**Integrating the Healthcare Enterprise**



**IHE Patient Care Coordination (PCC)**

**Technical Framework Supplement**

**CDA Document Summary Section**

**(CDA-DSS)**

**Revision x.x – Draft in Preparation for Public Comment (*or* Trial Implementation)**

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**Please verify you have the most recent version of this document.** See [here](http://ihe.net/Technical_Frameworks/) for Trial Implementation and Final Text versions and [here](http://ihe.net/Public_Comment/) for Public Comment versions.

<Instructions to authors are encapsulated in angled brackets as “< … >” and denoted with italicized text. These instructions should be deleted entirely prior to publication.>

<Use of capitalization: Please follow standard English grammar rules-only proper nouns and names are upper case. For example, “Modality Actor” is upper case, but “an actor which fulfills the role of a modality” is lower case. Do not use upper case to emphasize a word/topic. Examples:

<Note: Before creating a draft supplement, please review the editing conventions, which include information such as section, table and diagram numbering and how to use Microsoft Word tools, at <http://wiki.ihe.net/index.php?title=Writing_Technical_Frameworks_and_Supplements>. This guidance is especially useful for first time authors.>

<This supplement template is intended for developing new profiles or making significant changes to profiles, such as adding formal options. Simple changes to existing supplements or profiles should be made using the Change Proposal (CP) process. See the Technical Framework Development section at <http://wiki.ihe.net/index.php?title=Process#Technical_Framework_Development> for more guidance on supplements vs. CPs.>

<All of the sections in this document are required. Sections may not be deleted. The outline numbering is intended to be consistent across profiles and across domains, so do not adjust the outline numbering. If there is no relevant content for a section, simply state “Section not applicable”, but leave the numbering intact. Sub-sections may be added for clarity.>

*<This supplement template includes templates for Volumes 1 (Profiles), 2 (Transactions), 3 (Content Modules), and 4 (National Extensions).>*

*<Volumes 1, 2, and/or 3 are developed together for Public Comment and Trial Implementation submission. Volume 4, National Extensions, is typically developed at a later point in time, usually at Trial Implementation or later. Templates for all four volumes are included in this document for the sake of completeness. If you are beginning a new profile, you are strongly discouraged from using National Extensions and should instead focus on optional data sets or other alternatives. For more information, see* [*http://wiki.ihe.net/index.php?title=National\_Extensions\_Process*](http://wiki.ihe.net/index.php?title=National_Extensions_Process)*.>*

**Foreword**

This is a supplement to the IHE <Domain Name> Technical Framework <VX.X>. Each supplement undergoes a process of public comment and trial implementation before being incorporated into the volumes of the Technical Frameworks.

*<For Public Comment:>* This supplement is published on <Month XX, 201x> for Public Comment. Comments are invited and can be submitted at <http://www.ihe.net/Public_Comment/#domainname>. In order to be considered in development of the Trial Implementation version of the supplement, comments must be received by <Month XX, 201X>.

*<For Trial Implementation:>* This supplement is published on <Month XX, 201X> 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 <Domain Name> Technical Framework. Comments are invited and can be submitted at <http://www.ihe.net/Public_Comment/#domainname>.

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](http://www.ihe.net/).

Information about the IHE <Domain Name> domain can be found at [ihe.net/IHE\_Domains](file:///D:\Google%20Drive\01_IHE\AppData\Roaming\Microsoft\Word\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](http://ihe.net/IHE_Process/) and [http://ihe.net/Profiles](http://ihe.net/Profiles/).

The current version of the IHE <Domain name>Technical Framework can be found at [http://ihe.net/Technical\_Frameworks](http://ihe.net/Technical_Frameworks/).

*<Comments may be submitted on IHE Technical Framework templates any time at* [*http://ihe.net/Templates\_Public\_Comments*](http://ihe.net/Templates_Public_Comments/)*. Please enter comments/issues as soon as they are found. Do not wait until a future review cycle is announced.>*

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# Introduction to this Supplement

<Provide a brief overview of the volumes/sections of the Technical Framework that get changed/ added by this supplement. Provide 200 words or less describing this supplement.>

Current CDA content profiles do not capture specific summary information about a document based on user need. Nor does it 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

<List the open issues/questions that need to be addressed. These are particularly useful for highlighting problematic issues and/or specifically soliciting public comments.>

1. How should C-CDA templates be handled in this template – Volume 6? Should there be an internationalized template?

## Closed Issues

<List the closed issues/questions with their resolutions. These are particularly useful for recording the rationale for closed issues to forestall unnecessary rehashing in the future and/or to make it easier to identify when a closed issue should be re-opened due to new information.>

# 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.

# Appendix A – Actor Summary Definitions

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

No new actor definition

# Appendix B – Transaction Summary Definitions

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.

| Glossary Term | Definition |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |

Volume 1 – Profiles

## Copyright Licenses

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

Not applicable

## Domain-specific additions

None

Add new Section #

*<Reserve a subsequent section number in the current domain Technical Framework Volume 1 (DOM TF-1). Replace the letter “X” with that section heading number. This number should not change when this supplement is added to the Final Text Technical Framework. In this manner, references should be able to be maintained going forward.>*

# X CDA Document Summary Section Profile (CDA-DSS)

<Provide an end-user friendly overview of what the profile does for them. Keep it brief (a paragraph or two, up to a page). If extensive detail is needed, it should be included in Section X.4- Use Cases.>

CDA Document Summary Section is a content profile that defines means of providing a concise summary about a document or summary of content in a CDA document based on user expectations.Depending on use case, a Document Summary Section can be added to a CDA document if the document template is open.

A Document Summary Section can be constructed by:

1. Dynamically populating the section with data found in existing section(s) in the document. The data is used to create a composite, single summary section that summarizes pertinent information. The data that goes in the Summary Section can be user defined or can be based on specified use cases in this profile.
2. Use of a pre-defined section template such as the Notes Section or the Care Team Section, etc.

The Summary Section can be rendered for viewing. It 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 definitions of actors are given in the Technical Frameworks General Introduction Appendix A at [http://www.ihe.net/Technical\_Frameworks](http://www.ihe.net/Technical_Frameworks/) .

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



Content Creator

Content Consumer

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

The CDA-DSS Profile introduces actor options for 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 Summary Section Profile. In 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 is listed in Volume 1, Section X.2.

Table X.1-1: Summary Section 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 |

Table X.1-2 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”).

<Note that this table number has to change if this profile describes both transactions and content modules (or there will be two tables entitled X.1-1).>

<Note that the abbreviation in the column “Reference” the letter “D” will be incremented for every content module document defined in this profile (e.g., For example D1, D2).>

<In general, one supplement template will only contain one required content module document, but the example here shows multiple with one optional, just for illustration purposes.>

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

| Actors | Content Modules | Optionality | Reference |
| --- | --- | --- | --- |
| Content Creator | ~~User Defined Summary Section View~~  ~~Template ID 1.3.6.1.4.1.19376.1.5.3.1.1.26.1.11~~ | O | ~~PCC TF-3: 6.3.1.S~~ |
| Document Summary Section  Template ID 1.3.6.1.4.1.19376.1.4.1.2.16 | O | IHE Card |
| Notes Summary Section  Template ID 2.16.840.1.113883.10.20.22.2.65:2016-11-01 | O | C-CDA notes section |
| 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.S |
| 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.S |
| Care Team Summary Section  Template ID (TBD) | O | C-CDA Care Team |
| 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.S |
| Content Consumer | User Defined Summary Section View  Template ID 1.3.6.1.4.1.19376.1.5.3.1.1.26.1.11 | O | PCC TF-3: 6.3.1.S |
| Document Summary Section  Template ID 1.3.6.1.4.1.19376.1.4.1.2.16 | O | IHE Card |
| Notes Summary Section  Template ID 2.16.840.1.113883.10.20.22.2.65:2016-11-01 | O | C-CDA notes section |
| 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.S |
| 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.S |
| Care Team Summary Section  Template ID (TBD) | O | PCC TF-3: 6.3.3.S |
| 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.S |

Note 1: *<For example, a note could describe that one of two possible transactions could be supported by an actor or other variations.*

*For example - Note 1: Either Content Module 2 or Content Module 3 shall be implemented for the Content Creator or Content Consumer.*

*For example- Note 1: At least one of Content Module 2, Content Module 3, or Content Module 4 shall be implemented for Content Consumer.>*

### 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.Y.1

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

1. The Content Consumer SHALL render at least one summary section.
2. The Content Consumer MAY implement a content profile supporting a Medical Summary as defined in PCC TF-2:6.3.1.2 Medical Summary.
3. The Content Consumer MAY implement a content profile supporting documents as defined by C-CDA Implementation Guide

### X.1.2 Content Modules

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: Summary Section Content Modules

| Content Modules | Optionality | Template ID |
| --- | --- | --- |
| User Defined Summary Section View | O – note 1 | 1.3.6.1.4.1.19376.1.5.3.1.1.26.1.11 |
| 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 – note 1 | 1.3.6.1.4.1.19376.1.5.3.1.1.26.1.8 |
| Encounter Summary Section | O – note 1 | 1.3.6.1.4.1.19376.1.5.3.1.1.26.1.9 |
| Care Team Section | O | TBD (HL7 Template ID) |
| Active/Planned Medication Section | O – note 1 | 1.3.6.1.4.1.19376.1.5.3.1.1.26.1.10 |

Note 1 – Summary section content generated from content in existing sections in the document.

## 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 Option | PCC TF- 2: 3.Y.1 |
| Content Consumer | Summary Section View Option | PCC TF- 2: 3.Y.2 |

*<Add a sub-section below for every new option defined in Table X.2-1.>*

### X.2.1 Summary Section Option

A Content Creator supporting the Summary Section Option must include Summary Section Content in the document created (see Section 6.3.3).

### X.2.2 Summary Section View Option

A Content Consumer supporting the Summary Section View Option must render Summary Section Content for viewing (see Section 6.3.3.S).

## X.3 CDA-DSS Required Actor Groupings

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 | -- | -- |
| Content Consumer | None | -- | -- |

## 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 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 reader of the document.

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

1. A summary section can be user defined. For example, a user can decide to create a summary section that lists procedures the patient had in the last six months. If the document has sections containing procedures with the relevant procedure dates, the applicable procedures can be rendered in the User Defined Summary Section View.
2. A summary section can be a pre-defined section template. For example, the Notes Section and the Care Team Sections are pre-defined HL7 C-CDA section templates. The Document Summary Section is a pre-defined IHE section template.
3. A summary section can be use case defined. For example, the Care Plan Summary Section can be dynamically created based on content from the relevant care plan sections. The applicable content is then rendered in the Care Plan Summary Section as defined by this IHE profile. Figure x-4.1 shows a Care Plan Summary Section in a Care Plan Document.

The following is an example of how care plan content may be represented in a CDA document with a summary section:

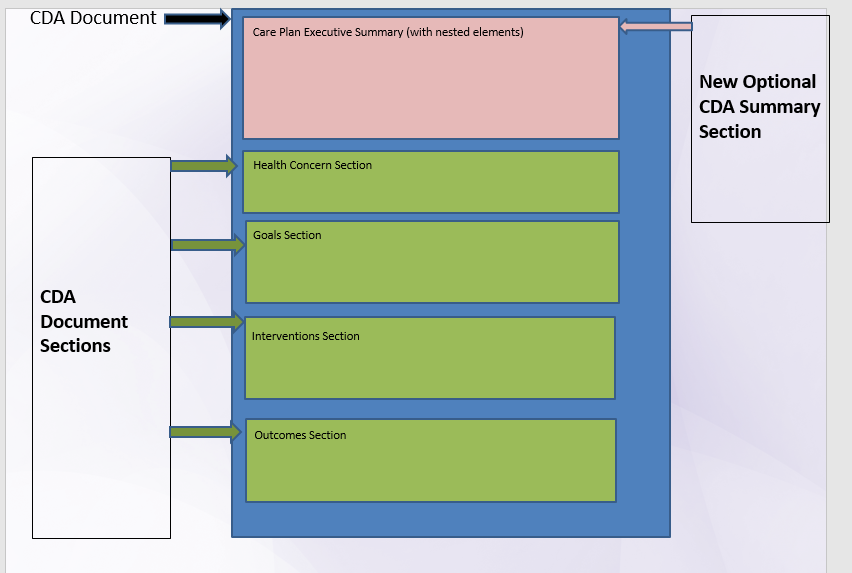


Figure X-4.1: Example of a Care Plan Summary Section

### X.4.1 Concepts

A Summary Section can be generated or added to a CDA document when the document is created. A Summary Section can also be generated and viewed when a CDA document is received.

1. A user can create a User Defined Summary Section View based on user defined criteria when a CDA document is received.
2. A user can create a predefined Summary Section based on identified use cases when a CDA document is generated as well as when a CDA document is received.
3. A user can add a predefined summary section template to a document when the document is created.

### X.4.1 Considerations for User Defined Summary Section Views

When a CDA document is received, A 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 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.

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.4.1.2 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.

### X.4.1.3 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 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.

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.4.1.4 Corrections to previously reported Treatment or Diagnosis

It is only when a data item was incorrectly reported that this concept applies. The receiving system received data elements from a 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 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 @typeCode of replace. The replacement document contains a problem section with a removed problem and a newly added problem. The receiving system can render a User Definied 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.

### 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) 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 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.

##### X.4.2.1.2 User Defined Summary Section View Process Flow

ED  
(Content Creator)

Actor E

Actor D/

Actor E

PCP  
(Content Consumer)

Actor B

Actor A /

Actor B

Share Content

Transaction-A [A]

Check for needed information

Generate User Defined Summary Section View

Render User Defined Summary Section View

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:

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.

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 Summary Section based on content in a care plan document. 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 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. 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.

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 Summary Section that is shows the care plan content with its applicable linkages.

##### X.4.2.2.2 Care Plan Summary Section Process Flow

Patient Portal  
(Content Consumer)

Actor E

Actor D/

Actor E

PCP  
(Content Creator)

Actor B

Actor A /

Actor B

Share Content

Transaction-A [A]

Check for needed information

Generate Care Plan Summary Section

Share CDA document

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

Pre-conditions:

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 minimal, the care plan document includes 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:

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 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

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 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 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 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

Patient Portal  
(Content Consumer)

Actor E

Actor D/

Actor E

PCP  
(Content Creator)

Actor B

Actor A /

Actor B

Share Content

Transaction-A [A]

Check for needed information

Generate Encounter Summary Section

Share CDA document

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

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 to create the Encounter Summary Section. At a minimal, 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 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 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

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.

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 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

PCP  
(Content Creator)

Actor E

Actor D/

Actor E

Cardiologist  
(Content Consumer)

Actor B

Actor A /

Actor B

Share Content

Transaction-A [A]

Check for needed information

Generate Active/Planned Medication Summary Section

Render Active/Planned Medication Summary Section

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 minimal, 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 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 Summary Section is rendered to be viewed by the Specialist.

#### X.4.2.5 Use Case #5: 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 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 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 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)

Actor E

Actor D/

Actor E

Acute Care Provider  
(Content Creator)

Actor B

Actor A /

Actor B

Share Content

Transaction-A [A]

Create CDA document

Include Document Summary Section

Share CDA document

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

Pre-conditions:

The transferring provider creates a CDA Transfer Summary document and include a Document Summary Section.

Main Flow:

The content creator provides the ability to create a CDA document which includes the Synopsis section. For example, the transferring provider generates a Transfer Summary document which contains pertinent procedures and results 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 Document Summary Section and adds it to the document. The document also includes the other section with the content he refers to.

Post Conditions:

A Transfer Summary document is generated containing the 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.

##### 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 that contains the consultation letter.

##### X.4.2.6.2 Notes Section Process Flow

PCP  
(Content Consumer)

Actor E

Actor D/

Actor E

Consulting Provider  
(Content Creator)

Actor B

Actor A /

Actor B

Share Content

Transaction-A [A]

Create CDA document

Include Notes Section

Share CDA document

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 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 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 content. The Consultation Note document is shared with the PCP.

#### X.4.2.7 Use Case #7: Care Team Summary Section

A patient is a being treated by two different Primary Care Providers at different time of the year (Snowbird). The patient is sending a CDA document to the provider that is about to take over his care. He would like to communicate his Care Team information so the provider would know who to contact in case information about his care is needed. The patient creates a CDA document and include a Care Team Summary Section.

##### X.4.2.7.1 Care Team Summary Section Use Case Description

Mr. Jonathan Allan is a 77 year old male ‘snowbird’. He lives in Michigan during the summer 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 includes it in his CDA document. He would like to share this information with his cardiologist in Michigan.

##### X.4.2.7.2 Care Team Summary Section Process Flow

Cardiologist  
(Content Consumer)

Actor E

Actor D/

Actor E

Patient   
(Content Creator)

Actor B

Actor A /

Actor B

Share Content

Transaction-A [A]

Create CDA document

Include Care Team Section

Share CDA document

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

Pre-conditions:

The patient creates a CDA document and include a Care Team Summary Section.

Main Flow:

The content creator provides the ability to create a CDA document which includes the Care Team Summary Section. For example, the patient generates a CDA document which contains a list of his 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 Team Summary Section and adds it to the document.

Post Conditions:

A CDA document is generated containing the Care Team Summary 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](http://ihe.net/uploadedFiles/Documents/ITI/IHE_ITI_Suppl_Appx-Z.pdf) “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 of the XDS-MS Profile might declare use of the Summary Section Option as well as Content Creator View Option. Similarly, an implementation might declare conformance to both the Summary Section Option as well as the Content Consumer View Option.

Volume 2 – Transactions

Add Section 3.Y

## 3.Y Summary Section Options

### 3.Y.1 Summary Section Option

A Content Creator that supports the Summary Section Option SHALL provide the capability to provide the section for a Content Consumer to render by producing documents that include the summary section(s).

### 3.Y.2 Summary Section View Option

The Content Consumer that supports the Summary Section View Option SHALL be able to determine how to render the section.

Appendices

<Detailed cross transaction relationships or mapping details are described in an appendix in Volume 2x. Volume 2 appendices may be informational or normative. Immediately after the title of a Volume 2 appendix, provide a very explicit statement defining whether this new appendix is informative or normative.

If there are no Volume 2 appendices, enter “Not applicable” and delete the Appendix A and Appendix B placeholder sections.>

# Appendix

N/A

# Volume 2 Namespace Additions

N/A

Volume 3 – Content Modules

<The current version of the supplement template only addresses HL7 v3 CDA Content Modules. All CDA Content Modules will go in Section 6 of Volume 3 of each domain’s Technical Framework document. In the future, this supplement template may have additional sections for DICOM Content Modules (section 7 of Volume 3) and other types of Content Modules (section 8, etc., of Volume 3).

<Please note that prior to the release of the new template set, some domains may have defined CDA Content Modules in Volume 2 (e.g., PCC); however, going forward CDA Content Modules will be defined in Volume 3.>

# 5 IHE Namespaces, Concept Domains and Vocabularies

Add to Section 5 IHE Namespaces, Concept Domains and Vocabularies

## 5.1 IHE Namespaces

<**For Public Comment publication**, please explicitly identify all **new** OIDs, UIDs, URNs, etc., defined specifically for this profile. These items should be collected from the sections within this supplement and listed here as additions to the applicable domain OID Registry. The tables within this section will be deleted prior to inclusion into the Technical Framework as Final Text, but should be present for publication for Public Comment.>

<**For Trial Implementation publication**, the domain technical committee **must** ensure that all new OIDs, UIDs, URNs, etc., defined specifically for this profile (and listed here for public comment publication have now been recorded in their OID Registry. The tables within this section will be deleted prior to inclusion into the Technical Framework Volumes as Final Text but should be present for publication for Trial Implementation.>

<Ensure the domain’s registry of OIDs is linked to from the following wiki page. It may be another wiki page, a document on the ftp site, etc.>

The <domain name> registry of OIDs is located at <http://wiki.ihe.net/index.php/OID_Registration#IHE_Domain_Namespaces>

Additions to the <Domain Name> OID Registry are:

| codeSystem | codeSystemName | Description |
| --- | --- | --- |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |

## 5.2 IHE Concept Domains

<Concept Domains are named categories of things that are used when it isn’t possible to bind to a specific set of codes. There are a number of reasons you might not be able to define and bind to a specific set of codes, one of the most common being that the codes set needs to vary depending on locale or context.>

For a listing of the <Domain Acronym> Concept Domains see <enter location of the domains Concept Domains or NA if none>

| conceptDomain | conceptDomainName | Description |
| --- | --- | --- |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |
| <oid or uid> | <code system name> | <short description or pointer to more detailed description> |

## 5.3 IHE Format Codes and Vocabularies

### 5.3.1 IHE Format Codes

### 5.3.2 IHEActCode Vocabulary

### 5.3.3 IHERoleCode Vocabulary

# 6 Content Modules

### 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 User Defined Summary Section View Content Module~~

~~textual output based on summary elements.~~

#### 6.3.3.10.S2 Care Plan Summary Section Content Module

1. 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 relationship between the health concern and the goal

1. For each goal look for all interventions that reference the goal or is referenced by a goal

- when found output the text of the entry relationship elements associated with the intervention act

2a. For each intervention found, output the associated outcome

- when found output the outcome text

1. For each goal look for all planned interventions that reference the goal or is referenced by a goal.

- when found output the text of the entry relationship elements associated with the planned intervention act

1. For each goal look for all milestone goals that is referenced by a goal

- when found output the goal text

1. 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.

#### 6.3.3.10.S3 Encounter Summary Section Content Module

Table 6.3.3.10.S3-1: 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 | | <brief textual description, one paragraph> | | | |
| 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.S3.1 Encounter Summary Section Condition, Specification Document, or Vocabulary Constraint

Scan the 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 sections are used.

**Medications Started This Visit:**

1. 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

**Medications Stopped This Visit:**

1. 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

**Procedures Performed This Visit:**

1. 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

**Encounter Summary Section**

* <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>

#### 6.3.3.10.S4 Active/Planned Medication Summary Section Content Module

Table 6.3.3.10.S4-1: 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 | | <Parent Template Name oid/uid [Domain - Reference] or NA> | | | |
| General Description | | <brief textual description, one paragraph> | | | |
| Section Code | | <Code, Code Scheme, “Section Code Name”> | | | |
| Opt and Card | Condition | Data Element or Section Name | Template ID | Specification Document | Vocabulary  Constraint |
| Text only section | | | | | |
|  |  |  |  |  |  |

###### 6.3.3.10.S4.1 Active/Planned Medication Summary Section Condition, Specification Document, or Vocabulary Constraint

This section is meant to contain medications the patient is currently taking (active medications) and/or medications that is planned for the patient to start taking (planned medications) and the applicable indications. Implementations may consider sections containing active and planned medications. However, for illustration purposes, the following sections are used.

**Active Medications**:

1. 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**:

1. Scan the medication section for medications with future start date.

* When found output the product name, sig, start date/time, end date/time, indication

1. Scan the plan of treatment section for planned substance administration

* When found output the product name, sig, start date/time, end date/time, indication

**Active/Planned Medication Summary Section**

* <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>

#### 6.3.3.10.S5 Document Summary Section Content Module

The Document Summary Section template conforms to [IHE Cardiology Document Summary Section](https://art-decor.ihe-europe.net/art-decor/decor-templates--C-CRC-?section=templates&id=1.3.6.1.4.1.19376.1.4.1.2.16&effectiveDate=2017-02-21T18:59:44) template.

**Table 6.3.3.10.S5-1: 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 | | LOINC, “Document Summary” 55112-7 | | | |
| Opt and Card | Condition | Data Element or  Section Name | Template ID | Specification Document | Vocabulary  Constraint |
| Text only section | | | | | |
|  |  |  |  |  |  |

###### 6.3.3.10.S5.1 Document Summary Section Condition, Specification Document, or Vocabulary Constraint

None

**Document Summary Section IHE Example**

<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.S5.1-1: Specification for IHE Document Summary Section

#### 6.3.3.10.S6 Notes Section Content Module

#### 6.3.3.10.S7 Care Team Summary Section Content Module

##### 6.3.3.10.S.1 <Data Element or Section Name> <Condition, Specification Document, or Vocabulary Constraint>

#### 6.Y.x Examples

<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>

##### 6.3.3.10.S.2 <Data Element or Section Name> <Condition, Specification Document, or Vocabulary Constraint>

<Describe constraints, refer to other Specification Document, condition, or other info. This specification may include more information on conditions or cardinality, additions elements, data mappings, or data types, or other information.>

<Delete the example below prior to publishing for Public Comment.>

<e.g., A Content Creator SHALL be able to include a Problem Concern Entry for each of the conditions identified in Value Set [1.3.6.1.4.1.19376.1.4.1.5.4 Cardiac Problems/Concerns](#_1.3.6.1.4.1.19376.1.4.1.5.4__Cardia), encoding the value in act/entryRelationship/observation/code.

A Problem Concern Entry for {73211009, SNOMED CT, diabetes} SHALL use the specialized Diabetes Problem Entry (OID = 1.3.6.1.4.1.19376.1.4.1.4.1).

A Problem Concern Entry for {194828000, SNOMED CT, angina} SHALL use the specialized Angina Problem Entry (OID = 1.3.6.1.4.1.19376.1.4.1.4.2).

OR

A Content Creator SHALL be able to include a Problem Concern Entry for each of the conditions identified in the Concept Domain UV\_CardiacProblems (See section X.X for the description/list of concepts in this domain), encoding the value in act/entryRelationship/observation/code.

A Problem Concern Entry for “diabetes” SHALL use the specialized Diabetes Problem Entry (OID = 1.3.6.1.4.1.19376.1.4.1.4.1).

A Problem Concern Entry for “angina” SHALL use the specialized Angina Problem Entry (OID = 1.3.6.1.4.1.19376.1.4.1.4.2).

>

##### 6.3.3.10.S.3 <Data Element or Section Name> <Condition, Specification Document, or Vocabulary Constraint>

**###End Tabular Format – Section**

**###Begin Discrete Conformance Format – Section**

<An example is provided to demonstrate the desired consistent use and format. Delete this example prior to publication for Public Comment. The statements must be numbered, begin with SHALL/SHOULD/MAY identify the cardinality using [n..n], the name of the element, and a subitem which described the value or source of the information.>

<e.g.,

#### 6.3.3.10.S Medical History - Cardiac Section 11329-0

[section: templateId 1.3.6.1.4.1.19376.1.4.1.2.17(open)]

[section: templateId 2.16.840.1.113883.10.20.22.2.39(open)]

The Medical History section describes all aspects of the medical history of the patient even if not pertinent to the current procedure, and may include chief complaint, past medical history, social history, family history, surgical or procedure history, medication history, and other history information. The history may be limited to information pertinent to the current procedure or may be more comprehensive. The history may be reported as a collection of random clinical statements or it may be reported categorically. Entries for History of Past Illness and History of Present Illness have been consolidated into this section. Social and Family History are discussed in their own sections. For this Cath Report Content profile, this section may also contain history about specific relevant problems as problem observations.

In the event that the patient was transferred from another facility where there was a problem indication that the patient was determined to need a cath procedure, this will be noted as a problem observation in this medical history section as text in the narrative for now until there is a code representing this.

1. SHALL contain exactly two [2..2] templateId (CONF:8160) such that it
   1. SHALL contain exactly one [1..1] @root="1.3.6.1.4.1.19376.1.4.1.2.17" (CONF:10403-CRC).
   2. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.2.39" (CONF:10403).
2. SHALL contain exactly one [1..1] code/@code="11329-0" Medical (General) History (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:8161).
3. SHALL contain exactly one [1..1] title (CONF:8162).
4. SHALL contain exactly one [1..1] text (CONF:8163).
5. MAY contain zero or more [0..\*] entry (CONF:CRC-xxx) such that it
   1. SHALL contain exactly one [1..1] Problem Observation - Cardiac (1.3.6.1.4.1.19376.1.4.1.4.9) (CONF:CRC-xxx).
6. MAY contain zero or more [0..\*] **entry** (CONF:CRC-xxx) such that it
   1. SHALL contain exactly one [1..1] **Procedure Activity Observation** (2.16.840.1.113883.10.20.22.4.13) (CONF:CRC-xxx).
7. MAY contain zero or more [0..\*] entry (CONF:CRC-xxx) such that it
   1. SHALL contain exactly one [1..1] Procedure Activity Procedure (2.16.840.1.113883.10.20.22.4.14) (CONF:CRC-xxx).

<section>

<templateId root="1.3.6.1.4.1.19376.1.4.1.2.17"/>

<templateId root="2.16.840.1.113883.10.20.22.2.39"/>

<code code="11329-0" codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="MEDICAL (GENERAL) HISTORY"/>

<title>MEDICAL (GENERAL) HISTORY</title>

<text>

<list listType="ordered">

<item>Patient has had a recent issue with chest pain that does not seem to be related to any particular cause.</item>

<item>Previous concerns of heart disease were actually related to other causes.</item>

<item>Patient had recent weight gain due to sedentary lifestyle and

new job.</item>

</list>

</text>

<entry>

<observation classCode=”OBS” moodCode=”EVN”>

<templateId root=”1.3.6.1.4.1.19376.1.4.1.9”/>

<id root=”xyz”/>

…

</observation>

</entry>

</entry>

<observation classCode="PROC" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.14"/>

<!-- Procedure Activity Procedure template -->

...

</observation>

</entry>

</entry>

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.22.4.13"/>

<!-- Procedure Activity Observation template -->

...

</observation>

</entry>

</section>

Figure Example: Example Section example>

**###End Discrete Conformance Format - Section**

### 6.3.4 CDA Entry Content Modules

Add to section 6.3.4.E Entry Content Modules

#### 6.3.4.E <Entry Content Module Name> Entry Content Module

<Authors’ Note: Replicate section 6.3.4.E for each Entry Content Module defined in this profile. Number as 6.3.4.E**1**, 6.3.4.E**2**, etc.>

<If this entry has subsidiary/child entries, these entries are referenced in the table below. Create one row for each subsidiary/child entry.>

**### Begin Tabular Format - Entry**

Table 6.3.4.E-1 <Entry Module Name> Entry

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Template Name | | | | <Template name> | | | | | | |
| Template ID | | | | <oid> | | | | | | |
| Parent Template | | | | <Parent Template Name oid/uid [Domain - Reference]> or NA | | | | | | |
| General Description | | | | <brief textual description, one paragraph> | | | | | | |
| Class/Mood | | Code | | | | Data Type | Value | | | |
| <use one of defined Class/Mood see General Intro App E> | | <Code, code system, code meaning e.g., 18118-0, LOINC, “LV Wall Motion Segmental Findings”> | | | | <Applies only if the Class/ Mood is OBS/EVN. Enumerated in HL7 V3 Data Types R1.> | <If the Class/Mood is OBS/EVN, then this Value field is the constraint on Observation Value. Otherwise, this field should be “N/A”.> | | | |
| Opt and Card | entryRelationship | | Description | | Template ID | | | Specification Document | Vocabulary Constraint |
| <e.g., x [?..?]> |  | | Simple Observation | | oid | | | reference to document e.g., PCC-TF-3 | <reference/link to definition of constraint, often in next paragraph/ subsection e.g., CARD TF-3 6.3.3.4.9.10> |
| <e.g., C [1..\*] | COMP | | Simple Observation | | 1.3.6.1.4.1.19376.1.5.3.1.4.13 | | | PCC TF-2 | CARD TF-3 6.3.4.E.1 (Wall morphology)> |
| <e.g., O [0..1] | COMP | | Simple Observation | | 1.3.6.1.4.1.19376.1.5.3.1.4.13 | | | PCC TF-2 | CARD TF-3 6.3.4.E.2 (Viability)> |
| <e.g., O [0..1] | COMP | | observationMedia Entry | | 1.3.6.1.4.1.19376.1.4.1.4.7 | | | CARD TF-3 6.3.1.6> |  |

##### 6.3.4.E.1 Simple Observation (wall motion) Vocabulary Constraints

<Describe constraints, refer to other Specification Document, condition, or other info. This specification may include more information on conditions or cardinality, additions elements, data mappings, or data types, or other information.>

<Can be in a tabular format or textual description.>

<Delete the example below prior to publishing for Public Comment.>

<e.g., The conditional entries specified in this table SHALL be present based on the exam type as specified in the CDA Header in the documentationOf / serviceEvent / code element.>

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Opt and Card | Condition | observation/code | Data Type | Unit of Measure | Value Set/  Concept Domain |
| <e.g., C [1..\*] | <Identifies the predicate and the if the predicate evaluates as true, then indicate whether mandatory, required or optional  e.g., Required if “exam type” is “LVG” (left ventriculogram)>  R: LVG | 60797005, SNOMED CT, “Cardiac Wall Motion”  <”+” = May be post-coordinated with priorityCode, methodCode, targetSiteCode . See HL7 V3. Include a value directly or include a link to a value set, if applicable.>  e.g., + targetSiteCode from 1.2.840.10008.6.1.219 DICOM CID 3718 Myocardial Wall Segments in Projection | CD | n/a unless the Data Type is PQ or IVL<PQ> | <include link to value set, e.g., 1.3.6.1.4.1.19376.1.4.1.5.20 Wall motion  OR, include value directly as e.g.,  <The Observation Value may also have a post-coordinated interpretation such as:>  +interpretationCode  +negationInd > |
| <e.g., C [1..\*] | R: SPECT, TTE, TEE, CMR  O:CCTA | 60797005, SNOMED CT, “Cardiac Wall Motion”  + targetSiteCode from 1.2.840.10008.6.1.218 DICOM CID 3717 Myocardial Wall Segments | CD | n/a | UV\_WallMotion > |

##### 6.3.4.E.2 Simple Observation (wall morphology) Constraints

<Describe constraints; refer to other Specification Document, condition, or other info. This specification may include more information on conditions or cardinality, additions elements, data mappings, or data types, or other information.>

<Can be in a tabular format or textual description.>

<Delete the example below prior to publishing for Public Comment.>

<e.g., The conditional entries specified in this table SHALL be present based on the exam type as specified in the CDA Header in the documentationOf / serviceEvent / code element.>

| Opt and Card | Condition | observation/code | Data Type | Unit of Measure | Value Set/  Concept Domain |
| --- | --- | --- | --- | --- | --- |
| <e.g., C [1..\*] | R: Cath with LVG | 72724002, SNOMED CT, “Morphology findings”  + targetSiteCode from 1.2.840.10008.6.1.219 DICOM CID 3718 Myocardial Wall Segments in Projection | CD | n/a | 1.3.6.1.4.1.19376.1.4.1.5.19 Myocardium Assessments> |
| <e.g., C [1..\*] | R: SPECT, echo, CMR  O:CCTA | 72724002, SNOMED CT, “Morphology findings”  + targetSiteCode from 1.2.840.10008.6.1.218 DICOM CID 3717 Myocardial Wall Segments | CD | n/a | UV\_MyocardiumAssessments> |

<e.g., The observation/value MAY be a null flavor.>

<e.g., morphological assessment observation MAY have a subsidiary Severity observation (templateID 1.3.6.1.4.1.19376.1.5.3.1.4.1 [PCC TF-2]).>

**### End Tabular Format - Entry**

**### Begin Discrete Conformance Format – Entry**

<An example is provided to demonstrate the desired consistent use and format. Delete this example prior to publication for Public Comment. The statements must be numbered, begin with SHALL/SHOULD/MAY identify the cardinality using [n..n], the name of the element, and a subitem which described the value or source of the information.>

##### <e.g.,6.3.4.E Result Observation - Cardiac

[observation: templateId 1.3.6.1.4.1.19376.1.4.1.4.16 (open)]

A result observation is a clinical statement that a clinician has noted during the Cath Lab procedure. This entry is used to describe the specific procedure findings that were observed during the specific Cath Lab procedure.

The specific result observations are defined in 1.3.6.1.4.1.19376.1.4.1.5.38 Procedure Findings Constraints/ValueSet.

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:7130).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:7131).
3. SHALL contain exactly one [1..1] templateId (CONF:7136) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.2" (CONF:9138).
4. SHALL contain at least one [1..\*] id (CONF:7137).
   1. The first id represents this specific globally unique result observation.
   2. The second id represents the lesion ID which should be an assigned numeric code that identifies lesions within a specific targetSiteCode.This lesion ID is used to link lesion specific data in this Result Observation – Cardiac with Procedure Activity Procedure - Cardiac.
5. SHALL contain exactly one [1..1] code (CONF:7133).
   1. SHOULD be from LOINC (CodeSystem: 2.16.840.1.113883.6.1) or SNOMED CT (Value Set: 1.3.6.1.4.1.19376.1.4.1.5.38) (CONF:7166-CRC).
6. SHOULD contain zero or one [0..1] text (CONF:7138).
   1. The text, if present, SHOULD contain zero or one [0..1] reference/@value (CONF:7139).
      1. This reference/@value SHALL begin with a '#' and SHALL point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:9119).
7. SHALL contain exactly one [1..1] statusCode="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:7134).
8. SHALL contain exactly one [1..1] effectiveTime (CONF:7140).
   1. represents clinically effective time of the measurement, which may be when the measurement was performed (e.g., a BP measurement), or may be when sample was taken (and measured some time afterwards) (CONF:7141).
9. SHALL contain exactly one [1..1] value with @xsi:type="ANY" (CONF:7143).
10. SHOULD contain zero or more [0..\*] interpretationCode (CONF:7147).
11. MAY contain zero or one [0..1] methodCode (CONF:7148).
12. MAY contain zero or one [0..1] targetSiteCode (CONF:7153).
    1. The targetSiteCode, if present, SHALL contain exactly one [1..1] code where the @code SHALL be selected from ValueSet Body Site 1.3.6.1.4.1.19376.1.4.1.5.32 STATIC (CONF:CRC).
13. MAY contain zero or one [0..1] author (CONF:7149).
14. SHOULD contain zero or more [0..\*] referenceRange (CONF:7150).
    1. The referenceRange, if present, SHALL contain exactly one [1..1] observationRange (CONF:7151).
       1. This observationRange SHALL NOT contain [0..0] code (CONF:7152).
15. SHOULD contain zero or one [0..1] entryRelationship (CONF:CRC-xxx) such that it
    1. SHALL contain exactly one [1..1] @typeCode="SUBJ" Has subject (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:CRC-xxx).
    2. SHALL contain exactly one [1..1] @inversionInd="true" TRUE (CONF:CRC-xxx).
    3. SHALL contain exactly one [1..1] Severity Observation (2.16.840.1.113883.10.20.22.4.8) (CONF:CRC-xxx).

<observation classCode="OBS" moodCode="EVN">

<templateId root="1.3.6.1.4.1.19376.1.4.1.4.16"/>

<!-- Result Observation template -->

<id root="c6f88321-67ad-11db-bd13-0800200c9a66"/>

<!-- This second ID represents the lesion ID -->

<id root="107c2dc0-67a5-11db-bd13-0800200c9a66" extension="1"/>

<code code="233970002"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

displayName="Post procedure stenosis"/>

<text><reference value="1"/></text>

<statusCode code="completed"/>

<effectiveTime value="19991114"/>

<targetSiteCode code="41879009" codeSystem="1.3.6.1.4.1.19376.1.4.1.5.32"

displayName="Distal RCA"/>

<value xsi:type="PQ" value="0" unit="%"/>

<interpretationCode code="N" codeSystem="2.16.840.1.113883.5.83"/>

</observation>

e.g., Figure 6.3.4.E-1: Result observation example >

**### End Discrete Conformance Format - Entry**

## 6.4 Section not applicable

Not applicable

<This heading is not currently used in a CDA document and remains here for section numbering integrity. Do not remove it or renumber sections following it. >

Add to Section 6.5 Value Sets

## 6.5 <Domain Acronym> Value Sets and Concept Domains

<Replicate the Value Set 6.5.x section as many times as needed for this supplement.>

<It is preferable to use tabular format. Add notes as needed. Be aware of potential national licensing issues of coding schemes.>

### 6.5.x <Value Set Name/Concept Domain Name> <oid>

<Add description or clarifications here if necessary.>

|  |  |
| --- | --- |
| Coding Scheme  Concept | <Coding Scheme Name> |
|  |  |
|  |  |
|  |  |
|  |  |

Note: <as necessary, applicable>

OR

|  |
| --- |
| <Concept Domain Name> |
|  |
|  |
|  |
|  |

<Delete the example below prior to publication for Public Comment.>

### <e.g.,6.5.1 Drug Classes Used in Cardiac Procedure 1.3.6.1.4.1.19376.1.4.1.5.15

| Coding Scheme  Concept | SNOMED CT | NDF-RT |
| --- | --- | --- |
| Calcium channel blockers | 48698004 | N0000029119 |
| Beta-blockers | 33252009 | N0000029118 |
| Nitrates | 31970009 | N0000007647 |
| Aminophylline | 55867006 | N0000146397 |

Note: As described in Section 6.1.2.4, the selection of the appropriate coding system for use may be based on local policy or national regulation.

OR

### 6.5.1 UV\_CardiacProcedureDrugClasses

This Concept Domain holds a list of Drug Classes used in Cardiac Procedures. The concepts in this domain must be bound to a value set at implementation.

|  |
| --- |
| Concept Name |
| Calcium channel blockers |
| Beta-blockers |
| Nitrates |
| Aminophylline |

>

Appendices

*<Add any applicable Volume 3 appendices below.*

*<If there are no Volume 3 appendices, enter “Not applicable” and delete the Appendix A and Appendix B placeholder sections.>*

# Appendix A – <Appendix Title>

Appendix A text.

## A.1 <Title>

Appendix A.1 text.

### A.1.1 <Title>

Appendix A.1.1 text.

# Appendix B – <Appendix Title>

Appendix B text.

## B.1 <Title>

Appendix B.1 text.

### B.1.1 <Title>

Appendix B.1.1 text.

Volume 4 – National Extensions

Add appropriate Country section

# 4 National Extensions

4.I National Extensions for <Country Name or IHE Organization>

<A template for Volume 4 is included in this document for completeness; however, National Extensions are typically developed after a profile has been published for Trial Implementation. If you are developing a new profile for Public Comment, it is recommended that this section be marked “Not Applicable”.>

<Avoid using this section if you can, this is “only if absolutely necessary”. Differences add cost to implementation and testing and can reduce interoperability. Review carefully to determine if the national use case truly requires a difference in the profile mechanisms rather than just differences in system configuration.>

< National Extensions can add requirements above and beyond IHE, but **not** relax requirements. This would prevent Connectathon results based on national testing being recognized elsewhere. For more information, see <http://wiki.ihe.net/index.php?title=National_Extensions_Process>.>

The format of this section is not strongly specified due to the varying nature of national extensions. For an example of National Extensions, see RAD TF 4.>

4.I.1 Comment Submission

This national extension document was authored under the sponsorship and supervision of <sponsor name>, who welcome comments on this document and the IHE <country> initiative. Comments should be directed to:

<Name, organization, title, email address>

4.I.2 <Profile Name> <(Profile Acronym)>

<Add info or tables>

4.I.2.1<Profile Acronym> Value Set Binding for <Country Name or IHE Organization> Realm Concept Domains

*<This section defines the actual value sets and code systems for any coded concepts that were described by concept domains in the main profile and binds the value set to the coded concepts.>*

*<Add info or tables>*

*<Delete the example below prior to publication for Public Comment.>*

*<e.g.,*

4.I.2.1 <Profile Acronym> Value Set Binding for US Realm Concept Domains

| UV Concept Domain | US Realm Vocabulary Binding or Single Code Binding | Value Set OID |
| --- | --- | --- |
| UV\_CardiacProcedureDrugClasses | US\_CardiacProcedureDrugClasses | 1.3.6.1.4.1.19376.1.4.1.5.15 |

#### 4.I.2.1.1 US\_CardiacProcedureDrugClasses (1.3.6.1.4.1.19376.1.4.1.5.15)

|  |  |  |
| --- | --- | --- |
| Coding Scheme  Concept | SNOMED CT | NDF-RT |
| Calcium channel blockers | 48698004 | N0000029119 |
| Beta-blockers | 33252009 | N0000029118 |
| Nitrates | 31970009 | N0000007647 |
| Aminophylline | 55867006 | N0000146397 |

>

4.I.2.2<Profile Acronym> <Type of Change>

<Add info or tables>

4.I+1 National Extensions for <Country Name or IHE Organization>

<Repeat (and increment) the section above as needed for additional National Extensions>

Appendices

*<Add any applicable Volume 4 appendices below>*

*<If there are no Volume 4 appendices, enter “Not applicable”* *and delete the Appendix A and Appendix B placeholder sections.>*

# Appendix A – <Appendix Title>

Appendix A text.

## A.1 <Title>

Appendix A.1 text.

### A.1.1 <Title>

Appendix A.1.1 text.

# Appendix B – <Appendix Title>

Appendix B text.

## B.1 <Title>

Appendix B.1 text.

### B.1.1 <Title>

Appendix B.1.1 text.