalent to section code -->
                     <translation code="11488-4" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Consultation note" />
                </code>
                <text>
                   <reference value="#ConsultNote1" />
                </text>
                <statusCode code="completed"/>
                <!-- Clinically-relevant time of the note -->
                <effectiveTime value="20160908" />
                <!--...-->
         </entry>

</section>
```

Figure 6.3.3.10.S5.1-1: Notes Section C-CDA R2.1 Example

6.3.3.10.S6 Care Teams Section Content Module

6.3.3.10.S6.1 Care Teams Section Template

Care Teams Section template referenced by Health Level Seven (HL7) C-CDA Templates for Clinical Notes STU Companion Guide, Release 2 September 2019. Template details are located at HL7 Standards – Master Grid.

Care Teams Section Template provides the ability to capture a patient's care teams and care team members.

The Care Teams Section is used to provide the structures needed for sharing historical and current Care Team information as the patient interacts with the healthcare system. An individual's Care Team can occur over time such as a longitudinal care team which includes historical members that may enter or exit the care team as needed. Or a Care Team can occur as a transience of team members, such as a rehabilitation team that may exist as the person's needs dictate.

Table 6.3.3.10.S6-1: Care Teams Section

Template Name	Care Teams Section				
Template ID	2.16.840.1.113883.10.20.22.2.500:2019-07-01				
Parent Template	CDA Section Template 2.16.840.1.113883.10.12.201				
General Description	Provide pertinent information about the patient's care team.				
Section Code	85847-2, LOINC, "Patient Care Team Information"				
Opt and Card	**Condition**	**Data Element or Section Name**	**Template ID**	**Specification Document**	**Vocabulary Constraint**
Entries					
O [0..1]	Organizer	Care Team Organizer	2.16.840.1.113883.10.20.22.4. 500:2019-07-01		
Sub Entries					
O [0..*]	Component	Care Team Type Observation	2.16.840.1.113883.10.20.22.4. 500.2:2019-07-01		
O [0..*]	Component	Entry Reference Act (Care Team Reason)	2.16.840.1.113883.10.20.22.4. 122		
O [0..*]	Component	Encounter Activity (Care Team Encounter)	2.16.840.1.113883.10.20.22.4. 49:2015-08-01		
O [0..1]	Component	Note Activity (Care Team Information)	2.16.840.1.113883.10.20.22.4. 202:2016-11-01		
R [1..*]	Component	Care Team Member Act	2.16.840.1.113883.10.20.22.4. 500.1:2019-07-01		
O [0..*]	Author	Author Participation	2.16.840.1.113883.10.20.22.4. 119		

6.3.4 CDA Entry Content Modules

855

Add to Section 6.3.4.E Entry Content Modules

None

Appendices

860

None

Volume 4 – National Extensions

Add appropriate Country section

865 ## 4 National Extensions

NA