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Prescription and Dispense Lists

CDA Implementation Guide

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Prescription List - Point-to-Point Conformance Profile	TBD, TBD
HL7 Clinical Document Architecture	Release 2, January 2010
Representing Coding in CDA Documents Implementation Guidance	Version 1.0, Issued 10 October 2011
Clinical Documents Common Conformance Profile	Version 1.7, Issued 21 December 2017

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1 Introduction

This implementation guide is an *HL7 Clinical Document Architecture [HL7CDAR2]* specification to represent a prescription or dispense list.

1.1 Document purpose and scope

The primary aim of the implementation guide is to take implementers step by step through mapping each element of the Prescription and or Dispense List (PDL) model (*Prescription and Dispense Lists FHIR Implementation Guide [DH2019o]*) to a corresponding CDA attribute or element. The resulting CDA document can be used for the electronic exchange of PDL information, such as a pharmacist shared medicines list (PSML) document, between healthcare providers.

Whilst this implementation guide is defined to support a generic practitioner-author list as a document, at the time of publication of this implementation guide it is expected that in the near term implementations will be of a pharmacist shared medicines list exchanged with the My Health Record.

This implementation guide is not to be used as a guide to presentation (or rendering) of the data. Beyond defining conformance requirements on CDA narratives it contains no information as to how the data described by it should be displayed and no such guidance should be inferred from This implementation guide.

Reference has been made to International and Australian Standards, and to Standards from Health Level Seven. The following standard is referred to in the text in such a way that some or all of its content constitutes requirements for the purposes of this specification: *HL7 Clinical Document Architecture [HL7CDAR2]*.

Wherever possible, material in this specification is based on existing standards. All efforts have been made to minimise divergence from the HL7 Australia profiles of HL7 International standards (*???*) to provide for system interoperability and compatibility with other profiles. Issues of an editorial nature in the source material (such as spelling or punctuation errors) are intentionally reproduced.

1.2 Context and use

A CDA implementation guide is part of a package of documents and files that support the development of software to exchange a type of clinical document, an end-product clinical specification package.

An Agency end-product clinical specification package supports software developers to create and interpret instances of a clinical document. The core of each package is a specification of the information content of instances of the clinical document.

Supplementary contents of the package include statements of scenarios for which the specification is appropriate, guidance on implementing the specification, and guidance on testing purported instances.

The contents may include:

- statement of requirements
- CDA implementation guide – a statement of constraints and custom extensions on *HL7 Clinical Document Architecture [HL7CDAR2]*
- FHIR implementation guide – a statement of constraints and custom extensions on *FHIR Release 3 (STU) [HL7FHIR3]*
- template package library – a set of Schematron schema to test conformance of CDA documents with the specification
- conformance profile – a statement of conformance requirements for exchanging documents within a particular scenario such as the My Health Record
- release notes

Clinical specification packages contain only files relevant to the particular clinical document. Specifications that are common to many clinical documents and should be considered part of the specification package, as directed by the relevant release note and conformance profile, are contained in the *Common - Clinical Document [DH2019a]*.

1.3 How to read this document

This implementation guide contains descriptions of both constraints on HL7 CDA and, where necessary, custom extensions to the HL7 CDA, for the purposes of fulfilling the requirements for Australian implementations of prescription or dispense lists. These constraints are defined as a set of templates.

For implementers interested in a practitioner authored medicines list, such as PSML, the starting point for the CDA templates is ClinicalDocument (Prescription and or Dispense List), which references the additional templates necessary to assert conformance for this implementation guide.

Chapters that may be of primary interest are organised as follow:

- 3 *Conformance* - defines the conformance requirements applicable to a clinical document instance claiming conformance to a `ClinicalDocument` template defined in this implementation guide or any derived conformance profile.
- 4 *Prescription and or Dispense List hierarchy* - logical hierarchical view of the logical model for the document-level usage scenario.
- 5 *CDA Header templates* - contains the CDA Header templates that apply across all of the supported usage scenarios in this implementation guide.
- 6 *Document CDA templates* - defines the `ClinicalDocument` template for each logical model of a document-level usage scenario, e.g. Prescription and or Dispense List, in this implementation guide.
- 7 *Participation CDA templates* - defines the templates for individuals and organisations, called participations, referenced by other templates in this implementation guide.
- 8 *Entity CDA templates* - defines the templates for entities referenced by a participation template in this implementation guide.
- 9 *Section CDA templates* - defines the `section` templates referenced by a `ClinicalDocument` template in this implementation guide.
- 10 *Act CDA templates* - defines the templates for entry-level classes, called acts, referenced by other templates in this implementation guide.
- Appendix B, *Examples* - provides examples demonstrating a document-level usage model, e.g. Prescription and or Dispense List, and that conform to the CDA templates defined in this implementation guide.

1.4 Editorial note

This implementation guide is an early working specification that is available for comment and review. It may be used to solicit feedback and to provide insight as to the expected content in a forthcoming stable and approved version of the specification.

This implementation guide may not considered to be complete enough or sufficiently reviewed to be safe for implementation and use in production systems. It may have known issues and still be in development.

This implementation guide is intended to align to HL7 FHIR and is the result of work undertaken in conjunction with HL7 Australia.

1.5 Intended audience

This implementation guide is aimed at software development teams, architects, designers, clinicians and informatics researchers who are responsible for the delivery of clinical applications, infrastructure components and messaging interfaces, and also for those who wish to evaluate the clinical suitability of the Agency-endorsed specifications.

This implementation guide and related artefacts are technical in nature and the audience is expected to be familiar with the language of health data specifications and to have some familiarity with health information standards and specifications, such as *HL7 Clinical Document Architecture [HL7CDAR2]* and Standards Australia IT-014 documents. Definitions and examples are provided to clarify relevant terminology usage and intent.

1.6 Known issues

This section lists known issues with this specification at the time of publishing. We are working on solutions to these issues and encourage comments to help us develop these solutions.

Reference	Description
This implementation guide	This is just a wip shell at the moment - nothing to see here; move along.
PractitionerRole > healthcareService	PractitionerRole > healthcareService is not currently mapped into CDA. Future releases of this implementation guide are expected to include a CDA template for the concept of a HealthcareService.
Resolving URLs to Agency logical models (FHIR profiles) – not available	Direct links to the Agency logical models (published as FHIR profiles) referenced throughout this implementation guide are not available. It is intended that logical models, e.g. “Patient with Mandatory Identifier”, will be published at a resolvable address. Future releases of this implementation guide are expected to hyperlink all references to logical models. At this time the Agency logical models are only available via the *Prescription and Dispense Lists FHIR Implementation Guide [DH2019o]*.
Appendix C. Examples	This chapter is a placeholder - examples are yet to be done.
Prescription and Dispense Lists FHIR Implementation Guide [DH2019o]	The corresponding Prescription and or Dispense List FHIR IG is currently in progress; draft content is available from https://github.com/AuDigitalHealth/ci-fhir-stu3 (public) | https://stash.digitalhealth.gov.au/projects/CIL/repos/ci-fhir-stu3/browse (internal).

2 Guidance

2.1 Clinical Document Architecture Release 2

A CDA document is an XML document built following the rules described in the CDA specification, which conforms to the HL7 CDA schema provided by HL7. The CDA document is based on the semantics provided by the *HL7 V3 RIM, Data types and Vocabulary [HL7V3DT]*.

A CDA document has two main parts: the header and the body.

The CDA document header is consistent across all CDA documents, regardless of document type. The header identifies and classifies the document and provides information on authentication, the encounter, the patient, and the involved providers.

The body contains the clinical report. The body can be marked-up text (narrative, renderable text) or a combination of both marked-up text and structured data. The marked-up text can be transformed to XHTML and displayed to a human. The structured data allows machine processing of the information shown in the narrative section.

All clinical information is required to be marked up in CDA narratives. These narratives are CDA-defined hypertext, able to be rendered in web browsers with only a standard accompanying transformation. This transformation is produced and distributed by HL7.

The rendered narrative can stand alone as a source of authenticated information for consuming parties. Content from the CDA body is not to be omitted from the narrative.

Further information and conformance requirements on the CDA narrative is available in CDA narrative conformance requirements.

The following references are recommended to gain a better understanding of CDA:

- *HL7 Clinical Document Architecture [HL7CDAR2]*
- *HL7 V3 RIM, Data types and Vocabulary [HL7V3DT]*
- *CDA Examples [RING2009]*
- *CDA Validation Tools: infoway_release_2_2X_18.zip [INFO2009]*

2.2 Australian Digital Health Agency CDA extensions

As part of the CDA, standard extensions are allowed as follows:

> Locally-defined markup may be used when local semantics have no corresponding representation in the CDA specification. CDA seeks to standardize the highest level of shared meaning while providing a clean and standard mechanism for tagging meaning that is not shared. In order to support local extensibility requirements, it is permitted to include additional XML elements and attributes that are not included in the CDA schema. These extensions should not change the meaning of any of the standard data items, and receivers must be able to safely ignore these elements. Document recipients must be able to faithfully render the CDA document while ignoring extensions.
>
> Extensions may be included in the instance in a namespace other than the HL7v3 namespace, but must not be included within an element of type ED (e.g., <text> within <procedure>) since the contents of an ED datatype within the conformant document may be in a different namespace. Since all conformant content (outside of elements of type ED) is in the HL7 namespace, the sender can put any extension content into a foreign namespace (any namespace other than the HL7 namespace). Receiving systems must not report an error if such extensions are present. *HL7 Clinical Document Architecture [HL7CDAR2]*

A number of extensions to CDA have been defined in this implementation guide. To maintain consistency, the same development paradigm has been used as CDA.

These Australian Digital Health Agency CDA extensions have been added to the Australian Digital Health Agency CDA schema and are incorporated in the namespace `http://ns.electronichealth.net.au/Ci/Cda/Extensions/3.0` as shown in Appendix B, *Examples*. Future versions of CDA extensions will be versioned as per the following example:

```
http://ns.electronichealth.net.au/Ci/Cda/Extensions/4.0
```

The Australian Digital Health Agency CDA schema therefore differs from the base HL7 CDA W3C XML schema (referred to in this implementation guide as the HL7 CDA schema). CDA documents which include extensions will fail to validate against the HL7 CDA schema – this is a known limitation.

A prescription list, or a dispense list, or a prescription and dispense list document that conforms to this specification will validate against the Australian Digital Health Agency CDA schema that accompanies this specification, and will validate against the HL7 CDA schema once the extensions have been removed. Note that merely passing schema validation does not ensure conformance. For more information, refer to Base conformance requirements.

2.3 Conformance conventions

This implementation guide specifies the CDA templates for implementing a prescription or dispense list. A CDA template is a set of constraints, and where necessary, custom extensions to *HL7 Clinical Document Architecture [HL7CDAR2]*, expressed using conformance conventions as defined in this implementation guide.

CDA templates are presented in a CDA mapping table (see Mapping presentation and structure) and indicated by the presence of a `templateId` (see Template identifiers).

2.3.1 Template identifiers

Template identifiers (`templateId`) are unique to each CDA template. When valued in an instance, the template identifier signals the assertion of conformance to a set of template-defined constraints. The root value of this element (e.g. `@root="1.2.36.1.2001.1001.100.1002.226"`) provides a unique identifier for the template in question. The extension value of this element (e.g. `@extension="1.0"`) provides the version identifier for the template in question.

The following example demonstrates assertion of conformance to two CDA templates. This use of `templateId` indicates that the CDA instance not only conforms to the CDA specification, but in addition, conforms to two templates.

Example 2.1. Use of templateId to assert conformance to two CDA templates

```
<ClinicalDocument classCode="DOCCLIN" moodCode="EVN" xmlns="urn:hl7-org:v3" xmlns:ex="urn:hl7-org/v3-example"
xmlns:ext="http://ns.electronichealth.net.au/Ci/Cda/Extensions/3.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <typeId root="2.16.840.1.113883.1.3" extension="POCD_HD000040"/>
    <!-- ClinicalDocument templateId -->
    <templateId root="1.2.36.1.2001.1001.102.101.100033" extension="1.0"/>
    <!-- ClinicalDocument (Shared Medicines List Authored by Practitioner) templateId-->
    <templateId root="1.2.36.1.2001.1001.102.101.100065" extension="1.0"/>
    …
</ClinicalDocument>
```

2.3.2 Open and closed templates

A CDA template may be either an open template or a closed template:

- In an open template all of the features of the CDA R2 base specification *HL7 V3 RIM, Data types and Vocabulary [HL7V3DT]* are allowed except as constrained by explicitly specified constraints.
- In a closed template everything that is allowed must be explicitly specified and nothing further may be allowed.

The template context in this implementation guide is that of an open template unless otherwise stated. A closed template is indicated by the presence of the following constraint:

```
This template SHALL be a closed template
```

For example if a CDA template says nothing about the use of the `id` element:

- In an open template context this means that `id` is allowed as specified in the schema
- In a closed template context this means that no use of `id` is allowed

Example 2.2. CDA mapping fragment - Interpreting an open template for logical elements

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Header Data Elements				Context: /	
Composition	A clinical document written by the nominated provider, which contains key pieces of information about an individual's health status and is useful to a wide range of providers in assessing individuals and delivering care.	0..*	DomainResource	**ClinicalDocument**	In CDA the maximum occurrences of ClinicalDocument is 1. Although the model indicates that Composition is 0..*, in a CDA implementation this is limited to 0..1. In addition to the template defined in this mapping table, ClinicalDocument **SHALL** conform to the template defined in `ClinicalDocument`.
				ClinicalDocument/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				ClinicalDocument/templateId/**@root="1.2.36.1.2001.1001.102.101.100020"**	
				ClinicalDocument/templateId/**@extension="1.0"**	
Composition > **section (Event Overview)**	Summary information concerning the event.	1..1	BackboneElement	ClinicalDocument/component/structuredBody/**component[event]**	
				ClinicalDocument/component/structuredBody/component[event]/**section**	section **SHALL** conform to the template defined in `section (Event Overview)`.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Composition > **section (Allergies)**	Information about allergies or intolerances identified or reported during this encounter. This may include statements that a patient does not have an allergy or category of allergies.	0..1	BackboneElement	ClinicalDocument/component/structuredBody/**component[allergy]**	
				ClinicalDocument/component/structuredBody/component[allergy]/**section**	section **SHALL** conform to the template defined in `Section (Allergies)`.

The above template fragment states that each instance of the logical element Composition is represented as a `ClinicalDocument` that:

- explicitly requires an instance of `templateId` with a `root` that conforms to the fixed value constraint and an instance of `extension` that conforms to the fixed value constraint. Other attributes of `templateId`, e.g. `assigningAuthorityName`, are implicitly allowed.
- implicitly allows any other child attributes or elements of `ClinicalDocument` including other instances of `templateId`.
- explicitly requires exactly one `component` with an instance of `section` that conforms to `section (Event Overview)` [templateId: 1.2.36.1.2001.1001.102.101.100059]. Other `component` elements or attributes are implicitly allowed.
- explicitly allows at most one `component` with an instance of `section` that conforms to `section (Allergies)` [templateId: 1.2.36.1.2001.1001.102.101.100069]. Other `component` elements or attributes are implicitly allowed.
- implicitly allows one or more instances of a `component` with a `section` that does not conform to either `section (Event Overview)` [templateId: 1.2.36.1.2001.1001.102.101.100059] or `section (Allergies)` [templateId: 1.2.36.1.2001.1001.102.101.100069].

2.3.3 Fixed value constraint

A fixed value constraint is used to bind the value of an element or attribute to the exact string as presented between the quote marks (i.e. "FIXED_VALUE"). This type of constraint is frequently used in a template to cast an element to a particular data type, or bind an element of type Coded Simple (CS) to a single code, or fix an attribute of a primitive type to a value.

A fixed value constraint in the "CDA schema element" column of a CDA mapping table will use XPath like notation, for example:

```
/ClinicalDocument/confidentialityCode/@nullFlavor="N/A"
```

The use of "=" is to be interpreted as **SHALL**. The above example specifies a conformance requirement that the `nullFlavor` attribute **SHALL** be instantiated as "N/A".

A fixed value constraint in the "CDA constraints and comments" column of a CDA mapping table will make use of Conformance verbs, for example:

```
displayName SHOULD be "Closing the Gap Copayment Eligibility Indicator"
```

2.3.4 XPath like notation

This implementation guide uses an XML Path Language (XPath) like notation to identify the CDA schema element(s) to which conformance requirements are applied.

This notation provides a mechanism that will be familiar to developers for identifying parts of an XML document. XPath syntax selects nodes from an XML document using a path containing the context of the node(s). The path is constructed from node names and attribute names (prefixed by a "@") and catenated with a "/" symbol. In addition an [index] is used to differentiate similar mappings e.g. `participant[location]` and `participant[author]`.

The syntax is: {/name{[index]}}n

Where:

- {} indicates optional
- {}n means a section that may repeat
- [index] differentiates two similar mappings and indicates that a pattern 'like this' is to be applied (see Interpreting cardinality in a CDA mapping table for logical elements)

An index after the name, such as `component[admin_obs]` or `entry[close_gap]` implies that there are expected to be two or more different `component` elements and `entry` elements instantiated in the `ClinicalDocument` instance. The indexes differentiate which CDA schema element is referenced in the path.

The `value` attribute of the `value` element from the below example could be referred to with the path `/ClinicalDocument/component/structuredBody/component[admin_obs]/section/entry[close_gap]/observation/value/@value`.

Example 2.3. XPath like notation

```
<ClinicalDocument xmlns="urn:hl7-org:v3" xmlns:ext="http://ns.electronichealth.net.au/Ci/Cda/Extensions/3.0"
   xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   …

   <component>
      <structuredBody>
         <component>
            <section>
               <templateId root="1.2.36.1.2001.1001.102.101.100000" extension="1.0"/>
               <code code="102.16080" codeSystem="1.2.36.1.2001.1001.101" codeSystemName="NCTIS Data Components" displayName="Administrative Observations"/>
               <title>Administrative Observations</title>
               <entry>
                  <observation classCode="OBS" moodCode="EVN">
                     <code codeSystem="1.2.36.1.2001.1001.101" code="103.32011" displayName="Closing the Gap Copayment Eligibility Indicator" />
                     <value xsi:type="BL" value="true"/>
                  </observation>
               </entry>

               …
</ClinicalDocument>
```

The corresponding entries in the CDA schema element column of a CDA mapping table for `/ClinicalDocument/component/structuredBody/component[admin_obs]/section/entry[close_gap]/observation/value` could be expressed using the XPath like notation as in the template fragment below.

Example 2.4. CDA mapping fragment - XPath like notation

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Header Data Elements				Context: /ClinicalDocument/component/structuredBody/component[admin_obs]/section	
Patient > **closing-the-gap-registration**	Indication for eligibility for the Closing the Gap program.	0..1	boolean	**entry[close_gap]**	The containing component[admin_obs]/section **SHALL** conform to the template defined in component (Administrative Observations).
				entry[close_gap]/**observation**	
				entry[close_gap]/observation/**@classCode="OBS"**	
				entry[close_gap]/observation/**@moodCode="EVN"**	
				entry[close_gap]/observation/**code**	
				entry[close_gap]/observation/code/**@code="103.32011"**	
				entry[close_gap]/observation/code/**@codeSystem="1.2.36.1.2001.1001.101"**	NCTIS Data Components
				entry[close_gap]/observation/code/**@displayName**	displayName **SHOULD** be "Closing the Gap Copayment Eligibility Indicator".
				entry[close_gap]/observation/**value**	closing-the-gap-registration is "true" if eligible for Closing the Gap co-payment. value/@xsi:type **SHALL** be "BL".

2.3.5 Terminology binding

Vocabulary is specified in this implementation guide as:

- Fixed value constraint if only one permissible value is allowed, or
- Binding to a value set if more than one permissible value is allowed, e.g. Medication Act Status HL7 v3 (required)

For guidance on coding common clinical concepts in CDA documents see *Representing Coding in CDA Documents Implementation Guidance [NEHT2011bv]*.

Binding to a value set

A value set binding will be specified in the "CDA constraints and comments" column of a CDA mapping table as the title of the value set (hyperlinked to its definition) followed by identification of the binding strength (hyperlinked to its definition), for example:

> v3 Code System ParticipationFunction (required)

That example terminology binding applied to a `code` element is to be interpreted as:

- `code/@code` **SHALL** be present and **SHALL** contain a code from v3 Code System ParticipationFunction
- `code/@codeSystem="2.16.840.1.113883.5.88"` **SHALL** be present
- `code/@nullFlavor` **SHALL NOT** be present as no meaningful value can be supplied
- `code/@displayName` **SHOULD** be present and **SHOULD** contain the display associated with the selected code from the value set
- `code/@codeSystemName` **SHOULD** be present and **SHOULD** contain the display associated with the code system as it is registered with a registration authority such as HL7
- `code/@originalText` **SHOULD** be present and **SHALL** carry the full text associated with this code as selected by, typed by, or displayed to the author
- `code/@qualifier` **SHALL NOT** be present as the example code system does not define qualifier values
- `code/@translation` **MAY** be present if an alternative terminology is in use in the sending system and a translation is available

Example 2.5. Interpreting required value set binding

```
<code code="MCMGT" codeSystem="2.16.840.1.113883.5.88" />
```

```
<!-- or -->

<code code="MCMGT" codeSystem="2.16.840.1.113883.5.88"
codeSystemName="v3.ParticipationFunction" displayName="managed care management"/>

<!-- or -->

<code code="MCMGT" codeSystem="2.16.840.1.113883.5.88"
codeSystemName="v3.ParticipationFunction" displayName="managed care management">
   <originalText>Care Management</originalText>
</code>
```

Coded Simple (CS)

A Coded Simple data type, or CS, is defined in *HL7 V3 RIM, Data types and Vocabulary [HL7V3DT]*. It is the simplest form of coded data and consists only of a code, other attributes are prohibited. Common instances typed as CS include `@classCode`, `@moodCode`, `@statusCode`, and `@nullFlavor` which have HL7-defined value sets.

The example below illustrates a fragment that conforms to the following terminology binding: `@statusCode` Medication Act Status HL7 v3 (required).

Example 2.6. Interpreting value set binding to Coded Simple (CS)

```
<statusCode code="active"/>
```

2.3.6 Conformance verbs

Where used in this implementation guide, the keywords **SHALL**, **SHOULD**, **MAY**, **SHALL NOT** and **SHOULD NOT** from *Key Words for Use in RFCs to Indicate Requirement Levels [RFC2119]* are to be interpreted as described in the table below.

Conformance verb	Interpretation
SHALL	An absolute requirement. Where **SHALL** appears in any conformance constraint it indicates a mandatory requirement. Where **SHALL** is applied to the occurrences of an element or attribute then that element or attribute must be present but can be null if the value is not known and the value has not been constrained to not allow a null value.
SHOULD	A requirement that is considered best practice or recommendation for inclusion. There may be valid reasons to ignore an item, but the full implications must be understood and carefully weighed before choosing a different course. Where **SHOULD** appears in a conformance constraint that constrains the allowed occurrences of an item it indicates that the item may not be present but does not override the upper bound of the cardinality range. For a sending application where **SHOULD** is applied to the occurrences of an item then that item must be present if a sending application has the data for that data element. If the value is not known the element or attribute does not need to be included. Implementers must support an optional requirement.
MAY	A requirement that can be included or omitted as the author decides with no implications. Where **MAY** appears in a conformance constraint that constrains the allowed occurrences of an item it indicates that the item may not be present but does not override the upper bound of the cardinality range. Implementers must support an optional requirement.
SHALL NOT	An absolute prohibition. Where **SHALL NOT** appears in any conformance constraint it indicates a mandatory prohibition requirement.

Conformance verb	Interpretation
SHOULD NOT	A requirement that is considered best practice or recommendation against inclusion. There may be valid reasons to ignore an item, but the full implications must be understood and carefully weighed before choosing a different course. Where **SHOULD NOT** appears in a conformance constraint that constrains the allowed occurrences of an item it indicates that the item may not be present but does not override the upper bound of the cardinality range. For a sending application where **SHOULD NOT** is applied to the occurrences of an item then that element or attribute must be present if a sending application has the data for that data element. If the value is not known the element or attribute does not need to be included. Implementers must support an optional requirement.

2.3.7 Cardinality notation

The cardinality range specifies the allowable occurrences in the format "m..n" where m is the minimum allowed members of the set (lower bound) and n is the maximum allowed members of the set (upper bound). The allowed values for m and n are 0, any positive integer, and *.

The table below demonstrates a representative set of examples of cardinality range and how to interpret that cardinality range; p is positive integer greater than the minimum allowed members of the set.

Cardinality range	Interpretation
0..0	zero (explicitly prohibited)
0..1	zero or one
1..1	exactly one
0..*	zero or more
1..*	at least one
2..*	at least two
1..p	at least one and not more than p
2..p	at least two and not more than p

2.3.8 Interpreting cardinality in a CDA mapping table for logical elements

A CDA mapping table for logical elements will include a logical cardinality range for each logical element and a series of CDA schema elements that when instantiated are considered to be the CDA representation of that logical element.

In order to instantiate a logical element all CDA schema elements mapped to that logical element are to be instantiated unless a constraint is present in the mapping table to indicate otherwise. This means that while the first CDA schema element in a series has a comparative relationship to the logical cardinality, the effect on the additional CDA schema elements in a series is always that their minimum occurrence is to be interpreted as 1.

The logical cardinality is applied to the first mapped CDA schema element in a series in the following manner:

- The most strict minimum occurrence between the logical cardinality or the CDA schema cardinality is applied.
    - If a logical element has a minimum cardinality of 1 and the mapped CDA schema element has a minimum cardinality of 0 then the most strict cardinality of 1 applies to that CDA schema element.
- A CDA schema element with an [index] (see XPath like notation), e.g. `representedOrganization/name[business]`, has the maximum occurrence of the logical element applied as a pattern 'like this'.
    - For example, if the logical cardinality of Organization > name is 0..1 and that logical element is mapped to `representedOrganization/name[business]="TestOrg"` (CDA schema cardinality of 0..*), then a maximum of one instance of `representedOrganization/name` that has a value of "TestOrg" may be present. Other instances of `representedOrganization/name` that do not meet the pattern of "TestOrg" may be present.
- A CDA schema element with no [index] (see XPath like notation), e.g. `representedOrganization/name`, has the most strict maximum occurrence between the logical cardinality or the CDA schema cardinality applied.
    - For example, if the logical cardinality of Organization > name is 0..1 and that logical element is mapped to `representedOrganization/name` (CDA schema cardinality of 0..*), then the most strict cardinality of 1 applies to that CDA schema element.

A fragment of a section template is provided below, it includes a column for CDA card to emphasize that when more than one CDA schema element is mapped to a logical element the minimum cardinality of the additional schema elements becomes 1.

Example 2.7. CDA mapping fragment - Interpreting cardinality in a CDA mapping table for logical elements

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Body Level 3 Data Elements				Context: Comes from linking elements	
section	Information about allergies or intolerances. Information may include allergies or intolerances that have been identified or reported, or may include statements that a patient is not known to have an allergy or category of allergies.	Cardinality comes from linking element	BackboneElement	**section**	This section **SHALL** contain at least one entry (entry[adv]) or an emptyReason (@nullFlavor) but **SHALL NOT** contain both.
				section/**templateId**	
				section/templateId/**@root="1.2.36.1.2001.1001.102.101.100069"**	
				section/templateId/**@extension="1.0"**	
section > **title**	The label for this particular section. This will be part of the rendered content for the document, and is often used to build a table of contents.	1..1	string	section/**title**	
section > **code**	A code identifying the kind of content contained within the section. This must be consistent with the section title.	1..1	CodeableConcept	section/**code**	
				section/code/**@code="48765-2"**	
				section/code/**@codeSystem="2.16.840.1.113883.6.1"**	LOINC
				section/code/**@displayName**	displayName **SHOULD** be "Allergies &or adverse reactions".
section > **text**	A human-readable narrative that contains the attested content of the section, used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it 'clinically safe' for a human to just read the narrative.	1..1	Narrative	section/**text**	
section > **entry**	A reference to the actual resource from which the narrative in the section is derived.	0..*	Reference(AllergyIntolerance as)	section/**entry[adv]**	A statement of allergy or intolerance can be sent to state that a patient does have an allergy or category of allergies or it can be sent to state that they do not e.g. 716186003 |No known allergy| 716184000 |No known latex allergy|. observation **SHALL** conform to the template defined in `observation (Summary Statement of Allergy or Intolerance)`.
				section/entry[adv]/**observation**	
section > **emptyReason**	If the section is empty, why the list is empty. An empty section typically has some text explaining the empty reason.	0..1	CodeableConcept	section/**@nullFlavor**	Empty Reason HL7 v3 NullFlavor (required) The nullFlavor attribute is used to represent the reason a section is empty of clinical content.

The above template fragment states that each instance of the logical element section is represented as a `section` with:

- One `templateId` with a `root="1.2.36.1.2001.1001.102.101.100069"` and an `extension="1.0"`. Additional instances of `templateId` are allowed.
- Exactly one `title`.
- Exactly one `code` with a `code="48765-2"` and a `codeSystem="2.16.840.1.113883.6.1"` and a `displayName`.

- Either exactly one `nullFlavor` or at least one `entry/observation`. If instantiated, `nullFlavor` will have a value from Empty Reason HL7 v3 NullFlavor. If instantiated `entry/observation` will conform to the template `observation (Summary Statement of Allergy or Intolerance)`. Additional instances of `entry` that do not contain an `observation` are allowed.

- Additional `section` attributes (e.g. `classCode`) or elements (e.g. `author`) are allowed as defined in the CDA schema as long as conformance to Base conformance requirements is maintained.

Example 2.8. Interpreting cardinality in a CDA mapping table for logical elements

```
<example>
      <title>XML fragment - Composition - Interpreting an open template for logical elements</title>
      <programlisting language="cdaxml">
      <![CDATA[
<ClinicalDocument xmlns="urn:hl7-org:v3" xmlns:ext="http://ns.electronichealth.net.au/Ci/Cda/Extensions/3.0"
   xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   …
   <templateId root="1.2.36.1.2001.1001.102.101.100033" extension="1.0"/>
   <templateId root="1.2.36.1.2001.1001.102.101.100020" extension="1.0"/>
   <templateId root="1.2.36.1.2001.1001.100.149" extension="1.0"/>
   …
   <component>
      <structuredBody>
         …
         <!-- section (Allergies) -->
         <component>
            <section>
               <templateId root="1.2.36.1.2001.1001.102.101.100069" extension="1.0"/>
               <code code="48765-2" codeSystem="2.16.840.1.113883.6.1" displayName="Allergies &amp;amp;or adverse reactions"/>
               <title>Allergies and Adverse Reactions</title>
               <text mediaType="text/x-hl7-text+xml">No known allergies.</text>
               …
               <!--section entry -->
               <entry typeCode="DRIV">
                  <observation classCode="OBS" moodCode="EVN">
                     <templateId root="1.2.36.1.2001.1001.102.101.100014" extension="1.0"/>
                     <code code="102.15517" codeSystem="1.2.36.1.2001.1001.101" codeSystemName="NCTIS Data Components" displayName="Adverse Reaction"/>
                     <value xsi:type="CD" code="716186003" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" displayName="No known allergy">
                        <originalText>No known allergies</originalText>
                     </value>
                     …
                  </observation>
               </entry>
            </section>
         </component>
   …
</ClinicalDocument>
```

2.4 Mapping presentation and structure

The CDA templates described in this implementation guide are presented in table format and will be either:

- a mapping of each logical element of the logical model (i.e. profiled FHIR resources published in *Prescription and Dispense Lists FHIR Implementation Guide [DH2019o]*) to a corresponding CDA attribute or element, or
- a set of CDA attributes or elements with specified infrastructure or control requirements that are not sourced from the logical model but are necessary for supporting the usage scenarios in a CDA implementation.

CDA templates mapping logical elements are roughly grouped by HL7 Reference Information Model (RIM) class within a templates chapter, e.g. 7 *Participation CDA templates*.

The heading for each child section identifies the CDA schema element that is templated, and may also identify the name of part of the logical model that the template corresponds to, e.g. recordTarget (Patient with Mandatory Identifier) defines the CDA template of the `recordTarget` CDA schema element to represent the logical model for Patient with Mandatory Identifier.

2.4.1 Legend - CDA mapping table for logical elements

A CDA mapping table for logical elements aims to take implementers step by step through mapping each element of the logical model to a corresponding CDA attribute or element. The following section describes in more detail the fields used to present the mapping content in this implementation guide.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA conformance level, e.g. CDA Header, CDA Body Level 3 Data Elements				Context: The root context that is applied as a prefix to the CDA schema element paths in the mapping rows below	
The logical hierarchical path in the logical model expressed using names of the elements in the logical model. If there is a name in round brackets after the path, this is the label for that element or resource. The text in **bold** (the last in the path) is the subject for this row in the convention <Parent (Label)> > <**Child (Label)**>, e.g. Composition > **section (Allergies)**	The description of the element in the logical model.	The cardinality of the logical element in the logical model (see Cardinality notation). The root element of each template will typically express an inherited cardinality from the parent element in a parent template by stating: Cardinality comes from linking element A logical cardinality is applied to the mapped CDA schema elements as described in Interpreting cardinality in a CDA mapping table for logical elements: • The most strict minimum occurrence between the logical cardinality or the CDA schema defined cardinality is applied. • The most strict maximum occurrence applies to CDA schema elements without an [index]. • The maximum occurrence of the logical cardinality applies as a pattern 'like this' to CDA schema elements with an [index].	The type of the logical element (hyperlinked to the definition of the [HL7FHIR3] type) in the logical model. This may be expressed as a type that is further constrained by a model in the convention <type> as <model name>, e.g. Patient as Patient with Mandatory Identifier.	The CDA schema element(s) in the CDA template that when instantiated are considered to be the CDA representation of that logical element; expressed using an XPath like notation, e.g.: participant[location]/associatedEntity/**code** The path always starts from the context as defined in the grey header row above each group of mapping rows. The last CDA schema element in the path is presented in bold to aid the reader. Typically a logical model element will map to multiple CDA schema elements. In order to instantiate the logical element in CDA, the minimum cardinality of the mapped CDA schema elements should be understood to be 1 unless an associated constraint is present to indicate a different cardinality (see Interpreting cardinality in a CDA mapping table for logical elements).	Additional information or guidance on implementing the logical element in CDA to support usage scenarios, e.g. When sending to the My Health Record, an IHI is expected. Constraints on the CDA schema elements, identified by use of Conformance verbs, e.g. code/originalText or code/@displayName **SHALL** be included. Terminology binding, e.g. Address Type HL7 v3 (required).

2.4.2 Legend - CDA mapping table for CDA schema elements

A CDA mapping table for CDA schema elements will define conformance requirements that are not sourced from a logical model and that apply cross all of the supported usage scenarios. The following section describes in more detail the fields used to present the mapping content in this implementation guide.

CDA mapping

CDA schema element	CDA element description	CDA card	CDA constraints and comments
CDA conformance level, e.g. CDA Header, CDA Body Level 3 Data Elements		Context: The root context that is applied as a prefix to the CDA schema element paths in the mapping rows below	
The CDA schema element(s) in the CDA template using an XPath like notation, e.g.: ClinicalDocument/versionNumber/**@value** The path always starts from the context as defined in the grey header row above each group of mapping rows. The last CDA schema element in the path is presented in bold to aid the reader.	The description of the CDA schema element definitions, sourced from HL7 Clinical Document Architecture, Release 2 [HL7CDAR2].	The cardinality of the CDA schema element in the template (see Cardinality notation). The root element of a template may express an inherited cardinality from the parent element in a parent template by stating: Cardinality comes from linking element	Additional information or guidance on the use of the CDA schema element to support usage scenarios, e.g. The use of templateId signals the imposition of a set of template-defined constraints. Constraints on the CDA schema elements, identified by use of Conformance verbs, e.g. code/originalText or code/@displayName **SHALL** be included. Terminology binding, e.g. Address Type HL7 v3 (required).

3 Conformance

Conformance claims are typically made against the templates in this implementation guide and additional conformance profiles documented elsewhere such as *Prescription List - Point-to-Point Conformance Profile [DH2019q]*.

3.1 Base conformance requirements

Any document that claims conformance to a `ClinicalDocument` template defined in this implementation guide or any derived conformance profile **SHALL** meet these base requirements:

- It **SHALL** be a valid HL7 CDA instance. In particular:
  - It **SHALL** be valid against the HL7 CDA schema (once extensions have been removed).
  - It **SHALL** conform to the HL7 V3 R1 data type specification.
  - It **SHALL** conform to the semantics of the RIM and Structural Vocabulary.
- It **SHALL** be valid against the Australian Digital Health Agency CDA schema that accompanies this implementation guide after any additional extensions not in the Australian Digital Health Agency extension namespace have been removed, along with any other CDA content not described by this implementation guide.
- It **SHALL** conform to the CDA templates it claims conformance to.
- It **SHALL** be valid against the additional conformance requirements that are established in this implementation guide (i.e. any normative use of the word "shall" identified by the term presented in uppercase and bold typeface).
- The narrative **SHALL** conform to the requirements described in this implementation guide.
- The document **SHALL** conform to the requirements specified in the CDA Rendering Specification [NEHT2012s].
- Any additional content included in the CDA document that is not described by this implementation guide:
  - **SHALL NOT** qualify or negate content described by this implementation guide
  - **SHALL** be clinically safe for receivers of the document to ignore the non-narrative additions when interpreting the existing content.
- A system that *consumes* PDL CDA documents **SHALL** be able to:
  - correctly process conformant instance documents, including correctly understanding all the information in the header and it **MAY** but is not required to, reject non-conformant documents.
  - correctly render the document for end-users when appropriate (see Clinical Document Architecture Release 2) but is not required to process any or all of the structured data entries in the CDA document.

3.2 Conformance profile conformance requirements

Conformance profiles of this implementation guide **MAY** make additional rules that override templates in this implementation guide in regard to:

- Allowing the use of alternative value sets in place of the value sets - this is limited to not overriding the rules of the terminology binding strength.
    - For example, a required value set may be overridden by a value set whose values are a subset of those of the required binding.
- Restricting the data type of a CDA schema element or attribute.
- Restricting the allowed values of a CDA schema element or attribute.
- Restricting the cardinality of a CDA schema element or attribute.
- Providing more specific or additional mappings to CDA schema elements or attributes.
- Providing refined usage scenarios, definitions, and implementation guidance.

A conformance profile cannot break the rules established in this implementation guide.

3.3 CDA narrative conformance requirements

CDA requires that each section in its body include a narrative block, containing a clinically complete version of the section's encoded content using custom hypertext markup defined by HL7. The narrative is the human-readable and attestable part of a CDA document, and can stand alone as an accurate representation of the content of the document without any need to consult entries in the body.

It is an *HL7 Clinical Document Architecture [HL7CDAR2]* requirement that all clinical information **SHALL** be marked up in CDA narratives.

It is an *HL7 Clinical Document Architecture [HL7CDAR2]* requirement that the rendered narrative **SHALL** be able to stand alone as a source of authenticated information for consuming parties. Clinically relevant content from the CDA body **SHALL NOT** be omitted from the narrative.

There is no canonical markup for specific CDA components, but some conformance requirements apply:

- The narrative block **SHALL** be encapsulated within the text component of the CDA section.
- The narrative contents **SHALL** conform to the requirements specified in the CDA Rendering Specification [NEHT2012s].
- The narrative contents **SHALL** completely and accurately represent the clinical information encoded in the section. Clinical content **SHALL NOT** be omitted from the narrative.
    - In accordance with the requirement to completely represent section contents, elements of type CodeableConcept **SHALL** include an `originalText` or a `displayName` attribute (or both). Where available, the `originalText` **SHOULD** be found in the narrative, otherwise the `displayName` **SHOULD** be found in the narrative.
    - In accordance with the requirement to represent section contents in that section, the narrative of the content for a section **SHALL** be contained in that section or, if appropriate, the narrative of an ancestor section.
- The narrative **SHALL** conform to the content requirements of the CDA specification [HL7CDAR2] and the XML schema.

Clinical judgement is required to determine the appropriate presentation for narrative. We may release additional guidance in this regard.

4 Prescription and or Dispense List hierarchy

Prescription and or Dispense List is defined as:

> A list of prescriptions, and or, dispense records for a patient. *Prescription and Dispense Lists FHIR Implementation Guide [DH2019o]*

4.1 Logical hierarchy

The hierarchy below provides a logical view of the document-level usage scenario Prescription and or Dispense List as a tree structure in a hierarchical table; it is not intended to represent how the data contents are represented in a CDA document.

The logical model Composition (Prescription and or Dispense List), published as a set of FHIR profiles, can be found in the *Prescription and Dispense Lists FHIR Implementation Guide [DH2019o]*.

A legend is available at the end of this hierarchy.

Logical element	Logical card	Logical type	CDA template
Composition (Prescription and or Dispense List)		Composition as Prescription and or Dispense List	ClinicalDocument (Prescription and or Dispense List)
composition-author-role	0..1	Reference(PractitionerRole as PractitionerRole with Practitioner with Mandatory Identifier)	author (PractitionerRole with Practitioner with Mandatory Identifier)
identifier	0..1	Identifier	
status	1..1	code	
type	1..1	CodeableConcept	
subject	1..1	Reference(Patient as Patient with Mandatory Identifier)	recordTarget (Patient with Mandatory Identifier)
date	1..1	dateTime	
author	1..1	Reference(Practitioner as Practitioner with Mandatory Identifier | Device as Device with Mandatory Identifier | Patient as Patient with Mandatory Identifier | RelatedPerson as RelatedPerson with Mandatory Identifier)	
title	1..1	string	
attester (Legal Attester)	0..1	BackboneElement	legalAuthenticator
mode	1..1	code	
time	1..1	dateTime	
party	1..1	Reference(Practitioner as Practitioner with Mandatory Identifier)	
custodian	1..1	Reference(Organization as Organization with Mandatory Identifier)	custodian (Organization with Mandatory Identifier)
section (Dispense List)	0..1	BackboneElement	section (Dispense List)
title	1..1	string	
code	1..1	CodeableConcept	
text	1..1	Narrative	
entry	0..2	Reference(List as List of Prescription and or Dispense Records | Provenance as Provenance for the Generation of a List)	act (List of Prescription and or Dispense Records) | act (Provenance for the Generation of a List)
emptyReason	0..1	CodeableConcept	
section (Prescription List)	0..1	BackboneElement	section (Prescription List)
title	1..1	string	

Logical element			Logical card	Logical type	CDA template
		code	1..1	CodeableConcept	
		text	1..1	Narrative	
		entry	0..2	Reference(List as List of Prescription and or Dispense Records | Provenance as Provenance for the Generation of a List)	act (List of Prescription and or Dispense Records) | act (Provenance for the Generation of a List)
		emptyReason	0..1	CodeableConcept	
	section (Prescription and Dispense List)		0..1	BackboneElement	section (Prescription and Dispense List)
		title	1..1	string	
		code	1..1	CodeableConcept	
		text	1..1	Narrative	
		entry	0..2	Reference(List as List of Prescription and or Dispense Records | Provenance as Provenance for the Generation of a List)	act (List of Prescription and or Dispense Records) | act (Provenance for the Generation of a List)
		emptyReason	0..1	CodeableConcept	

Note

The column "Logical element" contains the name of that element in the logical model.

The column "Logical card" contains the logical cardinality of that element in the logical model.

The column "Logical type" contains the type of the logical element (hyper-linked to the definition of the [HL7FHIR3] type) in the logical model. This may be expressed as a type that is further constrained by a model in the convention <type> as <model name>.

The column "CDA template" contains the title of the corresponding CDA template for that logical element (hyper-linked to CDA mapping table for that template). The convention for the CDA template title is <CDA schema element> (<model name> where the template is not defined in 5 *CDA Header templates*).

4.2 Logical expanded hierarchy

The hierarchy below provides an expanded logical view of the Prescription and or Dispense List model as a tree structure in a hierarchical table that includes the structure of the first level of referenced models; it is not intended to represent how the data contents are represented in a CDA document.

The logical model Composition (Prescription and or Dispense List), published as a set of FHIR profiles, can be found in the *Prescription and Dispense Lists FHIR Implementation Guide [DH2019o]*.

A legend is available at the end of this hierarchy.

Logical element	Logical card	Logical type	CDA template
Composition (Prescription and or Dispense List)		Composition as Prescription and or Dispense List	ClinicalDocument (Prescription and or Dispense List)
composition-author-role	0..1	Reference(PractitionerRole as PractitionerRole with Practitioner with Mandatory Identifier)	author (PractitionerRole with Practitioner with Mandatory Identifier)
identifier	0..*	Identifier	
active	0..1	boolean	
period	0..1	Period	
practitioner	1..1	Reference(Practitioner as Practitioner with Mandatory Identifier)	assignedPerson (Practitioner with Mandatory Identifier)
organization	0..1	Reference(Organization as Base Organization)	representedOrganization (Base Organization)
code	0..*	CodeableConcept	
specialty	0..*	CodeableConcept	
location	0..*	Reference(Location)	
healthcareService	0..*	Reference(HealthcareService)	
telecom	0..*	ContactPoint	
availableTime	0..*	BackboneElement	
daysOfWeek	0..*	code	
allDay	0..1	boolean	
availableStartTime	0..1	time	
availableEndTime	0..1	time	
notAvailable	0..*	BackboneElement	
description	1..1	string	
during	0..1	Period	
availabilityExceptions	0..1	string	
date	1..1	dateTime	
identifier	0..1	Identifier	
status	1..1	code	
type	1..1	CodeableConcept	
subject	1..1	Reference(Patient as Patient with Mandatory Identifier)	recordTarget (Patient with Mandatory Identifier)
birthPlace	0..1	Address	
indigenous-status	0..1	Coding	
closing-the-gap-registration	0..1	boolean	
patient-mothersMaidenName	0..1	string	
identifier	1..*	Identifier	
active	0..1	boolean	

Logical element				Logical card	Logical type	CDA template
		name		0..*	HumanName as Base HumanName	
		telecom		0..*	ContactPoint	
		gender		0..1	code	
		birthDate		0..1	date	
			date-accuracy-indicator	0..1	Coding	
			birthTime	0..1	dateTime	
		deceased[x]		0..1	boolean | dateTime	
			date-accuracy-indicator	0..1	Coding	
		address		0..*	Address	
		maritalStatus		0..1	CodeableConcept	
		multipleBirth[x]		0..1	boolean | integer	
		contact		0..*	BackboneElement	participant (Patient contact)
			relationship	0..*	CodeableConcept	
			name	0..1	HumanName as Base HumanName	
			telecom	0..*	ContactPoint	
			address	0..1	Address	
			gender	0..1	code	
			organization	0..1	Reference(Organization as Base Organization)	
			period	0..1	Period	
		communication		0..*	BackboneElement	
			language	1..1	CodeableConcept	
			preferred	0..1	boolean	
		generalPractitioner		0..*	Reference(Practitioner as Base Practitioner | Organization as Base Organization)	participant (generalPractitioner Base Practitioner) | participant (generalPractitioner Base Organization)
		managingOrganization		0..1	Reference(Organization as Base Organization)	providerOrganization (Base Organization)
	date			1..1	dateTime	
	author			1..1	Reference(Patient as Patient with Mandatory Identifier)	author (Patient with Mandatory Identifier)
		birthPlace		0..1	Address	
		indigenous-status		0..1	Coding	
		closing-the-gap-registration		0..1	boolean	
		patient-mothersMaidenName		0..1	string	
		identifier		1..*	Identifier	
		active		0..1	boolean	
		name		0..*	HumanName as Base HumanName	
		telecom		0..*	ContactPoint	
		gender		0..1	code	
		birthDate		0..1	date	
			date-accuracy-indicator	0..1	Coding	
			birthTime	0..1	dateTime	
		deceased[x]		0..1	boolean | dateTime	
			date-accuracy-indicator	0..1	Coding	
		address		0..*	Address	
		maritalStatus		0..1	CodeableConcept	
		multipleBirth[x]		0..1	boolean | integer	

Logical element					Logical card	Logical type	CDA template
		contact			0..*	BackboneElement	
			relationship		0..*	CodeableConcept	
			name		0..1	HumanName as Base HumanName	
			telecom		0..*	ContactPoint	
			address		0..1	Address	
			gender		0..1	code	
			organization		0..1	Reference(Organization as Base Organization)	
			period		0..1	Period	
		communication			0..*	BackboneElement	
			language		1..1	CodeableConcept	
			preferred		0..1	boolean	
		generalPractitioner			0..*	Reference(Practitioner as Base Practitioner | Organization as Base Organization)	
		managingOrganization			0..1	Reference(Organization as Base Organization)	
	author				1..1	Reference(RelatedPerson as RelatedPerson with Mandatory Identifier)	author (RelatedPerson with Mandatory Identifier)
		identifier		0..*		Identifier	
		active		0..1		boolean	
		patient		1..1		Reference(Patient as Base Patient)	
		relationship		0..1		CodeableConcept	
		name		0..*		HumanName as Base HumanName	
		telecom		0..*		ContactPoint	
		gender		0..1		code	
		birthDate		0..1		date	
		address		0..*		Address	
		period		0..1		Period	
	author				0..1	Reference(Practitioner as Practitioner with Mandatory Identifier)	
		identifier			1..*	Identifier	
		active			0..1	boolean	
		name			0..*	HumanName as Base HumanName	
		telecom			0..*	ContactPoint	
		address			0..*	Address	
		gender			0..1	code	
		birthDate			0..1	date	
		qualification			0..*	BackboneElement	
			identifier		0..*	Identifier	
			code		1..1	CodeableConcept	
			period		0..1	Period	
			issuer		0..1	Reference(Organization as Base Organization)	
		communication			0..*	CodeableConcept	
	title				1..1	string	
	attester (Legal Attester)				1..1	BackboneElement	
		mode			1..1	code	
		time			1..1	dateTime	

Logical element					Logical card	Logical type	CDA template
		party			1..1	Reference(Practitioner as Practitioner with Mandatory Identifier)	
			identifier		1..*	Identifier	
			active		0..1	boolean	
			name		0..*	HumanName as Base HumanName	
			telecom		0..*	ContactPoint	
			address		0..*	Address	
			gender		0..1	code	
			birthDate		0..1	date	
			qualification		0..*	BackboneElement	
				identifier	0..*	Identifier	
				code	1..1	CodeableConcept	
				period	0..1	Period	
				issuer	0..1	Reference(Organization as Base Organization)	
			communication		0..*	CodeableConcept	
	custodian				1..1	Reference(Organization as Organization with Mandatory Identifier)	custodian (Organization with Mandatory Identifier)
		identifier			1..*	Identifier	
		active			0..1	boolean	
		type			0..*	CodeableConcept	
		name			0..1	string	
		alias			0..*	string	
		telecom			0..*	ContactPoint	
		address			0..*	Address	
		partOf			0..1	Reference(Organization as Base Organization)	
		contact			0..*	BackboneElement	
			purpose		0..1	CodeableConcept	
			name		0..1	HumanName as Base HumanName	
			telecom		0..*	ContactPoint	
			address		0..1	Address	
	section (Dispense List)				0..1	BackboneElement	section (Dispense List)
		title			1..1	string	
		code			1..1	CodeableConcept	
		text			1..1	Narrative	
		entry			0..1	Reference(List as List of Prescription and or Dispense Records)	act (List of Prescription and or Dispense Records)
			author-role		0..1	Reference(PractitionerRole as PractitionerRole with Mandatory Identifier)	
			author-related-person		0..1	Reference(RelatedPerson as RelatedPerson with Mandatory Identifier)	
			status		1..1	code	
			code		1..1	CodeableConcept	
			subject		1..1	Reference(Patient as Patient with Mandatory Identifier)	
			date		0..1	dateTime	

Logical element					Logical card	Logical type	CDA template
			source		0..1	Reference(Practitioner as | Patient as Patient with Mandatory Identifier | Device as Patient with Mandatory Identifier)	
			note		0..*	Annotation	
			entry		1..*	BackboneElement	
				item	1..1	Reference(MedicationStatement | MedicationRequest | MedicationDispense)	
			emptyReason		0..1	CodeableConcept	
		entry			0..1	Reference(Provenance as Provenance for the Generation of a List)	act (Provenance for the Generation of a List)
			target		1..*	Reference(Any)	
			period		0..1	Period	
			recorded		1..1	instant	
			policy		0..*	uri	
			activity		1..*	Coding	
			agent (Assembling Device)		0..1	Reference(BackboneElement)	
				role	0..1	CodeableConcept	
				who[x]	0..1	Reference(Device as Base Device)	
				onBehalfOf[x]	0..1	Reference(Practitioner as | RelatedPerson as Base RelatedPerson | Patient as | Device as Base Device | Organization as Base Organization)	
			agent (Authoring Entity)		0..1	Reference(BackboneElement)	
				role	0..1	CodeableConcept	
				who[x]	0..1	Reference(Practitioner as Base Practitioner | RelatedPerson as Base RelatedPerson | Patient as Base Patient | Organization as Base Organization)	
				onBehalfOf[x]	0..1	Reference(Practitioner as | RelatedPerson as Base RelatedPerson | Patient as | Organization as Base Organization)	
			entity		0..*	Reference(BackboneElement)	
				role	0..1	code	
				what[x]	0..1	Reference(Any)	
				agent	0..1	???	
		emptyReason			0..1	CodeableConcept	
	section (Prescription List)				0..1	BackboneElement	section (Prescription List)
		title			1..1	string	
		code			1..1	CodeableConcept	
		text			1..1	Narrative	
		entry			0..1	Reference(List as List of Prescription and or Dispense Records)	act (List of Prescription and or Dispense Records)
			author-role		0..1	Reference(PractitionerRole as PractitionerRole with Mandatory Identifier)	
			author-related-person		0..1	Reference(RelatedPerson as RelatedPerson with Mandatory Identifier)	
			status		1..1	code	
			code		1..1	CodeableConcept	
			subject		1..1	Reference(Patient as Patient with Mandatory Identifier)	
			date		0..1	dateTime	

Logical element					Logical card	Logical type	CDA template
			source		0..1	Reference(Practitioner as | Patient as Patient with Mandatory Identifier | Device as Patient with Mandatory Identifier)	
			note		0..*	Annotation	
			entry		1..*	BackboneElement	
				item	1..1	Reference(MedicationStatement | MedicationRequest | MedicationDispense)	
			emptyReason		0..1	CodeableConcept	
		entry			0..1	Reference(Provenance as Provenance for the Generation of a List)	act (Provenance for the Generation of a List)
			target		1..*	Reference(Any)	
			period		0..1	Period	
			recorded		1..1	instant	
			policy		0..*	uri	
			activity		1..*	Coding	
			agent (Assembling Device)		0..1	Reference(BackboneElement)	
				role	0..1	CodeableConcept	
				who[x]	0..1	Reference(Device as Base Device)	
				onBehalfOf[x]	0..1	Reference(Practitioner as | RelatedPerson as Base RelatedPerson | Patient as | Device as Base Device | Organization as Base Organization)	
			agent (Authoring Entity)		0..1	Reference(BackboneElement)	
				role	0..1	CodeableConcept	
				who[x]	0..1	Reference(Practitioner as Base Practitioner | RelatedPerson as Base RelatedPerson | Patient as Base Patient | Organization as Base Organization)	
				onBehalfOf[x]	0..1	Reference(Practitioner as | RelatedPerson as Base RelatedPerson | Patient as | Organization as Base Organization)	
			entity		0..*	Reference(BackboneElement)	
				role	0..1	code	
				what[x]	0..1	Reference(Any)	
				agent	0..1	???	
		emptyReason			0..1	CodeableConcept	
	section (Prescription and Dispense List)				0..1	BackboneElement	section (Prescription and Dispense List)
		title			1..1	string	
		code			1..1	CodeableConcept	
		text			1..1	Narrative	
		entry			0..1	Reference(List as List of Prescription and or Dispense Records)	act (List of Prescription and or Dispense Records)
			author-role		0..1	Reference(PractitionerRole as PractitionerRole with Mandatory Identifier)	
			author-related-person		0..1	Reference(RelatedPerson as RelatedPerson with Mandatory Identifier)	
			status		1..1	code	
			code		1..1	CodeableConcept	
			subject		1..1	Reference(Patient as Patient with Mandatory Identifier)	
			date		0..1	dateTime	

Logical element					Logical card	Logical type	CDA template
			source		0..1	Reference(Practitioner as | Patient as Patient with Mandatory Identifier | Device as Patient with Mandatory Identifier)	
			note		0..*	Annotation	
			entry		1..*	BackboneElement	
				item	1..1	Reference(MedicationStatement | MedicationRequest | MedicationDispense)	
			emptyReason		0..1	CodeableConcept	
		entry			0..1	Reference(Provenance as Provenance for the Generation of a List)	act (Provenance for the Generation of a List)
			target		1..*	Reference(Any)	
			period		0..1	Period	
			recorded		1..1	instant	
			policy		0..*	uri	
			activity		1..*	Coding	
			agent (Assembling Device)		0..1	Reference(BackboneElement)	
				role	0..1	CodeableConcept	
				who[x]	0..1	Reference(Device as Base Device)	
				onBehalfOf[x]	0..1	Reference(Practitioner as | RelatedPerson as Base RelatedPerson | Patient as | Device as Base Device | Organization as Base Organization)	
			agent (Authoring Entity)		0..1	Reference(BackboneElement)	
				role	0..1	CodeableConcept	
				who[x]	0..1	Reference(Practitioner as Base Practitioner | RelatedPerson as Base RelatedPerson | Patient as Base Patient | Organization as Base Organization)	
				onBehalfOf[x]	0..1	Reference(Practitioner as | RelatedPerson as Base RelatedPerson | Patient as | Organization as Base Organization)	
			entity		0..*	Reference(BackboneElement)	
				role	0..1	code	
				what[x]	0..1	Reference(Any)	
				agent	0..1	???	
		emptyReason			0..1	CodeableConcept	

Note

The column "Logical element" contains the name of that element in the logical model.

The column "Logical card" contains the logical cardinality of that element in the logical model.

The column "Logical type" contains the type of the logical element (hyper-linked to the definition of the [HL7FHIR3] type) in the logical model. This may be expressed as a type that is further constrained by a model in the convention <type> as <model name>.

The column "CDA template" contains the title of the corresponding CDA template for that logical element (hyper-linked to CDA mapping table for that template). The convention for the CDA template title is <CDA schema element> (<model name> where the template is not defined in *5 CDA Header templates*).

5 CDA Header templates

This chapter contains the CDA Header requirements for this implementation guide; these are infrastructure or control requirements that are not sourced from the Prescription and or Dispense List model.

All the definitions in this chapter are sourced from HL7 Clinical Document Architecture, Release 2 [HL7CDAR2].

5.1 ClinicalDocument

See Legend - CDA mapping table for CDA schema elements for an explanation of mapping table presentation.

CDA mapping

CDA schema element	CDA element description	CDA card	CDA constraints and comments
CDA Header Data Elements		Context: /	
ClinicalDocument	The ClinicalDocument class is the entry point into the CDA R-MIM, and corresponds to the <ClinicalDocument> XML element that is the root element of a CDA document.	1..1	This template **SHALL** be a closed template. All attributes of the ClinicalDocument element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed. All instances of a time value **SHALL** include hours, minutes and a time zone. The CDA document **SHALL** be valid against the Australian Digital Health Agency CDA schema after any additional extensions not in the Australian Digital Health Agency extension namespace have been removed.
ClinicalDocument/**realmCode**	A realmCode signals the imposition of realm-specific constraints. The value identifies the realm in question.	0..*	All attributes of the realmCode element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**typeId**	A technology-neutral explicit reference to the CDA Release 2 specification.	1..1	
ClinicalDocument/typeId/**@extension="POCD_HD000040"**		1..1	The unique identifier for the CDA Release 2 Hierarchical Description.
ClinicalDocument/typeId/**@root="2.16.840.1.113883.1.3"**		1..1	The OID for HL7 Registered models.

CDA schema element	CDA element description	CDA card	CDA constraints and comments
ClinicalDocument/**templateId**	A templateId signals the imposition of a set of template-defined constraints. The value provides a unique identifier for the templates in question.	1..*	All attributes of the templateId element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed. Exactly one template identifier **SHALL** indicate the constraints defined in this mapping table and have @root="1.2.36.1.2001.1001.102.101.100033" and @extension="1.0". Exactly one template identifier **SHALL** indicate the constraints defined in the CDA Rendering Specification [NEHT2012s] and have @root="1.2.36.1.2001.1001.100.149" and @extension="1.0". In addition to the template identifiers above, a template identifier is expected for the clinical document model as per ClinicalDocument (Prescription and or Dispense List)). Additional template identifiers may be required by other specifications. Systems are not required to recognise any other template identifiers than the clinical document model templateId in order to understand the document as a [type] but these identifiers may influence how the document must be handled.
ClinicalDocument/**id**	Represents the unique instance identifier of a clinical document.	1..1	All attributes of the id element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed with the exception that @nullFlavor **SHALL NOT** be present. id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
ClinicalDocument/**effectiveTime**	Signifies the document creation time, when the document first came into being. Where the CDA document is a transform from an original document in some other format, the ClinicalDocument.effectiveTime is the time the original document is created.	1..1	All attributes of the effectiveTime element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed with the exception that @nullFlavor **SHALL NOT** be present.
ClinicalDocument/**confidentialityCode/@nullFlavor="NA"**	Codes that identify how sensitive a piece of information is and/or that indicate how the information may be made available or disclosed.	1..1	
ClinicalDocument/**setId**	Represents an identifier that is common across all document revisions.	0..1	All attributes of the setId element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**versionNumber**	An integer value used to version successive replacement documents.	0..1	
ClinicalDocument/versionNumber/**@value**		1..1	
ClinicalDocument/**ext:completionCode**	The lifecycle status of a document.	1..1	All attributes of the completionCode element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed with the exception that @nullFlavor **SHALL NOT** be present. Australian Healthcare Clinical Document Architecture Document Lifecycle Status (required)
ClinicalDocument/**recordTarget**	Represents the medical record that this document belongs to.	1..1	All attributes and elements of the recordTarget element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**author**	Represents the humans and/or machines that authored the document.	1..1	All attributes and elements of the author element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**dataEnterer**	Represents the participant who has transformed a dictated note into text.	0..1	All attributes and elements of the dataEnterer element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**informant**	Represents an informant (or source of information) who provides relevant information, such as the parent of a comatose patient who describes the patient's behavior prior to the onset of coma. Unless otherwise stated, the patient is implicitly the informant.	0..*	All attributes and elements of the informant element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.

CDA schema element	CDA element description	CDA card	CDA constraints and comments
ClinicalDocument/**custodian**	Represents the organization from which the document originates and that is in charge of maintaining the document. The custodian is the steward that is entrusted with the care of the document. Every CDA document has exactly one custodian.	1..1	All attributes and elements of the custodian element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**informationRecipient**	Represents a recipient who should receive a copy of the document.	0..*	All attributes and elements of the informationRecipient element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**legalAuthenticator**	Represents a participant who has legally authenticated the document.	0..1	All attributes and elements of the legalAuthenticator element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**authenticator**	Represents a participant who has attested to the accuracy of the document, but who does not have privileges to legally authenticate the document. An example would be a resident physician who sees a patient and dictates a note, then later signs it.	0..*	All attributes and elements of the authenticator element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**participant**	Represents a participant not explicitly mentioned by other classes that was somehow involved.	0..*	All attributes and elements of the participant element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**inFulfillmentOf**	Relates the current document to an order this document fulfills (in whole or in part).	0..*	All attributes and elements of the inFulfillmentOf element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**documentationOf**	Relates the current document to the related event that this document is documentation of.	0..*	All attributes and elements of the documentationOf element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**relatedDocument**	Relates the current document to a parent document.	0..*	All attributes and elements of the relatedDocument element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**authorization**	Relates the current document to consents associated with this document. The consent authorizes or certifies acts specified in the current document.	0..*	All attributes and elements of the authorization element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**componentOf**	Relates the current document to the encounter. The current document is a documentation of events that occurred during the encounter.	0..1	All attributes and elements of the componentOf element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.
ClinicalDocument/**component**	Relates the associated document body as a component of the document.	1..1	All attributes and elements of the component element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.

5.2 legalAuthenticator

See Legend - CDA mapping table for CDA schema elements for an explanation of mapping table presentation.

CDA mapping

CDA schema element	CDA element description	CDA card	CDA constraints and comments
CDA Header Data Elements		Context: /ClinicalDocument/	
legalAuthenticator/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.	1..1	
legalAuthenticator/templateId/**@root="1.2.36.1.2001.1001.102.101.100012"**		1..1	
legalAuthenticator/templateId/**@extension="1.0"**		1..1	
legalAuthenticator/**time/@value**	Indicates the time of authentication.	1..1	
legalAuthenticator/**signatureCode/@code="S"**	Indicates that the signature has been affixed and is on file.	1..1	
legalAuthenticator/**assignedEntity**	A legalAuthenticator is a person in the role of an assigned entity (AssignedEntity class). An assigned entity is a person assigned to the role by the scoping organization. The entity playing the role is a person (Person class). The entity scoping the role is an organization (Organization class).	1..1	
legalAuthenticator/assignedEntity/**id**	A unique identifier for the player entity in this role.	1..1	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
legalAuthenticator/assignedEntity/**code**	The specific kind of role.	0..1	
legalAuthenticator/assignedEntity/**addr**	A postal address for the entity (assignedPerson) while in the role (assignedEntity).	0..*	
legalAuthenticator/assignedEntity/**telecom**	A telecommunication address for the entity (assignedPerson) while in the role (assignedEntity).	0..*	
legalAuthenticator/assignedEntity/**assignedPerson**	The entity playing the role (assignedEntity) is a person.	1..1	
legalAuthenticator/assignedEntity/assignedPerson/**name**	A non-unique textual identifier or moniker for the entity (assignedPerson).	0..*	
legalAuthenticator/assignedEntity/assignedPerson/**ext:asEntityIdentifier**	The entity identifier of the person.	0..*	The common pattern Entity Identifier **SHALL** be applied.
legalAuthenticator/assignedEntity/**representedOrganization**	The entity scoping the role (assignedEntity).	0..1	
legalAuthenticator/assignedEntity/representedOrganization/**name**	A non-unique textual identifier or moniker for the entity (representedOrganization).	0..*	
legalAuthenticator/assignedEntity/representedOrganization/**ext:asEntityIdentifier**	A unique identifier for the scoping entity (represented organization) in this role (assignedEntity).	0..*	The common pattern Entity Identifier **SHALL** be applied.

5.3 component (Administrative Observations)

See Legend - CDA mapping table for CDA schema elements for an explanation of mapping table presentation.

CDA mapping

CDA schema element	CDA element description	CDA card	CDA constraints and comments
Conformance level comes from linking elements		Context: /ClinicalDocument/component/structuredBody/	
component[admin_obs]	The PDL document model contains a number of elements for which there are no equivalent elements at that point in the hierarchical structure of the model mapped into CDA. These elements are considered to be "Administrative Observations" about the encounter, the patient or some other participant. Administrative Observations is a CDA section that is created to hold these elements in preference to creating extensions for them. An observation included in this section is an observation relating to the patient (i.e. recordTarget) unless a reference to a different entity is instantiated as part of that observation (e.g. observation/participant/participantRole).	Cardinality comes from linking element	ClinicalDocument **SHALL** contain at most one Administrative Observation section. The Administrative Observations section **SHALL NOT** be populated if there are no entries or text to go in it.
component[admin_obs]/**section**		1..1	
component[admin_obs]/section/**templateId**		1..1	The use of templateId signals the imposition of a set of template-defined constraints.
component[admin_obs]/section/templateId/**@root="1.2.36.1.2001.1001.102.101.100000"**		1..1	
component[admin_obs]/section/templateId/**@extension="1.0"**		1..1	
component[admin_obs]/section/**id**		0..1	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
component[admin_obs]/section/**code**		1..1	
component[admin_obs]/section/code/**@code="102.16080"**		1..1	
component[admin_obs]/section/code/**@codeSystem="1.2.36.1.2001.1001.101"**		1..1	NCTIS Data Components
component[admin_obs]/section/code/**@displayName**		0..1	displayName **SHOULD** be "Administrative Observations".
component[admin_obs]/section/**title="Administrative Observations"**		0..1	
component[admin_obs]/section/**text**		0..1	

6 Document CDA templates

This chapter defines each of the document-level usage scenario models, e.g. Composition (Prescription and or Dispense List), as a `ClinicalDocument` template.

6.1 ClinicalDocument (Prescription and or Dispense List)

The following are the overarching usage scenarios this template is intended to support:

- A clinical information system (CIS) sends or receives a prescription and or a dispense record list document with the My Health Record system
- A contracted service provider (CSP) sends or receives a prescription and or a dispense record list document with the My Health Record system
- A CIS sends or receives a prescription and or a dispense record list document with another CIS or CSP
- A CSP sends or receives a prescription and or a dispense record list document with a CIS or another CSP
- A registered portal or registered repository receives a prescription and or a dispense record list document

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Header Data Elements				Context: /	
Composition	A list of prescriptions, and or, dispense records for a patient.	0..*	DomainResource	**ClinicalDocument**	In CDA the maximum occurrences of ClinicalDocument is 1. Although the model indicates that Composition is 0..*, in a CDA implementation this is limited to 0..1. In addition to the template defined in this mapping table, ClinicalDocument **SHALL** conform to the template defined in ClinicalDocument.
				ClinicalDocument/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				ClinicalDocument/templateId/**@root="1.2.36.1.2001.1001.102.101.100065"**	
				ClinicalDocument/templateId/**@extension="1.0"**	
Composition > **composition-author-role**	A practitioner role that authored this composition. This is not to be confused with who typed in the information.	0..1	Reference(PractitionerRole as PractitionerRole with Practitioner with Mandatory Identifier)	ClinicalDocument/**author**	author **SHALL** conform to the template defined in author (PractitionerRole with Practitioner with Mandatory Identifier).
Composition > **identifier**	Logical identifier for the composition, assigned when created. This identifier stays constant as the composition is changed over time.	0..1	Identifier	ClinicalDocument/**setId**	
Composition > **status**	The workflow/clinical status of this composition. The status is a marker for the clinical standing of the document.	1..1	code	ClinicalDocument/**ext:completionCode**	Australian Healthcare Clinical Document Architecture Document Lifecycle Status (required)[1]
Composition > **type**	Specifies the particular kind of composition (e.g. History and Physical, Discharge Summary, Progress Note). This usually equates to the purpose of making the composition.	1..1	CodeableConcept	ClinicalDocument/**code**	Prescription and Dispense List Type (required)
Composition > **subject**	Who or what the composition is about. The composition can be about a person, (patient or healthcare practitioner), a device (e.g. a machine) or even a group of subjects (such as a document about a herd of livestock, or a set of patients that share a common exposure).	1..1	Reference(Patient as Patient with Mandatory Identifier)	ClinicalDocument/**recordTarget**	recordTarget **SHALL** conform to the template defined in recordTarget (Patient with Mandatory Identifier).
Composition > **date**	The composition editing time, when the composition was last logically changed by the author.	1..1	dateTime	ClinicalDocument/**author/time**	

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Composition > **author**	Identifies who is responsible for the information in the composition, not necessarily who typed it in.	1..1	Reference(Patient as Patient with Mandatory Identifier Practitioner as Practitioner with Mandatory Identifier RelatedPerson as RelatedPerson with Mandatory Identifier)	ClinicalDocument/**author**	In CDA an author (Practitioner) is part of composition-author-role (PractitionerRole); therefore if the author is a practitioner then composition-author-role **SHALL** be instantiated. author **SHALL** conform to one of the templates defined in: author (Patient with Mandatory Identifier) or author (RelatedPerson with Mandatory Identifier) or author (PractitionerRole with Practitioner with Mandatory Identifier).
Composition > **title**	Official human-readable label for the composition.	1..1	string	ClinicalDocument/**title**	
Composition > attester (Legal Attester) > **attester-related-party**	A related person that attested this composition.	0..1	Reference(RelatedPerson as RelatedPerson with Mandatory Identifier)	n/a	Not mapped separately, implicit in legalAuthenticator/assignedEntity.
Composition > **custodian**	Identifies the organization or group who is responsible for ongoing maintenance of and access to the composition/document information.	1..1	Reference(Organization as Organization with Mandatory Identifier)	ClinicalDocument/**custodian**	custodian **SHALL** conform to the template defined in custodian (Organization with Mandatory Identifier).
Composition > **section (Dispense List)**	A list of dispense records for a patient.	1..1	BackboneElement	ClinicalDocument/component/structuredBody/**component[dl]**	
				ClinicalDocument/component/structuredBody/component[dl]/**section**	section **SHALL** conform to the template defined in section (Dispense List).
Composition > **section (Prescription List)**	A list of prescriptions for a patient.	0..1	BackboneElement	ClinicalDocument/component/structuredBody/**component[pl]**	
				ClinicalDocument/component/structuredBody/component[pl]/**section**	section **SHALL** conform to the template defined in section (Prescription List).
Composition > **section (Prescription and Dispense List)**	A list of prescriptions and dispense records for a patient.	0..1	BackboneElement	ClinicalDocument/component/structuredBody/**component[pdl]**	
				ClinicalDocument/component/structuredBody/component[pdl]/**section**	section **SHALL** conform to the template defined in section (Prescription and Dispense List).

[1]This value set differs from the value set bound to status in the Agency logical model (see *Prescription and Dispense Lists FHIR Implementation Guide [DH2019o]*) to support the existing CDA implementation environment. The concept map CompositionStatus (HL7 FHIR) to Australian Healthcare Clinical Document Architecture Document Lifecycle Status provides a mapping between the two value sets.

7 Participation CDA templates

This chapter defines the participation templates referenced other templates such as those in 9 *Section CDA templates* and 6 *Document CDA templates*.

7.1 recordTarget (Patient with Mandatory Identifier)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Header Data Elements				Context: /ClinicalDocument/	
Patient	Demographics and other administrative information about an individual receiving care or other health-related services.	Cardinality comes from linking element	DomainResource	**recordTarget**	
				recordTarget/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				recordTarget/templateId/**@root="1.2.36.1.2001.1001.102.101.100004"**	
				recordTarget/templateId/**@extension="1.0"**	
				recordTarget/patientRole/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
				recordTarget/patientRole/**patient**	
Patient > **birthPlace**	The registered place of birth of the patient. A sytem may use the address.text if they don't store the birthPlace address in discrete elements.	0..1	Address	recordTarget/patientRole/patient/**birthplace**	
				recordTarget/patientRole/patient/birthplace/**place**	
				recordTarget/patientRole/patient/birthplace/place/**addr**	Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
Patient > **indigenous-status**	National Health Data Dictionary (NHDD) based indigenous status for a patient.	0..1	Coding	recordTarget/patientRole/patient/**ethnicGroupCode**	When sending to the My Health Record, indigenous-status is expected to be sent. Australian Indigenous Status (required)

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Header Data Elements				Context: /ClinicalDocument/component/structuredBody/component[admin_obs]/section/	
Patient > **closing-the-gap-registration**	Indication for eligibility for the Closing the Gap program.	0..1	boolean	**entry[close_gap]**	The containing component[admin_obs]/section **SHALL** conform to the template defined in component (Administrative Observations).
				entry[close_gap]/**observation**	
				entry[close_gap]/observation/**@classCode="OBS"**	
				entry[close_gap]/observation/**@moodCode="EVN"**	
				entry[close_gap]/observation/**code**	
				entry[close_gap]/observation/code/**@code="103.32011"**	
				entry[close_gap]/observation/code/**@codeSystem="1.2.36.1.2001.1001.101"**	NCTIS Data Components
				entry[close_gap]/observation/code/**@displayName**	displayName **SHOULD** be "Closing the Gap Copayment Eligibility Indicator".
				entry[close_gap]/observation/**value**	closing-the-gap-registration is "true" if eligible for Closing the Gap co-payment. value/@xsi:type **SHALL** be "BL".
Patient > **patient-mothersMaidenName**	Mother's maiden (unmarried) name, commonly collected to help verify patient identity.	0..1	string	**entry[mothers_name]**	The containing component[admin_obs]/section **SHALL** conform to the template defined in component (Administrative Observations).
				entry[mothers_name]/**observation**	
				entry[mothers_name]/observation/**@classCode="OBS"**	
				entry[mothers_name]/observation/**@moodCode="EVN"**	
				entry[mothers_name]/observation/**code**	
				entry[mothers_name]/observation/code/**@code="103.10245"**	
				entry[mothers_name]/observation/code/**@codeSystem="1.2.36.1.2001.1001.101"**	NCTIS Data Components
				entry[mothers_name]/observation/code/**@displayName**	displayName **SHOULD** be "Mother's Original Family Name".
				entry[mothers_name]/observation/**value**	value/@xsi:type **SHALL** be "ST".
CDA Header Data Elements				Context: /ClinicalDocument/	
Patient > **identifier**	An identifier for this patient.	1..*	Identifier	recordTarget/patientRole/patient/**ext:asEntityIdentifier**	When sending to the My Health Record, an IHI is expected. The common pattern Entity Identifier **SHALL** be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier.
Patient > **active**	Whether this patient record is in active use.	0..1	boolean	n/a	This logical element has no mapping to CDA.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Patient > **name**	A name associated with the individual.	0..*	HumanName as Base HumanName	recordTarget/patientRole/patient/**name**	The model Base HumanName is not applied to name. Recommended mappings for this logical type to CDA (R2) are available: HumanName as Base HumanName.
Patient > **telecom**	A contact detail (e.g. a telephone number or an email address) by which the individual may be contacted.	0..*	ContactPoint	recordTarget/patientRole/**telecom**	When sending to the My Health Record, telecom is not expected to be sent. Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.
Patient > **gender**	Administrative Gender - the gender that the patient is considered to have for administration and record keeping purposes.	0..1	code	recordTarget/patientRole/patient/**administrativeGenderCode**	When sending to the My Health Record, gender is expected to be sent. In the Australian Digital Health Agency CDA schema the minimum occurrence of administrativeGenderCode is 1. Although administrativeGenderCode is required, a sending system may send a patient without gender by instantiating administrativeGenderCode/@nullFlavor="NI". No other nullFlavor value **SHALL** be allowed. AdministrativeGender (required)[1]
Patient > **birthDate**	The date of birth for the individual.	0..1	date	recordTarget/patientRole/patient/**birthTime**	When sending to the My Health Record, birthDate is expected to be sent.
CDA Header Data Elements				Context: /ClinicalDocument/component/structuredBody/component[admin_obs]/section/	
Patient > birthDate > **date-accuracy-indicator**	General date accuracy indicator coding.	0..1	Coding	**entry[dob_acc]**	The containing component[admin_obs]/section **SHALL** conform to the template defined in component (Administrative Observations).
				entry[dob_acc]/**observation**	
				entry[dob_acc]/observation/**@classCode="OBS"**	
				entry[dob_acc]/observation/**@moodCode="EVN"**	
				entry[dob_acc]/observation/**code**	
				entry[dob_acc]/observation/code/**@code="102.16234"**	
				entry[dob_acc]/observation/code/**@codeSystem="1.2.36.1.2001.1001.101"**	NCTIS Data Components
				entry[dob_acc]/observation/code/**@displayName**	displayName **SHOULD** be "Date of Birth Accuracy Indicator".
				entry[dob_acc]/observation/**value**	value/@xsi:type **SHALL** be "CD". Date Accuracy Indicator (required)

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Header Data Elements				Context: /ClinicalDocument/	
Patient > birthDate > **patient-birthTime**	The time of day that the Patient was born. This includes the date to ensure that the timezone information can be communicated effectively.	0..1	dateTime	n/a	Not mapped separately, encompassed in patientRole/patient/birthTime.
Patient > **deceased[x]**	Indicates if the individual is deceased or not. Deceased date accuracy indicator is optional.	0..1	boolean | dateTime	recordTarget/patientRole/patient/**ext:deceasedInd**	Only one of ext:deceasedInd or ext:deceasedTime **SHOULD** be instantiated.
				recordTarget/patientRole/patient/**ext:deceasedTime**	
CDA Header Data Elements				Context: /ClinicalDocument/component/structuredBody/component[admin_obs]/section/	
Patient > deceased[x] > **date-accuracy-indicator**	General date accuracy indicator coding.	0..1	Coding	**entry[dod_acc]**	The containing component[admin_obs]/section **SHALL** conform to the template defined in component (Administrative Observations).
				entry[dod_acc]/**observation**	
				entry[dod_acc]/observation/**@classCode="OBS"**	
				entry[dod_acc]/observation/**@moodCode="EVN"**	
				entry[dod_acc]/observation/**code**	
				entry[dod_acc]/observation/code/**@code="102.16252"**	
				entry[dod_acc]/observation/code/**@codeSystem="1.2.36.1.2001.1001.101"**	NCTIS Data Components
				entry[dod_acc]/observation/code/**@displayName**	displayName **SHOULD** be "Date of Death Accuracy Indicator".
				entry[dod_acc]/observation/**value**	value/@xsi:type **SHALL** be "CD". Date Accuracy Indicator (required)
CDA Header Data Elements				Context: /ClinicalDocument/	
Patient > **address**	Addresses for the individual.	0..*	Address	recordTarget/patientRole/**addr**	When sending to the My Health Record, address is not expected to be sent. Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
Patient > **maritalStatus**	This field contains a patient's most recent marital (civil) status.	0..1	CodeableConcept	recordTarget/patientRole/patient/**maritalStatusCode**	maritalStatusCode/originalText or maritalStatusCode/@displayName **SHALL** be included. Marital Status Codes (extensible)
Patient > **multipleBirth[x]**	Indicates whether the patient is part of a multiple (bool) or indicates the actual birth order (integer).	0..1	boolean | integer	recordTarget/patientRole/patient/**ext:multipleBirthInd**	Only one of ext:multipleBirthInd or ext:multipleBirthOrderNumber **SHOULD** be instantiated.
				recordTarget/patientRole/patient/**ext:multipleBirthOrderNumber**	
Patient > **contact**	A contact party (e.g. guardian, partner, friend) for the patient.	0..*	BackboneElement	**participant[pat_contact]**	In CDA a patient's contact is represented by a participant. participant **SHALL** conform to the template defined in participant (Patient contact).

Logical element	Logical element description	Logic-al card	Logical type	CDA schema element	CDA constraints and comments
Patient > **communication**	Languages which may be used to communicate with the patient about his or her health.	0..*	BackboneElement	recordTarget/patientRole/patient/**languageCommunication**	
Patient > communication > **language**	The ISO-639-1 alpha 2 code in lower case for the language, optionally followed by a hyphen and the ISO-3166-1 alpha 2 code for the region in upper case; e.g. 'en' for English, or 'en-US' for American English versus 'en-EN' for England English.	1..1	CodeableConcept	recordTarget/patientRole/patient/languageCommunication/**languageCode**	This CDA schema element is of type CodedSimpleValue (CS). Common Languages in Australia (extensible)
Patient > communication > **preferred**	Indicates whether or not the patient prefers this language (over other languages he masters up a certain level).	0..1	boolean	recordTarget/patientRole/patient/languageCommunication/**preferenceInd**	
Patient > **generalPractitioner**	Patient's nominated care provider.	0..*	Reference(Organization as Base Organization Practitioner as Base Practitioner)	**participant[gen_prac]**	participant **SHALL** conform to one of the templates defined in: participant (generalPractitioner Base Organization) or participant (generalPractitioner Base Practitioner).
Patient > **managingOrganization**	Organization that is the custodian of the patient record.	0..1	Reference(Organization as Base Organization)	recordTarget/patientRole/**providerOrganization**	providerOrganization **SHALL** conform to the template defined in providerOrganization (Base Organization).

[1]This hyperlink resolves to the FHIR Release 4 description due to a technical defect in the FHIR STU3 description of this code system for OID-based systems.

7.2 participant (Patient contact)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Header Data Elements				Context: /ClinicalDocument/	
Patient > **contact**	A contact party (e.g. guardian, partner, friend) for the patient.	Cardinality comes from linking element	BackboneElement	**participant[pat_contact]**	The patient's contact **SHALL** have at least: • name (participant[pat_contact]/associatedEntity/associatedPerson/name), or • telecom (participant[pat_contact]/associatedEntity/telecom), or • address (participant[pat_contact]/associatedEntity/addr), or • organization (participant[pat_contact]/associatedEntity/scopingOrganization)
				participant[pat_contact]/**@typeCode="IND"**	
				participant[pat_contact]/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				participant[pat_contact]/templateId/**@root="1.2.36.1.2001.1001.102.101.100056"**	
				participant[pat_contact]/templateId/**@extension="1.0"**	
				participant[pat_contact]/**associatedEntity**	
				participant[pat_contact]/associatedEntity/**@classCode="CON"**	
				participant[pat_contact]/associatedEntity/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
Patient > contact > **relationship**	The nature of the relationship between the patient and the contact person.	0..*	CodeableConcept	participant[pat_contact]/associatedEntity/associatedPerson/**ext:personalRelationship**	The common pattern Personal Relationship **SHALL** be applied.
				participant[pat_contact]/associatedEntity/associatedPerson/ ext:personalRelationship/**ext:code**	ext:code/originalText or ext:code/@displayName **SHALL** be included. Contact Relationship Type (extensible)

Logical element	Logical element description	Logic-al card	Logical type	CDA schema element	CDA constraints and comments
Patient > contact > **name**	A name associated with the contact person.	0..1	HumanName as Base HumanName	participant[pat_contact]/associatedEntity/associatedPerson/**name**	The model Base HumanName is not applied to name. Recommended mappings for this logical type to CDA (R2) are available: HumanName as Base HumanName.
Patient > contact > **telecom**	A contact detail for the person, e.g. a telephone number or an email address.	0..*	ContactPoint	participant[pat_contact]/associatedEntity/**telecom**	Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.
Patient > contact > **address**	Address for the contact person.	0..1	Address	participant[pat_contact]/associatedEntity/**addr**	Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
Patient > contact > **gender**	Administrative Gender - the gender that the contact person is considered to have for administration and record keeping purposes.	0..1	code	participant[pat_contact]/associatedEntity/ associatedPerson/**ext:administrativeGenderCode**	AdministrativeGender (required)[1]
Patient > contact > **organization**	Organization on behalf of which the contact is acting or for which the contact is working.	0..1	Reference(Organiza-tion as Base Organiz-ation)	participant[pat_contact]/associatedEntity/**scopingOrganization**	scopingOrganization **SHALL** conform to the template defined in scopingOrganization (Base Organization).
Patient > contact > **period**	The period during which this contact person or organization is valid to be contacted relating to this patient.	0..1	Period	n/a	This logical element has no mapping to CDA.

[1]This hyperlink resolves to the FHIR Release 4 description due to a technical defect in the FHIR STU3 description of this code system for OID-based systems.

7.3 participant (Organization contact)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Header Data Elements				Context: /ClinicalDocument/	
Organization > **contact**	Contact for the organization for a certain purpose.	Cardinality comes from linking element	BackboneElement	**participant[org_contact]**	
				participant[org_contact]/**@typeCode="IND"**	
				participant[org_contact]/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				participant[org_contact]/templateId/**@root="1.2.36.1.2001.1001.102.101.100035"**	
				participant[org_contact]/templateId/**@extension="1.0"**	
				participant[org_contact]/**associatedEntity**	
				participant[org_contact]/associatedEntity/**@classCode="CON"**	
				participant[org_contact]/associatedEntity/**scopingOrganization**	
				participant[org_contact]/associatedEntity/scopingOrganization/**id**	Organization > contact is represented in CDA by a participant that is scoped by the Organization for which they are a contact. This id **SHALL** hold the same value as the organization this is a contact for (the value in this id element **SHALL** be present in a separate participation). id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
Organization > contact > **purpose**	Indicates a purpose for which the contact can be reached.	0..1	CodeableConcept	participant[org_contact]/associatedEntity/**code**	code/originalText or code/@displayName **SHALL** be included. Contact entity type (extensible)[1]
Organization > contact > **name**	A name associated with the contact.	0..1	HumanName as Base HumanName	participant[org_contact]/associatedEntity/**associatedPerson**	
				participant[org_contact]/associatedEntity/associatedPerson/**name**	The model Base HumanName is not applied to name. Recommended mappings for this logical type to CDA (R2) are available: HumanName as Base HumanName.
Organization > contact > **telecom**	A contact detail (e.g. a telephone number or an email address) by which the party may be contacted.	0..*	ContactPoint	participant[org_contact]/associatedEntity/**telecom**	Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Organization > contact > **address**	Visiting or postal addresses for the contact.	0..1	Address	participant[org_contact]/associatedEntity/**addr**	Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.

[1]This value set differs from the value set bound to contact purpose in the Agency logical model (see *Prescription and Dispense Lists FHIR Implementation Guide [DH2019o]*) due to pre-adoption of FHIR Release 4 terminology.

7.4 participant (generalPractitioner Base Organization)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Header Data Elements				Context: /ClinicalDocument/	
Organization	A formally or informally recognized grouping of people or organizations formed for the purpose of achieving some form of collective action. Includes companies, institutions, corporations, departments, community groups, healthcare practice groups, etc.	Cardinality comes from linking element	DomainResource	**participant[gen_prac]**	Organization **SHALL** have at least: • identifier (participant[gen_prac]/associatedEntity/scopingOrganization/ext:asEntityIdentifier), or • name (participant[gen_prac]/associatedEntity/scopingOrganization/name)
				participant[gen_prac]/**@typeCode="PART"**	
				participant[gen_prac]/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				participant[gen_prac]/templateId/**@root="1.2.36.1.2001.1001.102.101.100036"**	
				participant[gen_prac]/templateId/**@extension="1.0"**	
				participant[gen_prac]/**functionCode/@code="PCP"**	
				participant[gen_prac]/**associatedEntity**	
				participant[gen_prac]/associatedEntity/**@classCode="PROV"**	
				participant[gen_prac]/associatedEntity/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
Organization > **identifier**	Identifier for the organization that is used to identify the organization across multiple disparate systems.	0..*	Identifier	participant[gen_prac]/associatedEntity/scopingOrganization/**ext:asEntityIdentifier**	The common pattern Entity Identifier **SHALL** be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier.
Organization > **active**	Whether the organization's record is still in active use.	0..1	boolean	n/a	This logical element has no mapping to CDA.
Organization > **type**	The kind(s) of organization that this is.	0..*	CodeableConcept	participant[gen_prac]/associatedEntity/**code**	In CDA the maximum occurrences of associatedEntity/code is 1. Although the model indicates that code is 0..*, in a CDA implementation this is limited to 0..1. code/originalText or code/@displayName **SHALL** be included. OrganizationType (example)

Logical element	Logical element description	Logic-al card	Logical type	CDA schema element	CDA constraints and comments
Organization > **name**	A name associated with the organization.	0..1	string	participant[gen_prac]/associatedEntity/scopingOrganization/**name[org_name]**	In CDA name and alias are represented by scopingOrganization/name.
Organization > **alias**	A list of alternate names that the organization is known as, or was known as in the past.	0..*	string	participant[gen_prac]/associatedEntity/scopingOrganization/**name[alias]**	In CDA name and alias are represented by scopingOrganization/name.
Organization > **telecom**	A contact detail for the organization.	0..*	ContactPoint	participant[gen_prac]/associatedEntity/**telecom**	telecom/@use Organization Telecom Use HL7 V3 (required)[1]. Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.
Organization > **address**	An address for the organization.	0..*	Address	participant[gen_prac]/associatedEntity/**addr**	addr/@use Organization Address Use HL7 V3 (required)[2]. Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
Organization > **partOf**	The organization of which this organization forms a part.	0..1	Reference(Organization as Base Organization)	participant[gen_prac]/associatedEntity/scopingOrganization/**asOrganizationPartOf** participant[gen_prac]/associatedEntity/scopingOrganization/asOrganizationPartOf/**wholeOrganization**	wholeOrganization **SHALL** conform to the template defined in wholeOrganization (Base Organization).
Organization > **contact**	Contact for the organization for a certain purpose.	0..*	BackboneElement	**participant[org_contact]**	participant[org_contact] **SHALL** conform to the template defined in participant (Organization contact).

[1]This value set differs from the value set bound to use in ContactPoint due to constraints on @use in the HL7 CDA Schema. The concept map v3 map for ContactPointUse provides a mapping between the two value sets.

[2]This value set differs from the value set bound to use in Address due to constraints on @use in the HL7 CDA schema. The concept map v3 map for AddressUse provides a mapping between the two value sets.

7.5 participant (generalPractitioner Base Practitioner)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Header Data Elements				Context: /ClinicalDocument/	
Practitioner	A person who is directly or indirectly involved in the provisioning of healthcare.	Cardinality comes from linking element	DomainResource	**participant[gen_prac]**	Practitioner **SHALL** have at least: • identifier (participant[gen_prac]/associatedEntity/associatedPerson/ext:asEntityIdentifier), or • name (participant[gen_prac]/associatedEntity/associatedPerson/name)
				participant[gen_prac]/**@typeCode="PART"**	
				participant[gen_prac]/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				participant[gen_prac]/templateId/**@root="1.2.36.1.2001.1001.102.101.100037"**	
				participant[gen_prac]/templateId/**@extension="1.0"**	
				participant[gen_prac]/**functionCode/@code="PCP"**	
				participant[gen_prac]/**associatedEntity**	
				participant[gen_prac]/associatedEntity/**@classCode="PROV"**	
				participant[gen_prac]/associatedEntity/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
				participant[gen_prac]/associatedEntity/**code**	The cardinality of code **SHALL** be interpreted as 0..1. Australian and New Zealand Standard Classification of Occupations (preferred)
Practitioner > **identifier**	An identifier that applies to this person in this role.	0..*	Identifier	participant[gen_prac]/associatedEntity/associatedPerson/**ext:asEntityIdentifier**	The common pattern Entity Identifier **SHALL** be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier.
Practitioner > **active**	Whether this practitioner's record is in active use.	0..1	boolean	n/a	This logical element has no mapping to CDA.
Practitioner > **name**	The name(s) associated with the practitioner.	0..*	HumanName as Base HumanName	participant[gen_prac]/associatedEntity/associatedPerson/**name**	The model Base HumanName is not applied to name. Recommended mappings for this logical type to CDA (R2) are available: HumanName as Base HumanName.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Practitioner > **telecom**	A contact detail for the practitioner, e.g. a telephone number or an email address.	0..*	ContactPoint	participant[gen_prac]/associatedEntity/**telecom**	Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.
Practitioner > **address**	Address(es) of the practitioner that are not role specific (typically home address). Work addresses are not typically entered in this property as they are usually role dependent.	0..*	Address	participant[gen_prac]/associatedEntity/**addr**	Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
Practitioner > **gender**	Administrative Gender - the gender that the person is considered to have for administration and record keeping purposes.	0..1	code	participant[gen_prac]/associatedEntity/associatedPerson/**ext:administrativeGenderCode**	AdministrativeGender (required)[1]
Practitioner > **birthDate**	The date of birth for the practitioner.	0..1	date	n/a	This logical element has no mapping to CDA.
Practitioner > **qualification**	Qualifications obtained by training and certification.	0..*	BackboneElement	See: instantiation choices	It is possible that the qualification may be able to be captured as a complex structure or as a text list. **instantiation choices:** If the qualification or list of qualifications is the result of capturing a text field then qualification is expected to be instantiated as ext:asQualifications/@classCode="QUAL". The common pattern Qualification **SHALL** be applied. If more information can be captured than a narrative list then qualification is expected to be instantiated as ext:cover-age2[prac_qual] and **SHALL** conform to the template defined in ext:coverage (Practitioner qualification) . If this is a CDA Header participant, ext:cover-age2[prac_qual] is expected to be instantiated in component (Administrative Observations) (ClinicalDocument/component/structuredBody/component[admin_obs]/section/); if this is a StructuredBody participant, ext:cover-age2[prac_qual] is expected to be instantiated in the same section as this participant.
Practitioner > **communication**	A language the practitioner is able to use in patient communication.	0..*	CodeableConcept	participant[gen_prac]/associatedEntity/associatedPerson/**ext:languageCommunication**	The common pattern Language Communication **SHALL** be applied.

[1]This hyperlink resolves to the FHIR Release 4 description due to a technical defect in the FHIR STU3 description of this code system for OID-based systems.

7.6 author (Patient with Mandatory Identifier)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Conformance level comes from linking elements				Context: Comes from linking elements	
Patient	Demographics and other administrative information about an individual receiving care or other health-related services.	Cardinality comes from linking element	DomainResource	**author**	Patient **SHALL** have at least: • name (author/assignedAuthor/assignedPerson/name), or • identifier (author/assignedAuthor/assignedPerson/ext:asEntityIdentifier)
				author/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				author/templateId/**@root="1.2.36.1.2001.1001.102.101.100003"**	
				author/templateId/**@extension="1.0"**	
				author/**assignedAuthor**	
				author/assignedAuthor/**id**	author (patient) is represented in CDA by an author with the same id as the patient that is the subject of this document. This id **SHALL** hold the same value as patientRole/id.
				author/assignedAuthor/**code**	
				author/assignedAuthor/code/**@code="ONESELF"**	
				author/assignedAuthor/code/**@codeSystem="2.16.840.1.113883.5.111"**	
				author/assignedAuthor/**assignedPerson**	
Patient > **birthPlace**	The registered place of birth of the patient. A sytem may use the address.text if they don't store the birthPlace address in discrete elements.	0..1	Address	n/a	Not mapped directly for this participant; this is implicit in patientRole/patient/birthPlace/place/addr.
Patient > **indigenous-status**	National Health Data Dictionary (NHDD) based indigenous status for a patient.	0..1	Coding	n/a	Not mapped directly for this participant; this is implicit in patientRole/patient/ethnicGroupCode.
Patient > **closing-the-gap-registration**	Indication for eligibility for the Closing the Gap program.	0..1	boolean	n/a	Not mapped directly for this participant; this is implicit in entry[close_gap]/observation/value.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Patient > **patient-mothersMaiden-Name**	Mother's maiden (unmarried) name, commonly collected to help verify patient identity.	0..1	string	n/a	Not mapped directly for this participant; this is implicit in entry[mothers_name]/observation/value.
Patient > **identifier**	An identifier for this patient.	1..*	Identifier	author/assignedAuthor/assignedPerson/**ext:asEntityIdentifier**	When sending to the My Health Record an IHI is expected. The common pattern Entity Identifier **SHALL** be applied. Recommended mappings for the complex data type to CDA (R2): Identifier.
Patient > **active**	Whether this patient record is in active use.	0..1	boolean	n/a	This logical element has no mapping to CDA.
Patient > **name**	A name associated with the individual.	0..*	HumanName as Base HumanName	author/assignedAuthor/assignedPerson/**name**	The model Base HumanName is not applied to name. Recommended mappings for this logical type to CDA (R2) are available: HumanName as Base HumanName.
Patient > **telecom**	A contact detail (e.g. a telephone number or an email address) by which the individual may be contacted.	0..*	ContactPoint	author/assignedAuthor/**telecom**	When sending to the My Health Record, telecom is not expected to be sent. Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.
Patient > **gender**	Administrative Gender - the gender that the patient is considered to have for administration and record keeping purposes.	0..1	code	author/assignedAuthor/assignedPerson/**ext:administrativeGenderCode**	AdministrativeGender (required)[1]
Patient > **birthDate**	The date of birth for the individual.	0..1	date	n/a	Not mapped directly for this participant; this is implicit in patientRole/patient/birthTime.
Patient > **deceased[x]**	Indicates if the individual is deceased or not. Deceased date accuracy indicator is optional.	0..1	boolean | dateTime	n/a	Not mapped directly for this participant; this is implicit in patientRole/patient/ext:deceasedTime or patientRole/patient/ext:deceasedInd.
Patient > **address**	Addresses for the individual.	0..*	Address	author/assignedAuthor/**addr**	When sending to the My Health Record, address is not expected to be sent. Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
Patient > **maritalStatus**	This field contains a patient's most recent marital (civil) status.	0..1	CodeableConcept	n/a	Not mapped directly for this participant; this is implicit in patientRole/patient/maritalStatusCode.
Patient > **multipleBirth[x]**	Indicates whether the patient is part of a multiple (bool) or indicates the actual birth order (integer).	0..1	boolean | integer	n/a	Not mapped directly for this participant; this is implicit in patientRole/patient/ext:multipleBirthInd or patientRole/patient/multipleBirthOrderNumber.
Patient > **contact**	A contact party (e.g. guardian, partner, friend) for the patient.	0..*	BackboneElement	n/a	This logical element has no mapping to CDA.
Patient > **communication**	Languages which may be used to communicate with the patient about his or her health.	0..*	BackboneElement	n/a	Not mapped directly for this participant; this is implicit in patientRole/patient/languageCommunication.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Patient > **generalPractitioner**	Patient's nominated care provider.	0..*	Reference(Organization as Base Organization Practitioner as Base Practitioner)	n/a	This logical element has no mapping to CDA.
Patient > **managingOrganization**	Organization that is the custodian of the patient record.	0..1	Reference(Organization as Base Organization)	n/a	This logical element has no mapping to CDA.

[1]This hyperlink resolves to the FHIR Release 4 description due to a technical defect in the FHIR STU3 description of this code system for OID-based systems.

7.7 author (RelatedPerson with Mandatory Identifier)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Conformance level comes from linking elements				Context: Comes from linking elements	
RelatedPerson	Information about a person that is involved in the care for a patient, but who is not the target of healthcare, nor has a formal responsibility in the care process.	Cardinality comes from linking element	DomainResource	**author**	
				author/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				author/templateId/**@root="1.2.36.1.2001.1001.102.101.100030"**	
				author/templateId/**@extension="1.0"**	
				author/**assignedAuthor**	
				author/assignedAuthor/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
				author/assignedAuthor/**code**	
				author/assignedAuthor/code/**@code="AGNT"**	
				author/assignedAuthor/code/**@codeSystem="2.16.840.1.113883.5.110"**	
				author/assignedAuthor/**assignedPerson**	
RelatedPerson > **identifier**	Identifier for a person within a particular scope.	1..*	Identifier	author/assignedAuthor/assignedPerson/**ext:asEntityIdentifier**	The common pattern Entity Identifier **SHALL** be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier.
RelatedPerson > **active**	Whether this related person record is in active use.	0..1	boolean	n/a	This logical element has no mapping to CDA.
RelatedPerson > **patient**	The patient this person is related to.	1..1	Reference(Patient as Base Patient)	n/a	Not mapped directly for this participant; this is implicit in patientRole.
RelatedPerson > **relationship**	The nature of the relationship between a patient and the related person.	0..1	CodeableConcept	author/assignedAuthor/assignedPerson/**ext:personalRelationship**	The common pattern Personal Relationship **SHALL** be applied.
				author/assignedAuthor/assignedPerson/ext:personalRelationship/**ext:code**	ext:code/originalText or ext:code/@displayName **SHALL** be included. Related Person Relationship Type (extensible)

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
RelatedPerson > **name**	A name associated with the person.	0..*	HumanName as Base HumanName	author/assignedAuthor/assignedPerson/**name**	The model Base HumanName is not applied to name. Recommended mappings for this logical type to CDA (R2) are available: HumanName as Base HumanName.
RelatedPerson > **telecom**	A contact detail for the person, e.g. a telephone number or an email address.	0..*	ContactPoint	author/assignedAuthor/**telecom**	Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.
RelatedPerson > **gender**	Administrative Gender - the gender that the person is considered to have for administration and record keeping purposes.	0..1	code	author/assignedAuthor/assignedPerson/**ext:administrativeGenderCode**	AdministrativeGender (required)[1]
RelatedPerson > **birthDate**	The date on which the related person was born.	0..1	date	author/assignedAuthor/assignedPerson/**ext:birthTime**	
RelatedPerson > **address**	Address where the related person can be contacted or visited.	0..*	Address	author/assignedAuthor/**addr**	Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
RelatedPerson > **period**	The period of time that this relationship is considered to be valid. If there are no dates defined, then the interval is unknown.	0..1	Period	n/a	Not mapped separately, implicit in ext:personalRelationship/ext:effectiveTime.

[1]This hyperlink resolves to the FHIR Release 4 description due to a technical defect in the FHIR STU3 description of this code system for OID-based systems.

7.8 author (PractitionerRole with Practitioner with Mandatory Identifier)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Conformance level comes from linking elements				Context: Comes from linking elements	
PractitionerRole	A specific set of Roles/Locations/specialties/services that a practitioner may perform at an organization for a period of time.	Cardinality comes from linking element	DomainResource	**author**	
				author/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				author/templateId/**@root="1.2.36.1.2001.1001.102.101.100006"**	
				author/templateId/**@extension="1.0"**	
				author/**assignedAuthor**	
				author/assignedAuthor/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
PractitionerRole > **identifier**	Business identifiers for practitioner in a role.	0..*	Identifier	author/assignedAuthor/assignedPerson/**ext:asEntityIdentifier**	In CDA the identifier for both PractitionerRole and Practitioner for an author participation are included in assignedPerson/ext:asEntityIdentifier. When sending to the My Health Record, an HPI-I is expected. The cardinality of ext:asEntityIdentifier **SHALL** be interpreted as 1..*. The common pattern Entity Identifier **SHALL** be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier.
PractitionerRole > **active**	Whether this practitioner's record is in active use.	0..1	boolean	n/a	This logical element has no mapping to CDA.
PractitionerRole > **period**	The period during which the person is authorized to act as a practitioner in these role(s) for the organization.	0..1	Period	n/a	This logical element has no mapping to CDA.
PractitionerRole > **practitioner**	Practitioner that is able to provide the defined services for the organation.	1..1	Reference(Practitioner as Practitioner with Mandatory Identifier)	author/assignedAuthor/**assignedPerson**	assignedPerson **SHALL** conform to the template defined in assignedPerson (Practitioner with Mandatory Identifier).
PractitionerRole > **organization**	The organization where the Practitioner performs the roles associated.	0..1	Reference(Organization as Base Organization)	author/assignedAuthor/**representedOrganization**	representedOrganization **SHALL** conform to the template defined in representedOrganization (Base Organization).

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
PractitionerRole > **code**	Roles which this practitioner is authorized to perform for the organization.	0..*	CodeableConcept	author/assignedAuthor/**code**	In CDA the maximum occurrences of assignedAuthor/code is 1. Although the model indicates that code is 0..*, in a CDA implementation this is limited to 0..1. A code equivalent to the provider's professional role, e.g. 159011008 |Community pharmacist| is expected. code/originalText or code/@displayName **SHALL** be included. Australian and New Zealand Standard Classification of Occupations (preferred) or Practitioner Role (preferred)[1]
PractitionerRole > **specialty**	Specific specialty of the practitioner.	0..*	CodeableConcept	n/a	This logical element has no mapping to CDA.
PractitionerRole > **location**	The location(s) at which this practitioner provides care.	0..*	Reference(Location)	n/a	This logical element has no mapping to CDA.
PractitionerRole > **healthcareService**	The list of healthcare services that this worker provides for this role's Organization/Location(s).	0..*	Reference(HealthcareService)	n/a	Not currently mapped to CDA. See Known issues.
PractitionerRole > **telecom**	Contact details that are specific to the role/location/service.	0..*	ContactPoint	author/assignedAuthor/**telecom**	In CDA the telecom for both PractitionerRole and Practitioner for an author participation are included in assignedAuthor/telecom. Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.
PractitionerRole > **availableTime**	A collection of times that the Service Site is available.	0..*	BackboneElement	n/a	This logical element has no mapping to CDA.
PractitionerRole > **notAvailable**	The HealthcareService is not available during this period of time due to the provided reason.	0..*	BackboneElement	n/a	This logical element has no mapping to CDA.
PractitionerRole > **availabilityExceptions**	A description of site availability exceptions, e.g. public holiday availability. Succinctly describing all possible exceptions to normal site availability as details in the available Times and not available Times.	0..1	string	n/a	This logical element has no mapping to CDA.

[1]Note: The source representation of this terminology binding on code in PractitionerRole with Practitioner with Mandatory Identifier [DH2019o] is as an optional slice on the coding part of the code element. In the representation of the model presented in this specification it is normalised as a set of preferred bindings.

7.9 custodian (Organization with Mandatory Identifier)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Conformance level comes from linking elements				Context: /ClinicalDocument/	
Organization	A formally or informally recognized grouping of people or organizations formed for the purpose of achieving some form of collective action. Includes companies, institutions, corporations, departments, community groups, healthcare practice groups, etc.	Cardinality comes from linking element	DomainResource	**custodian**	
				custodian/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				custodian/templateId/**@root="1.2.36.1.2001.1001.102.101.100002"**	
				custodian/templateId/**@extension="1.0"**	
				custodian/**assignedCustodian**	
				custodian/assignedCustodian/**representedCustodianOrganization**	
				custodian/assignedCustodian/representedCustodianOrganization/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
Organization > **identifier**	Identifier for the organization that is used to identify the organization across multiple disparate systems.	1..*	Identifier	custodian/assignedCustodian/ representedCustodianOrganization/**ext:asEntityIdentifier**	When sending to the My Health Record, an HPI-O is expected. The common pattern Entity Identifier **SHALL** be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier.
Organization > **active**	Whether the organization's record is still in active use.	0..1	boolean	n/a	This logical element has no mapping to CDA.
Organization > **type**	The kind(s) of organization that this is.	0..*	CodeableConcept	n/a	This logical element has no mapping to CDA.
Organization > **name**	A name associated with the organization.	0..1	string	custodian/assignedCustodian/representedCustodianOrganization/**name**	
Organization > **alias**	A list of alternate names that the organization is known as, or was known as in the past.	0..*	string	n/a	This logical element has no mapping to CDA.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Organization > **telecom**	A contact detail for the organization.	0..*	ContactPoint	custodian/assignedCustodian/representedCustodianOrganization/**telecom**	In CDA the maximum occurrences of representedCustodianOrganization/telecom is 1. Although the model indicates that telecom is 0..*, in a CDA implementation this is limited to 0..1. telecom/@use Organization Telecom Use HL7 V3 (required)[1]. Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.
Organization > **address**	An address for the organization.	0..*	Address	custodian/assignedCustodian/representedCustodianOrganization/**addr**	addr/@use Organization Address Use HL7 V3 (required)[2]. In CDA the maximum occurrences of representedCustodianOrganization/addr is 1. Although the model indicates that address is 0..*, in a CDA implementation this is limited to 0..1. Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
Organization > **partOf**	The organization of which this organization forms a part.	0..1	Reference(Organization as Base Organization)	n/a	This logical element has no mapping to CDA.
Organization > **contact**	Contact for the organization for a certain purpose.	0..*	BackboneElement	**participant[org_contact]**	participant[org_contact] **SHALL** conform to the template defined in participant (Organization contact).

[1]This value set differs from the value set bound to use in ContactPoint due to constraints on @use in the HL7 CDA Schema. The concept map v3 map for ContactPointUse provides a mapping between the two value sets.

[2]This value set differs from the value set bound to use in Address due to constraints on @use in the HL7 CDA schema. The concept map v3 map for AddressUse provides a mapping between the two value sets.

8 Entity CDA templates

This chapter contains the entity templates referenced by a participation template in 7 *Participation CDA templates*.

8.1 providerOrganization (Base Organization)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Header Data Elements				Context: /ClinicalDocument/recordTarget/patientRole/	
Organization	A formally or informally recognized grouping of people or organizations formed for the purpose of achieving some form of collective action. Includes companies, institutions, corporations, departments, community groups, healthcare practice groups, etc.	Cardinality comes from linking element	DomainResource	**providerOrganization**	Organization **SHALL** have at least: • identifier (providerOrganization/ext:asEntityIdentifier), or • name (providerOrganization/name)
				providerOrganization/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				providerOrganization/templateId/**@root="1.2.36.1.2001.1001.102.101.100034"**	
				providerOrganization/templateId/**@extension="1.0"**	
				providerOrganization/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
Organization > **identifier**	Identifier for the organization that is used to identify the organization across multiple disparate systems.	0..*	Identifier	providerOrganization/**ext:asEntityIdentifier**	The common pattern Entity Identifier **SHALL** be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier.
Organization > **active**	Whether the organization's record is still in active use.	0..1	boolean	n/a	This logical element has no mapping to CDA.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Organization > **type**	The kind(s) of organization that this is.	0..*	CodeableConcept	providerOrganization/**standardIndustryClassCode**	In CDA the maximum occurrences of providerOrganization/standardIndustryClassCode is 1. Although the model indicates that code is 0..*, in a CDA implementation this is limited to 0..1. standardIndustryClassCode/originalText or standardIndustryClassCode/@displayName **SHALL** be included. OrganizationType (example)
Organization > **name**	A name associated with the organization.	0..1	string	providerOrganization/**name[org_name]**	In CDA name and alias are represented by providerOrganization/name.
Organization > **alias**	A list of alternate names that the organization is known as, or was known as in the past.	0..*	string	providerOrganization/**name[alias]**	In CDA name and alias are represented by providerOrganization/name.
Organization > **telecom**	A contact detail for the organization.	0..*	ContactPoint	providerOrganization/**telecom**	telecom/@use Organization Telecom Use HL7 V3 (required)[1]. Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.
Organization > **address**	An address for the organization.	0..*	Address	providerOrganization/**addr**	addr/@use Organization Address Use HL7 V3 (required)[2]. Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
Organization > **partOf**	The organization of which this organization forms a part.	0..1	Reference(Organization as Base Organization)	providerOrganization/**asOrganizationPartOf** providerOrganization/asOrganizationPartOf/**wholeOrganization**	wholeOrganization **SHALL** conform to the template defined in wholeOrganization (Base Organization).
CDA Header Data Elements				Context: /ClinicalDocument/	
Organization > **contact**	Contact for the organization for a certain purpose.	0..*	BackboneElement	**participant[org_contact]**	participant[org_contact] **SHALL** conform to the template defined in participant (Organization contact).

[1]This value set differs from the value set bound to use in ContactPoint due to constraints on @use in the HL7 CDA Schema. The concept map v3 map for ContactPointUse provides a mapping between the two value sets.

[2]This value set differs from the value set bound to use in Address due to constraints on @use in the HL7 CDA schema. The concept map v3 map for AddressUse provides a mapping between the two value sets.

8.2 representedOrganization (Base Organization)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Conformance level comes from linking elements				Context: Comes from linking elements	
Organization	A formally or informally recognized grouping of people or organizations formed for the purpose of achieving some form of collective action. Includes companies, institutions, corporations, departments, community groups, healthcare practice groups, etc.	Cardinality comes from linking element	DomainResource	**representedOrganization**	Organization **SHALL** have at least: • name (representedOrganization/name), or • identifier (representedOrganization/ext:asEntityIdentifier)
				representedOrganization/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				representedOrganization/templateId/**@root="1.2.36.1.2001.1001.102.101.100039"**	
				representedOrganization/templateId/**@extension="1.0"**	
				representedOrganization/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
Organization > **identifier**	Identifier for the organization that is used to identify the organization across multiple disparate systems.	0..*	Identifier	representedOrganization/**ext:asEntityIdentifier**	The common pattern Entity Identifier **SHALL** be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier.
Organization > **active**	Whether the organization's record is still in active use.	0..1	boolean	n/a	This logical element has no mapping to CDA.
Organization > **type**	The kind(s) of organization that this is.	0..*	CodeableConcept	representedOrganization/**standardIndustryClassCode**	In CDA the maximum occurrences of representedOrganization/standardIndustryClassCode is 1. Although the model indicates that code is 0..*, in a CDA implementation this is limited to 0..1. standardIndustryClassCode/originalText or standardIndustryClassCode/@displayName **SHALL** be included. OrganizationType (example)
Organization > **name**	A name associated with the organization.	0..1	string	representedOrganization/**name[org_name]**	In CDA name and alias are represented by representedOrganization/name.
Organization > **alias**	A list of alternate names that the organization is known as, or was known as in the past.	0..*	string	representedOrganization/**name[alias]**	In CDA name and alias are represented by representedOrganization/name.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Organization > **telecom**	A contact detail for the organization.	0..*	ContactPoint	representedOrganization/**telecom**	telecom/@use Organization Telecom Use HL7 V3 (required). Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.
Organization > **address**	An address for the organization.	0..*	Address	representedOrganization/**addr**	addr/@use Organization Address Use HL7 V3 (required)[1]. Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
Organization > **partOf**	The organization of which this organization forms a part.	0..1	Reference(Organization as Base Organization)	representedOrganization/**asOrganizationPartOf** representedOrganization/asOrganizationPartOf/**wholeOrganization**	wholeOrganization **SHALL** conform to the template defined in wholeOrganization (Base Organization).
CDA Header Data Elements				Context: /ClinicalDocument/	
Organization > **contact**	Contact for the organization for a certain purpose.	0..*	BackboneElement	**participant[org_contact]**	participant[org_contact] **SHALL** conform to the template defined in participant (Organization contact).

[1]This value set differs from the value set bound to use in Address due to constraints on @use in the HL7 CDA schema. The concept map v3 map for AddressUse provides a mapping between the two value sets.

8.3 assignedPerson (Practitioner with Mandatory Identifier)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Conformance level comes from linking elements				Context: Comes from linking elements	
Practitioner	A person who is directly or indirectly involved in the provisioning of healthcare.	Cardinality comes from linking element	DomainResource	**assignedPerson**	
				assignedPerson/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				assignedPerson/templateId/**@root="1.2.36.1.2001.1001.102.101.100040"**	
				assignedPerson/templateId/**@extension="1.0"**	
Practitioner > **identifier**	An identifier that applies to this person in this role.	1..*	Identifier	assignedPerson/**ext:asEntityIdentifier**	When sending to the My Health Record, an HPI-I is expected. The common pattern Entity Identifier **SHALL** be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier.
Practitioner > **active**	Whether this practitioner's record is in active use.	0..1	boolean	n/a	This logical element has no mapping to CDA.
Practitioner > **name**	The name(s) associated with the practitioner.	0..*	HumanName as Base HumanName	assignedPerson/**name**	The model Base HumanName is not applied to name. Recommended mappings for this logical type to CDA (R2) are available: HumanName as Base HumanName.
Practitioner > **telecom**	A contact detail for the practitioner, e.g. a telephone number or an email address.	0..*	ContactPoint	**telecom**	Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.
Practitioner > **address**	Address(es) of the practitioner that are not role specific (typically home address). Work addresses are not typically entered in this property as they are usually role dependent.	0..*	Address	**addr**	Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
Practitioner > **gender**	Administrative Gender - the gender that the person is considered to have for administration and record keeping purposes.	0..1	code	n/a	This logical element has no mapping to CDA.
Practitioner > **birthDate**	The date of birth for the practitioner.	0..1	date	assignedPerson/**ext:birthTime**	

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Practitioner > **qualification**	Qualifications obtained by training and certification.	0..*	BackboneElement	See: instantiation choices	It is possible that the qualification may be able to be captured as a complex structure or as a text list. **instantiation choices:** If the qualification or list of qualifications is the result of capturing a text field then qualification is expected to be instantiated as assignedPerson/ext:asQualifications/@classCode="QUAL". The common pattern Qualification **SHALL** be applied. If more information can be captured than a narrative list then qualification is expected to be instantiated as ext:coverage2[prac_qual] and **SHALL** conform to the template defined in ext:coverage (Practitioner qualification) . If this is a CDA Header participant, ext:cover-age2[prac_qual] is expected to be instantiated in component (Administrative Observations) (ClinicalDocument/component/structuredBody/component[admin_obs]/section/); if this is a StructuredBody participant, ext:cover-age2[prac_qual] is expected to be instantiated in the same section as this participant.
Practitioner > **communication**	A language the practitioner is able to use in patient communication.	0..*	CodeableConcept	assignedPerson/**ext:languageCommunication**	The common pattern Language Communication **SHALL** be applied.

8.4 wholeOrganization (Base Organization)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Conformance level comes from linking elements				Context: Comes from linking elements	
Organization	A formally or informally recognized grouping of people or organizations formed for the purpose of achieving some form of collective action. Includes companies, institutions, corporations, departments, community groups, healthcare practice groups, etc.	Cardinality comes from linking element	DomainResource	**wholeOrganization**	Organization **SHALL** have at least: • name (wholeOrganization/name), or • identifier (wholeOrganization/ext:asEntityIdentifier)
				wholeOrganization/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				wholeOrganization/templateId/**@root="1.2.36.1.2001.1001.102.101.100087"**	
				wholeOrganization/templateId/**@extension="1.0"**	
				wholeOrganization/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
Organization > **identifier**	Identifier for the organization that is used to identify the organization across multiple disparate systems.	0..*	Identifier	wholeOrganization/**ext:asEntityIdentifier**	The common pattern Entity Identifier **SHALL** be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier.
Organization > **active**	Whether the organization's record is still in active use.	0..1	boolean	n/a	This logical element has no mapping to CDA.
Organization > **type**	The kind(s) of organization that this is.	0..*	CodeableConcept	wholeOrganization/**standardIndustryClassCode**	In CDA the maximum occurrences of wholeOrganization/standardIndustryClassCode is 1. Although the model indicates that code is 0..*, in a CDA implementation this is limited to 0..1. standardIndustryClassCode/originalText or standardIndustryClassCode/@displayName **SHALL** be included. OrganizationType (example)
Organization > **name**	A name associated with the organization.	0..1	string	wholeOrganization/**name[org_name]**	In CDA name and alias are represented by wholeOrganization/name.
Organization > **alias**	A list of alternate names that the organization is known as, or was known as in the past.	0..*	string	wholeOrganization/**name[alias]**	In CDA name and alias are represented by wholeOrganization/name.
Organization > **telecom**	A contact detail for the organization.	0..*	ContactPoint	wholeOrganization/**telecom**	telecom/@use Organization Telecom Use HL7 V3 (required)[1]. Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Organization > **address**	An address for the organization.	0..*	Address	wholeOrganization/**addr**	addr/@use Organization Address Use HL7 V3 (required)[2]. Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
Organization > **partOf**	The organization of which this organization forms a part.	0..1	Reference(Organization as Base Organization)	wholeOrganization/**asOrganizationPartOf** wholeOrganization/asOrganizationPartOf/**wholeOrganization**	wholeOrganization/asOrganizationPartOf/wholeOrganization **SHALL** conform to the template defined in wholeOrganization (Base Organization).
CDA Header Data Elements				Context: /ClinicalDocument/	
Organization > **contact**	Contact for the organization for a certain purpose.	0..*	BackboneElement	**participant[org_contact]**	participant[org_contact] **SHALL** conform to the template defined in participant (Organization contact).

[1]This value set differs from the value set bound to use in ContactPoint due to constraints on @use in the HL7 CDA Schema. The concept map v3 map for ContactPointUse provides a mapping between the two value sets.

[2]This value set differs from the value set bound to use in Address due to constraints on @use in the HL7 CDA schema. The concept map v3 map for AddressUse provides a mapping between the two value sets.

8.5 scopingOrganization (Base Organization)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Conformance level comes from linking elements				Context: Comes from linking elements	
Organization	A formally or informally recognized grouping of people or organizations formed for the purpose of achieving some form of collective action. Includes companies, institutions, corporations, departments, community groups, healthcare practice groups, etc.	Cardinality comes from linking element	DomainResource	**scopingOrganization**	Organization **SHALL** have at least: • name (scopingOrganization/name), or • identifier (scopingOrganization/ext:asEntityIdentifier)
				scopingOrganization/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				scopingOrganization/templateId/**@root="1.2.36.1.2001.1001.102.101.100089"**	
				scopingOrganization/templateId/**@extension="1.0"**	
				scopingOrganization/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
Organization > **identifier**	Identifier for the organization that is used to identify the organization across multiple disparate systems.	0..*	Identifier	scopingOrganization/**ext:asEntityIdentifier**	The common pattern Entity Identifier **SHALL** be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier.
Organization > **active**	Whether the organization's record is still in active use.	0..1	boolean	n/a	This logical element has no mapping to CDA.
Organization > **type**	The kind(s) of organization that this is.	0..*	CodeableConcept	scopingOrganization/**standardIndustryClassCode**	In CDA the maximum occurrences of scopingOrganization/standardIndustryClassCode is 1. Although the model indicates that code is 0..*, in a CDA implementation this is limited to 0..1. standardIndustryClassCode/originalText or standardIndustryClassCode/@displayName **SHALL** be included. OrganizationType (example)
Organization > **name**	A name associated with the organization.	0..1	string	scopingOrganization/**name[org_name]**	In CDA name and alias are represented by scopingOrganization/name.
Organization > **alias**	A list of alternate names that the organization is known as, or was known as in the past.	0..*	string	scopingOrganization/**name[alias]**	In CDA name and alias are represented by scopingOrganization/name.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Organization > **telecom**	A contact detail for the organization.	0..*	ContactPoint	scopingOrganization/**telecom**	telecom/@use Organization Telecom Use HL7 V3 (required)[1]. Recommended mappings for this logical type to CDA (R2) are available: ContactPoint.
Organization > **address**	An address for the organization.	0..*	Address	scopingOrganization/**addr**	addr/@use Organization Address Use HL7 V3 (required)[2]. Recommended mappings for this logical type to CDA (R2) are available: Address | Address as AU Base Address.
Organization > **partOf**	The organization of which this organization forms a part.	0..1	Reference(Organization as Base Organization)	scopingOrganization/**asOrganizationPartOf** scopingOrganization/asOrganizationPartOf/**wholeOrganization**	wholeOrganization **SHALL** conform to the template defined in wholeOrganization (Base Organization).
CDA Header Data Elements				Context: /ClinicalDocument/	
Organization > **contact**	Contact for the organization for a certain purpose.	0..*	BackboneElement	**participant[org_contact]**	participant[org_contact] **SHALL** conform to the template defined in participant (Organization contact).

[1]This value set differs from the value set bound to use in ContactPoint due to constraints on @use in the HL7 CDA Schema. The concept map v3 map for ContactPointUse provides a mapping between the two value sets.

[2]This value set differs from the value set bound to use in Address due to constraints on @use in the HL7 CDA schema. The concept map v3 map for AddressUse provides a mapping between the two value sets.

9 Section CDA templates

This chapter defines the `section` templates referenced by a `ClinicalDocument` template for a document-level model in *6 Document CDA templates*.

9.1 section (Dispense List)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Body Level 3 Data Elements				Context: Comes from linking elements	
section	A list of dispense records for a patient.	Cardinality comes from linking element	BackboneElement	**section[dl]**	This section **SHALL** contain at least one entry (section/entry[pdl]) or an emptyReason (section/@nullFlavor) but **SHALL NOT** contain both.
				section[dl]/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				section[dl]/templateId/**@root="1.2.36.1.2001.1001.102.101.100074"**	
				section[dl]/templateId/**@extension="1.0"**	
section > **title**	The label for this particular section. This will be part of the rendered content for the document, and is often used to build a table of contents.	1..1	string	section[dl]/**title**	
section > **code**	A code identifying the kind of content contained within the section. This must be consistent with the section title.	1..1	CodeableConcept	section[dl]/**code**	
				section[dl]/code/**@code="100.32014"**	
				section[dl]/code/**@codeSystem="1.2.36.1.2001.1001.101"**	NCTIS Data Components
				section[dl]/code/**@displayName**	displayName **SHOULD** be "Dispense List".
section > **text**	A human-readable narrative that contains the attested content of the section, used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it 'clinically safe' for a human to just read the narrative.	1..1	Narrative	section[dl]/**text**	

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
section > **entry**	A reference to the actual resource from which the narrative in the section is derived.	0..2	Reference(List as List of Prescription and or Dispense Records | Provenance as Provenance for the Generation of a List)	section[dl]/**entry[dl]** See: instantiation choices	**instantiation choices:** If entry is a List then it **SHALL** be instantiated as section/entry[dl]/act. act **SHALL** conform to the template defined in act (List of Prescription and or Dispense Records); that act **SHALL** have the same code as this section (entry[dl]/act/code/@code="100.32014"). If entry is an Provenance then it **SHALL** be instantiated as section/entry[dl]/observation. observation **SHALL** conform to the template defined in act (Provenance for the Generation of a List).
section > **emptyReason**	If the section is empty, why the list is empty. An empty section typically has some text explaining the empty reason.	0..1	CodeableConcept	section[dl]/**@nullFlavor**	Empty Reason HL7 v3 NullFlavor (required) The nullFlavor attribute is used to represent the reason a section is empty of clinical content.

9.2 section (Prescription List)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Body Level 3 Data Elements				Context: Comes from linking elements	
section	A list of prescriptions for a patient.	Cardinality comes from linking element	BackboneElement	**section[pl]**	This section **SHALL** contain at least one entry (section/entry[pdl]) or an emptyReason (section/@nullFlavor) but **SHALL NOT** contain both.
				section[pl]/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				section[pl]/templateId/**@root="1.2.36.1.2001.1001.102.101.100073"**	
				section[pl]/templateId/**@extension="1.0"**	
section > **title**	The label for this particular section. This will be part of the rendered content for the document, and is often used to build a table of contents.	1..1	string	section[pl]/**title**	
section > **code**	A code identifying the kind of content contained within the section. This must be consistent with the section title.	1..1	CodeableConcept	section[pl]/**code**	
				section[pl]/code/**@code="57828-6"**	
				section[pl]/code/**@codeSystem="2.16.840.1.113883.6.1"**	LOINC
				section[pl]/code/**@displayName**	displayName **SHOULD** be "Prescription list".
section > **text**	A human-readable narrative that contains the attested content of the section, used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it 'clinically safe' for a human to just read the narrative.	1..1	Narrative	section[pl]/**text**	

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
section > **entry**	A reference to the actual resource from which the narrative in the section is derived.	0..2	Reference(List as List of Prescription and or Dispense Records | Provenance as Provenance for the Generation of a List)	section[pl]/**entry[pl]** See: instantiation choices	**instantiation choices:** If entry is a List then it **SHALL** be instantiated as section/entry[pl]/act. act **SHALL** conform to the template defined in act (List of Prescription and or Dispense Records); that act **SHALL** have the same code as this section (entry[pl]/act/code/@code="57828-6"). If entry is an Provenance then it **SHALL** be instantiated as section/entry[pl]/observation. observation **SHALL** conform to the template defined in act (Provenance for the Generation of a List).
section > **emptyReason**	If the section is empty, why the list is empty. An empty section typically has some text explaining the empty reason.	0..1	CodeableConcept	section[pl]/**@nullFlavor**	Empty Reason HL7 v3 NullFlavor (required) The nullFlavor attribute is used to represent the reason a section is empty of clinical content.

9.3 section (Prescription and Dispense List)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Body Level 3 Data Elements				Context: Comes from linking elements	
section	A list of prescriptions and dispense records for a patient.	Cardinality comes from linking element	BackboneElement	**section[pdl]**	This section **SHALL** contain at least one entry (section/entry[pdl]) or an emptyReason (section/@nullFlavor) but **SHALL NOT** contain both.
				section[pdl]/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				section[pdl]/templateId/**@root="1.2.36.1.2001.1001.102.101.100072"**	
				section[pdl]/templateId/**@extension="1.0"**	
section > **title**	The label for this particular section. This will be part of the rendered content for the document, and is often used to build a table of contents.	1..1	string	section[pdl]/**title**	
section > **code**	A code identifying the kind of content contained within the section. This must be consistent with the section title.	1..1	CodeableConcept	section[pdl]/**code**	
				section[pdl]/code/**@code="100.32015"**	
				section[pdl]/code/**@codeSystem="1.2.36.1.2001.1001.101"**	NCTIS Data Components
				section[pdl]/code/**@displayName**	displayName **SHOULD** be "Prescription and Dispense List".
section > **text**	A human-readable narrative that contains the attested content of the section, used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it 'clinically safe' for a human to just read the narrative.	1..1	Narrative	section[pdl]/**text**	

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
section > **entry**	A reference to the actual resource from which the narrative in the section is derived.	0..2	Reference(List as List of Prescription and or Dispense Records | Provenance as Provenance for the Generation of a List)	section[pdl]/**entry[pdl]** See: instantiation choices	**instantiation choices:** If entry is a List then it **SHALL** be instantiated as section/entry[pdl]/act. act **SHALL** conform to the template defined in act (List of Prescription and or Dispense Records); that act **SHALL** have the same code as this section (entry[pdl]/act/code/@code="100.32015"). If entry is an Provenance then it **SHALL** be instantiated as section/entry[pdl]/observation. observation **SHALL** conform to the template defined in act (Provenance for the Generation of a List).
section > **emptyReason**	If the section is empty, why the list is empty. An empty section typically has some text explaining the empty reason.	0..1	CodeableConcept	section[pdl]/**@nullFlavor**	Empty Reason HL7 v3 NullFlavor (required) The nullFlavor attribute is used to represent the reason a section is empty of clinical content.

10 Act CDA templates

This chapter contains the entry-level templates, called acts (machine readable structured content), referenced by other templates such as those in 9 *Section CDA templates*.

10.1 act (List of Prescription and or Dispense Records)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Conformance level comes from linking elements				Context: Comes from linking elements	
List	A set of information summarized from a list of other resources.	1..1	DomainResource	**act**	If this list is a Dispense List (code/@code="100.32014") then only entries of type MedicationDispense (entryRelationship[item]/supply) **SHALL** be allowed. If this list is a Prescription List (code/@code="57828-6") then only entries of type MedicationRequest (entryRelationship[item]/substanceAdministration) **SHALL** be allowed.
				act/**@classCode="ACT"**	
				act/**@moodCode="EVN"**	
				act/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				act/templateId/**@root="1.2.36.1.2001.1001.102.101.100076"**	
				act/templateId/**@extension="1.0"**	
List > **author-role**	Identifies the practitioner role responsible for the information in the resource (aka author), not necessarily who typed it in.	0..1	Reference(PractitionerRole as PractitionerRole with Mandatory Identifier)	n/a	Not mapped directly for this model; this is implicit in ClinicalDocument/author.
List > **author-related-person**	The entity (related person) responsible for deciding what the contents of the list were. Where the list was created by a human, this is the same as the author of the list.	0..1	Reference(RelatedPerson as RelatedPerson with Mandatory Identifier)	n/a	Not mapped directly for this model; this is implicit in ClinicalDocument/author.
List > **status**	Indicates the current state of this list.	1..1	code	act/**statusCode**	
				act/statusCode/**@code="active"**	The logical status of "current" is mapped to "active" in CDA.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
List > **title**	A label for the list assigned by the author.	0..1	string	n/a	This logical element has no mapping to CDA. In CDA this is supported in either the narrative or the title of the applicable section.
List > **code**	This code defines the purpose of the list - why it was created.	1..1	CodeableConcept	act/**code**	code/originalText or code/@displayName **SHALL** be included. Prescription and Dispense List Type (required)
List > **subject**	The common subject (or patient) of the resources that are in the list, if there is one.	1..1	Reference(Patient as Patient with Mandatory Identifier)	n/a	Not mapped directly for this model; this is implicit in patientRole.
List > **date**	The date that the list was prepared.	1..1	dateTime	act/**effectiveTime**	This effectiveTime will hold the same value as ClinicalDocument/author/time.
List > **source**	The entity responsible for deciding what the contents of the list were. Where the list was created by a human, this is the same as the author of the list.	1..1	Reference(Practitioner as Practitioner with Mandatory Identifier | Patient as Patient with Mandatory Identifier | Device as Patient with Mandatory Identifier)	n/a	Not mapped directly for this model; this is implicit in ClinicalDocument/author.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
List > **note**	Comments that apply to the overall list.	0..*	Annotation	act/**entryRelationship[note]**	
				act/entryRelationship[note]/**@typeCode="COMP"**	
				act/entryRelationship[note]/**act**	
				act/entryRelationship[note]/act/**@classCode="INFRM"**	
				act/entryRelationship[note]/act/**@moodCode="EVN"**	
				act/entryRelationship[note]/act/**code**	
				act/entryRelationship[note]/act/code/**@code="103.16044"**	
				act/entryRelationship[note]/act/code/**@codeSystem="1.2.36.1.2001.1001.101"**	NCTIS Data Components
				act/entryRelationship[note]/act/code/**@displayName**	displayName **SHOULD** be "Additional Comments".
				act/entryRelationship[note]/act/**author**	If this author is not instantiated, the data is considered to be included via induction in ClinicalDocument/author. In CDA the cardinality of entryRelationship[note]/act/author is 0..*. In this template the cardinality of author **SHALL** be limited to 0..1.
				act/entryRelationship[note]/act/**effectiveTime**	If this effectiveTime is not instantiated, the data is considered to be included via induction in ClinicalDocument/author/time. In CDA the cardinality of entryRelationship[note]/act/effectiveTime is 0..*. In this template the cardinality of effectiveTime **SHALL** be limited to 0..1.
				act/entryRelationship[note]/act/**text**	text/@xsi:type **SHALL** be "ST".
List > **entry**	List of medicine type entries	1..*	BackboneElement	act/**entryRelationship[item]**	
				act/entryRelationship[item]/**@typeCode="COMP"**	
List > entry > **item**	A reference to the actual resource from which data was derived.	1..1	Reference(MedicationStatement | MedicationRequest | MedicationDispense)	act/**entryRelationship[item]** See: instantiation choices	**instantiation choices:** If entry is a MedicationStatement then it **SHALL** be instantiated as entryRelationship[item]/substanceAdministration. If entry is a MedicationRequest then it **SHALL** be instantiated as entryRelationship[item]/substanceAdministration. If entry is a MedicationDispense then it **SHALL** be instantiated as entryRelationship[item]/supply.
List > **emptyReason**	If the list is empty, why the list is empty.	0..1	CodeableConcept	act/**@nullFlavor**	Empty Reason HL7 v3 NullFlavor (required) The nullFlavor attribute is used to represent the reason a list is empty of clinical content.

10.2 act (Provenance for the Generation of a List)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments	
Conformance level comes from linking elements				Context: Comes from linking elements		
Provenance	A set of information summarized from a list of other resources.	Cardinality comes from linking elements	DomainResource	**???**		
				???/**@classCode="ACT"**		
				???/**@moodCode="EVN"**		
				???/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.	
				???/templateId/**@root="TBD"**		
				???/templateId/**@extension="1.0"**		
Provenance > **target**	The Reference(s) that were generated or updated by the activity described in this resource. A provenance can point to more than one target if multiple resources were created/updated by the same activity.	1..*	Reference(Any)	act/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.	
Provenance > **period**	The period during which the activity occurred.	0..1	Identifier	act/**id**	Not mapped directly for this model; this is implicit in ClinicalDocument/section/id.	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.
Provenance > **recorded**	The instant of time at which the activity was recorded.	1..1	instant	act/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.	
Provenance > **policy**	Policy or plan the activity was defined by. Typically, a single activity may have multiple applicable policy documents, such as patient consent, guarantor funding, etc.	0..*	uri	act/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.	
Provenance > **activity**	An activity is something that occurs over a period of time and acts upon or with entities; it may include consuming, processing, transforming, modifying, relocating, using, or generating entities.	0..1	Coding	act/**id**	id/@root **SHALL** be present and it **SHALL** be a UUID or an OID.	

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Provenance > **agent**	An actor taking a role in an activity for which it can be assigned some degree of responsibility for the activity taking place.	1..*	BackboneElement	act/**id**	Not mapped directly for this model; this is implicit in ClinicalDocument/section/id.
Provenance > agent > **role**	The function of the agent with respect to the activity. The security role enabling the agent with respect to the activity.	0..*	CodeableConcept	act/**id**	Not mapped directly for this model; this is implicit in ClinicalDocument/section/id.
Provenance > agent > **who[x]**	The individual, device or organization that participated in the event.	1..1	Reference(Practitioner as Base Practitioner | RelatedPerson as Base RelatedPerson | Patient as Base Patient | Device as Base Device | Organization as Base Organization)	act/**id**	Not mapped directly for this model; this is implicit in ClinicalDocument/section/id.
Provenance > agent > **onBehalfOf[x]**	The individual, device, or organization for whom the change was made.	0..1	Reference(Practitioner as | RelatedPerson as Base RelatedPerson | Patient as | Device as Base Device | Organization as Base Organization)	act/**id**	Not mapped directly for this model; this is implicit in ClinicalDocument/section/id.
Provenance > **entity**	An entity used in this activity.	0..*	BackboneElement	act/**id**	Not mapped directly for this model; this is implicit in ClinicalDocument/section/id.
Provenance > entity > **role**	How the entity was used during the activity.	1..1	code	act/**id**	Not mapped directly for this model; this is implicit in ClinicalDocument/section/id.
Provenance > entity > **what[x]**	Identity of the Entity used. May be a logical or physical uri and maybe absolute or relative.	1..1	Reference(Any)	act/**id**	Not mapped directly for this model; this is implicit in ClinicalDocument/section/id.
Provenance > entity > **agent**	The entity is attributed to an agent to express the agent's responsibility for that entity, possibly along with other agents. This description can be understood as shorthand for saying that the agent was responsible for the activity which generated the entity.	0..*	see An actor taking a role in an activity for which it can be assigned some degree of responsibility for the activity taking place.	act/**id**	Not mapped directly for this model; this is implicit in ClinicalDocument/section/id.

10.3 ext:coverage (Practitioner qualification)

See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
CDA Header Data Elements				Context: Comes from linking elements	
Practitioner > **qualification**	Qualifications obtained by training and certification.	Cardinality comes from linking element	BackboneElement	**ext:coverage2[prac_qual]**	
				ext:coverage2[prac_qual]/**@typeCode="COVBY"**	
				ext:coverage2[prac_qual]/**templateId**	The use of templateId signals the imposition of a set of template-defined constraints.
				ext:coverage2[prac_qual]/templateId/**@root="1.2.36.1.2001.1001.102.101.100038"**	
				ext:coverage2[prac_qual]/templateId/**@extension="1.0"**	
				ext:coverage2[prac_qual]/**ext:entitlement**	
				ext:coverage2[prac_qual]/ext:entitlement/**@classCode="COV"**	
				ext:coverage2[prac_qual]/ext:entitlement/**@moodCode="EVN"**	
				ext:coverage2[prac_qual]/ext:entitlement/**ext:participant[prac]**	
				ext:coverage2[prac_qual]/ext:entitlement/ext:participant[prac]/**@typeCode="HLD"**	
				ext:coverage2[prac_qual]/ext:entitlement/ext:participant[prac]/**ext:participantRole**	
				ext:coverage2[prac_qual]/ext:entitlement/ext:participant[prac]/ext:participantRole/**@classCode="ASSIGNED"**	
				ext:coverage2[prac_qual]/ext:entitlement/ext:participant[prac]/ext:participantRole/**ext:id**	This ext:id **SHALL** hold the same value as practitioner that this qualification is associated with (the value in this id element **SHALL** be present in separate participation).
Practitioner > qualification > **identifier**	An identifier that applies to this person's qualification in this role.	0..*	Identifier	ext:coverage2[prac_qual]/ext:entitlement/**ext:id**	Recommended mappings for this logical type to CDA (R2) are available: Identifier.
Practitioner > qualification > **code**	Coded representation of the qualification.	1..1	CodeableConcept	ext:coverage2[prac_qual]/ext:entitlement/**ext:code**	ext:code/originalText or ext:code/@displayName **SHALL** be included. v2 table 0360, Version 2.7 (example)
Practitioner > qualification > **period**	Period during which the qualification is valid.	0..1	Period	ext:coverage2[prac_qual]/ext:entitlement/**ext:effectiveTime**	

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Practitioner > qualification > **issuer**	Organization that regulates and issues the qualification.	0..1	Reference(Organization	ext:coverage2[prac_qual]/ext:entitlement/**ext:participant[issuer]**	
				ext:coverage2[prac_qual]/ext:entitlement/ext:participant[issuer]/**@typeCode="AUT"**	
				ext:coverage2[prac_qual]/ext:entitlement/ext:participant[issuer]/**ext:participantRole**	
				ext:coverage2[prac_qual]/ext:entitlement/ext:participant[issuer]/ ext:participantRole/**@classCode="COMPAR"**	

11 Common patterns

This chapter contains conformance requirements on CDA schema elements. These conformance rules apply across multiple templates, forming 'common patterns'.

11.1 Entity Identifier

See Legend - CDA mapping table for CDA schema elements for an explanation of mapping table presentation.

CDA mapping

Common pattern	CDA schema element	CDA element description	CDA card	CDA constraints and comments
Entity Identifier	**ext:asEntityIdentifier**	A number or code issued for the purpose of identifying a participant within a healthcare context.	Cardinality comes from linking element	
	ext:asEntityIdentifier/**@classCode="IDENT"**		1..1	
	ext:asEntityIdentifier/**ext:id**		1..1	
	ext:asEntityIdentifier/ext:id/**@root**		1..1	root **SHALL** be an OID and **SHALL NOT** be a UUID.
	ext:asEntityIdentifier/ext:id/**@extension**		0..1	
	ext:asEntityIdentifier/ext:id/**@assigningAuthorityName**		0..1	A name for the namespace represented in the root that is populated with the issuer, or identifier type, or a concatenation of both as appropriate. This is used for human-readable, not machine processing, purposes. assigningAuthorityName **SHOULD** be instantiated.
	ext:asEntityIdentifier/**ext:code**		0..1	
	ext:asEntityIdentifier/**ext:assigningGeographicArea**		0..1	
	ext:asEntityIdentifier/ext:assigningGeographicArea/**@classCode="PLC"**		1..1	
	ext:asEntityIdentifier/ext:assigningGeographicArea/**ext:name**		0..1	The range and extent that the identifier applies to the object with which it is associated that is populated directly from the geographic area. This is used for human-readable, not machine processing, purposes. ext:name **SHOULD** be instantiated. Healthcare Identifier Geographic Area (preferred) This CDA schema element is expected to be populated with the display, e.g. "National Identifier".

Examples

Example 11.1. Entity Identifier - Australian IHI

```
<!-- Australian IHI -->
<xs:asEntityIdentifier classCode="IDENT">
 <xs:id root="1.2.36.1.2001.1003.0.8003608833357361" assigningAuthorityName="IHI" />
 <xs:assigningGeographicArea classCode="PLC">
      <xs:name>National Identifier</xs:name>
   </xs:assigningGeographicArea>
</xs:asEntityIdentifier>
```

Example 11.2. Entity Identifier - Local Medical Record Number

```
<!-- Local Medical Record Number -->
<xs:asEntityIdentifier classCode="IDENT">
 <xs:id root="1.2.36.1.2001.1005.29.8003621566684455" extension="542181" assigningAuthorityName="Croydon GP Centre" />
   <xs:code code="MR" codeSystem="2.16.840.1.113883.12.203" codeSystemName="Identifier Type (HL7)" />
</xs:asEntityIdentifier>
```

Example 11.3. Entity Identifier - Australian HPI-I

```
<!-- Australian HPI-I -->
<xs:asEntityIdentifier classCode="IDENT">
 <xs:id assigningAuthorityName="HPI-I" root="1.2.36.1.2001.1003.0.8003610537409456"/>
 <xs:assigningGeographicArea classCode="PLC">
  <xs:name>National Identifier</xs:name>
 </xs:assigningGeographicArea>
</xs:asEntityIdentifier>
```

Example 11.4. Entity Identifier - Australian HPI-O

```
<!-- Australian HPI-O -->
<xs:asEntityIdentifier classCode="IDENT">
   <xs:id assigningAuthorityName="HPI-O" root="1.2.36.1.2001.1003.0.8003621566684455" />
   <xs:assigningGeographicArea classCode="PLC">
      <xs:name>National Identifier</xs:name>
   </xs:assigningGeographicArea>
</xs:asEntityIdentifier>
```

11.2 Personal Relationship

See Legend - CDA mapping table for CDA schema elements for an explanation of mapping table presentation.

CDA mapping

Common pattern	CDA schema element	CDA element description	CDA card	CDA constraints and comments
Personal Relationship	**ext:personalRelationship**	The personal relationship of a participant to a patient. A personal relationship is not to be instantiated if the participant is a practitioner.	Cardinality comes from linking element	
	ext:personalRelationship/**@classCode="PRS"**		0..1	
	ext:personalRelationship/**ext:id**		0..1	
	ext:personalRelationship/**ext:code**		1..1	
	ext:personalRelationship/**ext:statusCode**		0..1	v3 Code System RoleStatus (required)
	ext:personalRelationship/**ext:effectiveTime**		0..1	
	ext:personalRelationship/**ext:asPersonalRelationship**		1..1	
	ext:personalRelationship/ext:asPersonalRelationship/**@classCode="PSN"**		0..1	
	ext:personalRelationship/ext:asPersonalRelationship/**@determinerCode="INSTANCE"**		0..1	
	ext:personalRelationship/ext:asPersonalRelationship/**id**		1..1	This id **SHALL** hold the same value as patientRole/id.
	ext:personalRelationship/ext:asPersonalRelationship/**administrativeGenderCode/@nullFlavor="NA"**		1..1	Included for CDA conformance only.

Examples

Example 11.5. Personal Relationship - author related person

```
<!-- recordTarget (Patient) -->
<recordTarget>
   <patientRole>
      <!-- patient identifier-->
      <id extension="100543" root="2.16.840.1.113883.19.1.2.3.4"/>
   </patientRole>
</recordTarget>

<!-- author (RelatedPerson) -->
<author>
   <time value="200911031647+1000"/>
   <assignedAuthor>
      <!-- author identifier-->
      <id root="86d729b8-72d2-460a-a64c-489a51607450"/>
      <assignedPerson>
         <!-- personal relationship -->
         <ext:personalRelationship>
            <!--relationship-->
            <ext:code code="SIGOTHR" codeSystem="2.16.840.1.113883.5.111" codeSystemName="v3 Code System RoleCode" displayName="significant other" />
            <!--patient-->
            <ext:asPersonalRelationship>
               <!-- patient identifier-->
               <id extension="100543" root="2.16.840.1.113883.19.1.2.3.4"/>
               <administrativeGenderCode nullFlavor="NA" />
            </ext:asPersonalRelationship>
         </ext:personalRelationship>
      </assignedPerson>
   </assignedAuthor>
</author>
```

Example 11.6. Personal Relationship - performer related person

```
<!-- recordTarget (Patient) -->
<recordTarget>
   <patientRole>
      <!-- patient identifier-->
      <id extension="100543" root="2.16.840.1.113883.19.1.2.3.4"/>
   </patientRole>
</recordTarget>

<!-- participant performer (RelatedPerson) -->
<participant typeCode="PRF">
   <associatedEntity classCode="ASSIGNED">
      <!--participant performer identifier-->
      <id root="f3351b5c-8a6c-437c-a55c-a6c121873456"/>
      <!-- personal relationship -->
      <associatedPerson>
         <ext:personalRelationship>
            <!--relationship-->
            <ext:code code="FAMMEMB" codeSystem="2.16.840.1.113883.5.111" codeSystemName="v3 Code System RoleCode" displayName="Family Member" />
```

```
            <!--patient-->
            <ext:asPersonalRelationship>
               <!-- patient identifier-->
               <id extension="100543" root="2.16.840.1.113883.19.1.2.3.4"/>
               <administrativeGenderCode nullFlavor="NA" />
            </ext:asPersonalRelationship>
         </ext:personalRelationship>
      </associatedPerson>
   </associatedEntity>
</participant>
```

11.3 Qualification

See Legend - CDA mapping table for CDA schema elements for an explanation of mapping table presentation.

CDA mapping

Common pattern	CDA schema element	CDA element description	CDA card	CDA constraints and comments
Qualification	**ext:asQualifications**	A list of professional certifications, and certificates recognising having passed a course.	Cardinality comes from linking element	
	ext:asQualifications/**@classCode="QUAL"**		1..1	
	ext:asQualifications/**ext:code**		1..1	Qualifications is a text field, so the text list is captured in ext:code/originalText.

Examples

Example 11.7. Qualification - Bachelor of Pharmacy

```
<!-- Qualification - Bachelor of Pharmacy -->
<ext:asQualifications classCode="QUAL">
 <ext:code>
  <originalText>Bachelor of Pharmacy</originalText>
 </ext:code>
</ext:asQualifications>
```

Example 11.8. Qualification - List of qualifications

```
<!-- Qualification -->
<ext:asQualifications classCode="QUAL">
 <ext:code>
  <originalText>Doctor of Medicine, Fellowship of the Australian College of Rural and Remote Medicine (FACRRM)</originalText>
 </ext:code>
</ext:asQualifications>
```

11.4 Ingredient

See Legend - CDA mapping table for CDA schema elements for an explanation of mapping table presentation.

CDA mapping

Common pattern	CDA schema element	CDA element description	CDA card	CDA constraints and comments
Ingredient	**ext:asIngredient**	An ingredient of the medicine item.	Cardinality comes from linking element	
	ext:asIngredient/**@classCode="INGR"**		1..1	
	ext:asIngredient/**ext:id**		0..*	
	ext:asIngredient/**ext:ingredientManufacturedMaterial**		0..1	The substance that is the ingredient. This may be another medication.
	ext:asIngredient/ext:ingredientManufacturedMaterial/**@classCode="MMAT"**		1..1	
	ext:asIngredient/ext:ingredientManufacturedMaterial/**@determinerCode="KIND"**		1..1	
	ext:asIngredient/ext:ingredientManufacturedMaterial/**ext:id**		0..*	
	ext:asIngredient/ext:ingredientManufacturedMaterial/**ext:code**		0..1	Code for the substance.
	ext:asIngredient/ext:ingredientManufacturedMaterial/**ext:desc**		0..1	Name and/or description of the substance.
	ext:asIngredient/ext:ingredientManufacturedMaterial/**ext:expirationTime**		0..1	ext:expirationTime is discouraged from use.
	ext:asIngredient/ext:ingredientManufacturedMaterial/**ext:quantity**		0..1	ext:quantity **SHOULD NOT** be instantiated as the determinerCode is fixed to "KIND".
	ext:asIngredient/**ext:quantity**		0..1	This CDA schema element is of type Ratio Physical Quantity / Physical Quantity (RTO_PQ_PQ). Strength (amount) of the substance as an ingredient in the medicine item, e.g. 2% of the ingredient or 5mg of the ingredient or 10mg of the ingredient per ml or 250 mg per tablet.

Examples

Example 11.9. Ingredient - Medication active ingredient with amount

```
<!--Medication-->
<consumable>
 <manufacturedProduct>
  <manufacturedMaterial>
   <!--Medication.code-->
   <code code="22048011000036105"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="amoxicillin 250 mg chewable tablet">
   </code>
   <!--Medication.ingredient-->
   <ext:asIngredient classCode="INGR">
    <ext:ingredientManufacturedMaterial classCode="MMAT" determinerCode="KIND">
     <!--Medication.ingredient.item[x]-->
     <ext:code code="1799011000036105"
      codeSystem="2.16.840.1.113883.6.96"
      codeSystemName="SNOMED CT"
      displayName="amoxicillin"/>
    </ext:ingredientManufacturedMaterial>
    <!--Medication.ingredient.amount-->
    <ext:quantity>
     <numerator unit="mg" value="250"/>
     <denominator value="1"/>
    </ext:quantity>
   </ext:asIngredient>
  </manufacturedMaterial>
 </manufacturedProduct>
</consumable>
```

11.5 Language Communication

See Legend - CDA mapping table for CDA schema elements for an explanation of mapping table presentation.

CDA mapping

Common pattern	CDA schema element	CDA element description	CDA card	CDA constraints and comments
Language Communication	**ext:languageCommunication**	A language communication capability of an individual.	Cardinality comes from linking element	
	ext:languageCommunication/**languageCode**		1..1	This CDA schema element is of type CodedSimpleValue (CS). All Languages (required) Common Languages in Australia (extensible)
	ext:languageCommunication/**modeCode**		0..1	
	ext:languageCommunication/**proficiencyLevelCode**		0..1	
	ext:languageCommunication/**preferenceInd**		0..1	This CDA schema element is of type Boolean (BL).

Examples

Example 11.10. Language Communication - English is preferred

```
<!-- Language Communication -->
<ext:languageCommunication>
 <languageCode code="en"/>
 <preferenceInd value="true"/>
</ext:languageCommunication>
```

Example 11.11. Language Communication - Pitjantjatjara is preferred

```
<!-- Language Communication -->
<ext:languageCommunication>
 <languageCode code="pjt"/>
</ext:languageCommunication>
```

Example 11.12. Language Communication - German is spoken

```
<!-- Language Communication -->
<ext:languageCommunication>
 <languageCode code="de"/>
</ext:languageCommunication>
```

Appendix A. Complex data type mappings to CDA (R2)

This informative appendix provides some guidance on how *FHIR Release 3 (STU) [HL7FHIR3]* complex data types referred to in the body of this specification can map to CDA (R2). The material provided are recommendations and do not represent conformance requirements.

A.1 Identifier

This informative appendix provides some guidance on how the complex data type Identifier can map to CDA (R2). In addition to material provided in this implementation guide some guidance on representation of common identifiers in CDA is provided by *Representation of Common Australian Identifiers in v2 and CDA [HI2011]* and *Common - Clinical Document [DH2019a]*.

The mapping table below provides a set of preferred mappings to the InstanceIdentifier (II) data type [HL7V3DT] and the Entity Identifier (EntityIdentifier) type defined in the Australian Digital Health Agency CDA schema, and do not represent conformance requirements. See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Identifier	A technical identifier - identifies some entity uniquely and unambiguously.	Cardinality comes from linking element	Element	See: instantiation choices	In CDA it is possible that an identifier is formed such that the system and value are both part of the value of the root attribute. In this circumstance the extension attribute **SHOULD NOT** be instantiated. **instantiation choices:** If the identifier is for a Patient, Practitioner, PractitionerRole, Organization, RelatedPerson, or Device, then the identifier is expected to be instantiated as ext:asEntityIdentifier/@classCode="IDENT". See <Entity Identifier> for available attributes. The identifier element may be instantiated as id.
Identifier > **use**	The purpose of this identifier.	0..1	code	n/a	This logical element has no mapping to CDA.
Identifier > **type**	A coded type for the identifier that can be used to determine which identifier to use for a specific purpose.	0..1	CodeableConcept	//ext:asEntityIdentifier/**ext:code**	ext:code is only available if the identifier is instantiated as ext:asEntityIdentifier/@classCode="IDENT". Identifier Type Codes (extensible)
Identifier > **system**	Establishes the namespace for the value - that is, a URL that describes a set values that are unique.	0..1	uri	See: instantiation choices	**instantiation choices:** If the identifier is for a If the identifier is for a Patient, Practitioner, PractitionerRole, Organization, RelatedPerson, or Device, then the identifier system is expected to be instantiated as ext:asEntityIdentifier/ext:id/@root. The identifier system may be instantiated as id/@root.
Identifier > **value**	The portion of the identifier typically relevant to the user and which is unique within the context of the system.	0..1	string	See: instantiation choices	**instantiation choices:** If the identifier is for a If the identifier is for a Patient, Practitioner, PractitionerRole, Organization, RelatedPerson, or Device, then identifier value is expected to be instantiated as ext:asEntityIdentifier/ext:id/@extension. The identifier value may be instantiated as id/@extension.
Identifier > **period**	Time period during which identifier is/was valid for use.	0..1	Period	n/a	This logical element has no mapping to CDA.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Identifier > **assigner**	Organization that issued/manages the identifier.	0..1	Reference (Organization)	See: instantiation choices	**instantiation choices:** If the identifier is for a If the identifier is for a Patient, Practitioner, PractitionerRole, Organization, RelatedPerson, or Device, then identifier assigner is expected to be instantiated as ext:asEntityIdentifier/ext:id/@assigningAuthorityName. The identifier assigner may be instantiated as id/@assigningAuthorityName.

Examples

Example A.1. Identifier - Patient identifiers

```
<!-- subject -->
<recordTarget>
    <!-- subject (Patient) -->
    <patientRole>
        <patient>
            …
            <!-- Patient.identifier as an Australian IHI -->
            <ext:asEntityIdentifier classCode="IDENT">
                <!-- identifier.type.text=IHI,
                identifier.value=8003600200002222,
                identifier.system=http://ns.electronichealth.net.au/id/hi/ihi/1.0 -->
                <ext:id assigningAuthorityName="IHI" root="1.2.36.1.2001.1003.0.8003600200002222" />
                <ext:assigningGeographicArea classCode="PLC">
                    <ext:name>National Identifier</ext:name>
                </ext:assigningGeographicArea>
            </ext:asEntityIdentifier>

            <!-- Patient.identifier as an Institution Medical Record-->
            <ext:asEntityIdentifier classCode="IDENT">
             <!-- identifier.assigner=Croyden GP Centre,
                identifier.value=542181,
                identifier.system=urn:oid:1.2.36.1.2001.1005.29.8003621566684455 -->
             <ext:id root="1.2.36.1.2001.1005.29.8003621566684455" extension="542181" assigningAuthorityName="Croydon GP Centre" />
             <!-- Patient.identifier.type -->
             <ext:code code="MR" codeSystem="2.16.840.1.113883.12.203" codeSystemName="Identifier Type (HL7)" />
            </ext:asEntityIdentifier>

            <!-- Patient.identifier as a Medicare Number -->
            <ext:asEntityIdentifier classCode="IDENT">
             <!-- identifier.system=urn:oid:1.2.36.1.5001.1.0.7,
                identifier.value=123456789,
                identifier.assigner=Medciare Card Number -->
             <ext:id assigningAuthorityName="Medicare Card Number"
              root="1.2.36.1.5001.1.0.7" extension="1234567892"/>
             <ext:code code="MC" codeSystem="2.16.840.1.113883.12.203"
              codeSystemName="Identifier Type (HL7)" displayName="Patient's Medicare number"/>
             <!-- Identifier.period is not available in an asEntityIdentifier class -->
            </ext:asEntityIdentifier>
```

```
            <!-- Patient.identifier as a DVA Number -->
            <ext:asEntityIdentifier classCode="IDENT">
             <!-- identifier.system=urn:oid:2.16.840.1.113883.3.879.270091,
                identifier.value=NBUR9080,
                identifier.assigner=Department of Veterans' Affairs -->
             <ext:id assigningAuthorityName="Department of Veterans' Affairs"
              root="2.16.840.1.113883.3.879.270091" extension="NBUR9080"/>
             <ext:code code="DVG" codeSystem="2.16.840.1.113883.2.3.4.1.1.203"
              codeSystemName="HL7V2Table0203IdentifierTypeAUExtended" displayName="DVA Gold Card Number"/>
             <!-- Identifier.period is not available in an asEntityIdentifier class -->
            </ext:asEntityIdentifier>

            <!-- Patient.identifier as a Healthcare card number -->
            <ext:asEntityIdentifier classCode="IDENT">
             <!-- identifier.system=urn:oid:2.16.840.1.113883.3.879.270098,
                identifier.value=307111942H,
                identifier.assigner=Centrelink customer reference number -->
             <ext:id assigningAuthorityName="Centrelink customer reference number"
              root="2.16.840.1.113883.3.879.270098" extension="307111942H"/>
             <ext:code code="HC" codeSystem="2.16.840.1.113883.12.203"
              codeSystemName="Identifier Type (HL7)" displayName="Health Card Number"/>
            </ext:asEntityIdentifier>

        </patient>
    </patientRole>
</recordTarget>
```

Example A.2. PractitionerRole identifiers

```
<author>
    <time value="200911031647+1000"/>
    <!-- author (PractitionerRole) -->
    <assignedAuthor>
        <!-- PractitionerRole.id -->
        <id root="86d729b8-72d2-460a-a64c-489a51607450"/>
        <!-- PractitionerRole.practitioner(Practitioner) -->
        <assignedPerson>
            <!-- Practitioner.identifier as an Australian HPI-I -->
            <ext:asEntityIdentifier classCode="IDENT">
                <!-- identifier.value=8003610537409456,
                identifier.system=urn:oid:1.2.36.1.2001.1003.0,
                identifier.assigner=HPI-I -->
                <ext:id assigningAuthorityName="HPI-I"
                    root="1.2.36.1.2001.1003.0.8003610537409456"/>
                <ext:assigningGeographicArea classCode="PLC">
                    <ext:name>National Identifier</ext:name>
                </ext:assigningGeographicArea>
            </ext:asEntityIdentifier>

            <!-- PractitionerRole.identifier as an ABN scoped provider identifier -->
            <ext:asEntityIdentifier classCode="IDENT">
             <!-- identifier.value=8003610537409456,
                identifier.system=urn:oid:1.2.36.1.2001.1003.0,
                identifier.assigner=HPI-I -->
                <ext:id assigningAuthorityName="Albion Hospital",
                root="1.2.36.1.2001.1005.70.51824753556"
                extension="peterwinslow44"/>
```

```
                <!-- identifier.type -->
                <ext:code code="EI"
                    codeSystem="2.16.840.1.113883.18.108"
                    codeSystemName="v2 Identifier Type"
                    displayName="Employee number"/>
            </ext:asEntityIdentifier>
        </assignedPerson>
    </assignedAuthor>
    <!--PractitionerRole.organization (Organization)-->
    <representedOrganization>
        <!-- Organization.name -->
        <name>Albion Hospital</name>
        <!--Organization.identifier as an ABN-->
        <ext:asEntityIdentifier classCode="IDENT">
            <!-- identifier.value=51824754455,
            identifier.system=urn:oid:1.2.36,
            identifier.assigner=ABN -->
            <ext:id root="1.2.36.51824754455" assigningAuthorityName="ABN"/>
             <!-- identifier.type -->
            <ext:code code="XX"
                codeSystem="2.16.840.1.113883.12.203" />
        </ext:asEntityIdentifier>
    </representedOrganization>
</author>
```

Example A.3. Identifier - Organization identifier

```
<custodian>
    <!-- custodian (Organization)-->
    <assignedCustodian>
        <representedCustodianOrganization>
            <!-- Organization.id-->
            <id root="d0455def-ff37-4ebe-97fb-52db7224b148"/>
            <!-- Organization.identifier as a Laboratory NATA Identifier -->
            <ext:asEntityIdentifier classCode="IDENT">
                <!-- identifier.system.value=urn:oid:1.2.36.1.2001.1005.12,
                identifier.value=2184,
                identifier.assigner=NATA -->
                <ext:id assigningAuthorityName="NATA"
                    root="1.2.36.1.2001.1005.12" extension="2184"/>
                <!-- identifier.type -->
                <ext:code code="XX" codeSystem="2.16.840.1.113883.12.203"/>
            </ext:asEntityIdentifier>
        </representedCustodianOrganization>
    </assignedCustodian>
</custodian>
```

Example A.4. Identifier - ProcedureRequest identifier

```
<!--DiagnosticReport.basedOn-->
<inFulfillmentOf typeCode="FLFS">
    <!--ProcedureRequest-->
    <order classCode="ACT" moodCode="RQO">
```

```
        <!-- ProcedureRequest.identifier
        identifier.system=urn:oid:1.2.36.1.2001.1005.52.8003621566684455, identifier.value=123451 -->
        <id extension="123451" root="1.2.36.1.2001.1005.52.8003621566684455" />
    </order>
</inFulfillmentOf>
```

A.2 HumanName as Base HumanName

This informative appendix provides some guidance on how the constrained form of complex data type HumanName as Base HumanName published by the Australian Digital Health Agency can map to CDA (R2).

The mapping table below provides a set of preferred mappings to the PersonName (PN) data type [HL7V3DT] for representing an Australian address and do not represent conformance requirements. See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
HumanName	A human's name with the ability to identify parts and usage.	Cardinality comes from linking element	Element	**//name**	name **SHALL** have at least text (name with full text representation) or family (name/family) or given (name/given) instantiated. In CDA, a full text representation of a name is not to be included in the same instance as a structured representation with the same name parts. Either the free text representation or a name with structure (e.g. name/family or name/given) should be provided but not both.
HumanName > **use**	Identifies the purpose for this name.	0..1	code	//name/**@use**	Common Person Name Use (required)[1]
HumanName > **text**	A full text representation of the name.	0..1	string	**//name**	
HumanName > **family**	The part of a name that links to the genealogy. In some cultures (e.g. Eritrea) the family name of a son is the first name of his father.	0..1	string	//name/**family**	
HumanName > **given**	Given name.	0..*	string	//name/**given**	
HumanName > **prefix**	Part of the name that is acquired as a title due to academic, legal, employment or nobility status, etc. and that appears at the start of the name.	0..*	string	//name/**prefix**	A prefix value can be populated as described in *AS 4846 (2014) – Person and provider identification in healthcare [SA2014a]*, 4.4.2 Name Title.
HumanName > **suffix**	Part of the name that is acquired as a title due to academic, legal, employment or nobility status, etc. and that appears at the end of the name.	0..*	string	//name/**suffix**	A suffix value can be populated as described in *AS 4846 (2014) – Person and provider identification in healthcare [SA2014a]*, 4.5.3.2 Name Suffix.
HumanName > **period**	Indicates the period of time when this name was valid for the named person.	0..1	Period	//name/**validTime**	

[1]This value set differs from the value set bound to use in HumanName due to constraints on @use in the HL7 CDA Schema. The concept map NameUse (HL7 FHIR) to Common Person Name Use provides a mapping between the two value sets.

Examples

Example A.5. Base HumanName - name use, given names, family name

```
<!-- HumanName where use=official -->
<name use="C">
    <!-- HumanName.given -->
    <given>Adam</given>
    <!-- HumanName.given -->
    <given>A.</given>
    <!-- HumanName.family -->
    <family>Everyman</family>
</name>
```

Example A.6. Base HumanName - unstructured name

```
<!-- HumanName where use=official -->
<name use="C">
    <!-- HumanName.text -->
    Adam A. Everyman
</name>
```

Example A.7. Base HumanName - given name only

```
<!-- HumanName where use=usual -->
<name>
    <!-- HumanName.given -->
    <given>Damo</given>
</name>
```

Example A.8. Base HumanName - structured name with period

```
<!-- HumanName where use=old -->
<name use="DN">
    <!-- HumanName.given -->
    <given>Adam</given>
    <!-- HumanName.given -->
    <given>A.</given>
    <!-- HumanName.family -->
    <family>Adamson</family>
    <!-- HumanName.period -->
    <validTime xsi:type="IVL_TS">
        <low value="01012001" />
        <high value="01012012" />
```

```
    </validTime>
</name>
```

A.3 Address

This informative appendix provides some guidance on how the complex data type Address can map to CDA (R2).

The mapping table below provides a set of preferred mappings to the PostalAddress (AD) data type [HL7V3DT] and do not represent conformance requirements. See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Address	An address expressed using postal conventions (as opposed to GPS or other location definition formats). This data type may be used to convey addresses for use in delivering mail as well as for visiting locations which might not be valid for mail delivery. There are a variety of postal address formats defined around the world.	Cardinality comes from linking element	Element	**//addr**	
Address > **use**	The purpose of this address.	0..1	code	//addr/**@use**	addr/@use can carry more than one value by a space separated list of codes. Address Use HL7 v3 (required)[1]
Address > **type**	Distinguishes between physical addresses (those you can visit) and mailing addresses (e.g. PO Boxes and care-of addresses). Most addresses are both.	0..1	code	//addr/**@use**	addr/@use can carry more than one value by a space separated list of codes. Address Type HL7 v3 (required)[2]
Address > **text**	A full text representation of the address.	0..1	string	**//addr**	The expectation is that this is free text.
Address > **line**	This component contains the house number, apartment number, street name, street direction, P.O. Box number, delivery hints, and similar address information.	0..*	string	//addr/**streetAddressLine**	
Address > **city**	The name of the city, town, village or other community or delivery center.	0..1	string	//addr/**city**	
Address > **district**	The name of the administrative area (county).	0..1	string	//addr/**county**	
Address > **state**	Sub-unit of a country with limited sovereignty in a federally organized country. A code may be used if codes are in common use (i.e. US 2 letter state codes).	0..1	string	//addr/**state**	
Address > **postalCode**	A postal code designating a region defined by the postal service.	0..1	string	//addr/**postalCode**	
Address > **country**	Country - a nation as commonly understood or generally accepted.	0..1	string	//addr/**country**	Iso 3166 Part 1: 2 Letter Codes (preferred)
Address > **period**	Time period when address was/is in use.	0..1	Period	//addr/**useablePeriod**	

[1]This value set differs from the value set bound to use in Address due to constraints on @use in the HL7 CDA schema. The concept map v3 map for AddressUse provides a mapping between the two value sets.

[2]This value set differs from the value set bound to type in Address due to constraints on @use in the HL7 CDA schema. The concept map v3 map for AddressType provides a mapping between the two value sets.

Examples

Example A.9. Address - structured work and postal address

```
<!-- Address where use=work and type=postal -->
<addr use="PST WP">
    <!--Address.text-->
    1050 W Wishard Blvd
    RG
    5th floor
    Indianapolis, IN 46240
    <!--Address.line-->
    <streetAddressLine>1050 W Wishard Blvd</streetAddressLine>
    <!--Address.line-->
    <streetAddressLine>RG 5th floor</streetAddressLine>
    <!--Address.city-->
    <city>Indianapolis</city>
    <!--Address.state-->
    <state>IN</state>
    <!--Address.postalCode-->
    <postalCode>46240</postalCode>
</addr>
```

Example A.10. Address - structured home and physical address

```
<!-- Address where use=home and type=physical -->
<addr use="PHYS H">
    <!--Address.text-->
    1 Back Lane&#13;&#10;Holmfirth&#13;&#10;HUDDERSFIELD&#13;&#10;HD7 1HQ
    <!--Address.line-->
    <streetAddressLine>1 Back Lane</streetAddressLine>
    <!--Address.city-->
    <city>Holmfirth</city>
    <!--Address.district-->
    <county>HUDDERSFIELD</county>
    <!--Address.postalCode-->
    <postalCode>HD7 1HQ</postalCode>
</addr>
```

Example A.11. Address - temporary international address

```
<!-- Address where use=old -->
<addr use="TMP">
    <!--Address.line-->
    <streetAddressLine>Rue Lougoraïa 12, app. 10</streetAddressLine>
```

```
    <!--Address.city-->
    <city>Korolevo</city>
    <!--Address.state-->
    <state>Minsk</state>
    <!--Address.country-->
    <country>BELARUS</country>
    <!--Address.period-->
    <useablePeriod xsi:type="IVL_TS">
        <low value="01012001" />
        <high value="01012012" />
    </useablePeriod>
</addr>
```

A.4 Address as AU Base Address

This informative appendix provides some guidance on how the constrained form of complex data type Address as AU Base Address published by HL7 Australia can map to CDA (R2).

The mapping table below provides a set of preferred mappings to the PostalAddress (AD) data type [HL7V3DT] for representing an Australian address and do not represent conformance requirements. See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Address	An Australian address expressed using postal conventions (as opposed to GPS or other location definition formats).	Cardinality comes from linking element	Element	**//addr**	addr **SHALL** have text or one or more line (addr/streetAddressLine).
Address > **no-fixed-address**	No fixed address indicator.	0..1	boolean	n/a	Not mapped directly; if 0..1 is "true", addr **SHOULD** be "NO FIXED ADDRESS" and addr/@use **SHOULD** be "PHYS".
Address > **use**	The purpose of this address.	0..1	code	//addr/**@use**	addr/@use can carry more than one value by a space separated list of codes. Address Use HL7 v3 (required)[1]
Address > **type**	Distinguishes between physical addresses (those you can visit) and mailing addresses (e.g. PO Boxes and care-of addresses). Most addresses are both.	0..1	code	//addr/**@use**	addr/@use can carry more than one value by a space separated list of codes. Address Type HL7 v3 (required)[2]
Address > **text**	A full text representation of the address.	0..1	string	**//addr**	The expectation is that this is free text.
Address > **line**	This component contains the house number, apartment number, street name, street direction, P.O. Box number, delivery hints, and similar address information.	0..*	string	//addr/**streetAddressLine**	
Address > **city**	The name of the city, town, village or other community or delivery center.	0..1	string	//addr/**city**	
Address > **district**	The name of the administrative area (county).	0..1	string	//addr/**county**	
Address > **state**	Sub-unit of a country with limited sovereignty in a federally organized country. A code may be used if codes are in common use (i.e. US 2 letter state codes).	0..1	string	//addr/**state**	state **SHALL** be populated with the code e.g. "NT". Australian States and Territories (required)
Address > **postalCode**	A postal code designating a region defined by the postal service.	0..1	string	//addr/**postalCode**	The maximum length of postalCode **SHALL** be 4.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Address > **country**	Fixed value if present otherwise assumed to be Australia in this context.	0..1	string	//addr/**country**	country **SHALL** be "AU".
Address > **period**	Time period when address was/is in use.	0..1	Period	//addr/**useablePeriod**	

[1]This value set differs from the value set bound to use in AU Base Address due to constraints on @use in the HL7 CDA schema. The concept map v3 map for AddressUse provides a mapping between the two value sets.

[2]This value set differs from the value set bound to type in AU Base Address due to constraints on @use in the HL7 CDA schema. The concept map v3 map for AddressType provides a mapping between the two value sets.

Examples

Example A.12. AU Base Address - no fixed address in Melbourne, VIC

```
<!-- Australian Address with no fixed address in Melbourne, VIC-->
<addr use="PHYS">
 <!--Address.text-->
 NO FIXED ADDRESS
 <!--Address.city-->
 <city>Melbourne</city>
 <!--Address.state-->
 <state>VIC</state>
</addr>
```

Example A.13. AU Base Address - unstructured address

```
<!-- Australian Address with only text-->
<addr use="PHYS">
 <!--Address.text-->
 Level 1, 300 George St, Brisbane, QLD 4000
</addr>
```

Example A.14. AU Base Address - structured postal address with period

```
<!-- Australian Address where use=work and type=postal -->
<addr use="PST WP">
 <!--Address.line-->
 <streetAddressLine>Northern Territory Office, Department of Addresses, GPO Box 19132110</streetAddressLine>
 <!--Address.city-->
 <city>Darwin</city>
 <!--Address.state-->
 <state>NT</state>
 <!--Address.postalCode-->
 <postalCode>0801</postalCode>
 <!--Address.country-->
```

```
 <country>AU</country>
 <!--Address.period-->
 <useablePeriod xsi:type="IVL_TS">
  <low value="200311031647+1000" />
 </useablePeriod>
</addr>
```

Example A.15. AU Base Address - structured physical address

```
<!-- Australian Address where use=work and type=physical -->
<addr use="PHYS WP">
 <!--Address.line-->
 <streetAddressLine>5th Floor, Northern Territory House, 223 Mitchell Street</streetAddressLine>
 <!--Address.city-->
 <city>Darwin</city>
 <!--Address.state-->
 <state>NT</state>
 <!--Address.postalCode-->
 <postalCode>0800</postalCode>
 <!--Address.country-->
 <country>AU</country>
</addr>
```

A.5 ContactPoint

This informative appendix provides some guidance on how the complex data type ContactPoint can map to CDA (R2).

The mapping table below provides a set of preferred mappings to the TelecommunicationAddress (TEL) data type [HL7V3DT] and do not represent conformance requirements. See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
ContactPoint	Details for all kinds of technology mediated contact points for a person or organization, including telephone, email, etc.	Cardinality comes from linking element	Element	**//telecom**	In CDA, ContactPoint value and system are represented as parts of telecom/@value. If ContactPoint value is present, ContactPoint system **SHALL** be present.
ContactPoint > **system**	Telecommunications form for contact point - what communications system is required to make use of the contact.	0..1	code	//telecom/**@value**	Makes up part of the attribute: "system:value", e.g. "tel:phone number", "mailto:email address", "http:URL", etc. HL7 URLScheme (required)
ContactPoint > **value**	The actual contact point details, in a form that is meaningful to the designated communication system (i.e. phone number or email address).	0..1	string	//telecom/**@value**	Makes up the part of the attribute: "system:value", e.g. "tel:phone number", "mailto:email address", "http:URL", etc.
ContactPoint > **use**	Identifies the purpose for the contact point.	0..1	code	//telecom/**@use**	HL7 TelecommunicationAddressUse (required)[1]
ContactPoint > **rank**	Specifies a preferred order in which to use a set of contacts. Contacts are ranked with lower values coming before higher values.	0..1	positiveInt	n/a	This logical element has no mapping to CDA.
ContactPoint > **period**	Time period when the contact point was/is in use.	0..1	Period	//telecom/**usablePeriod**	

[1]This value set differs from the value set bound to use in ContactPoint due to constraints on @use in the HL7 CDA Schema. The concept map v3 map for ContactPointUse provides a mapping between the two value sets.

Examples

Example A.16. ContactPoint - home telephone with period

```
<!-- ContactPoint where system=phone, value=+1-(03)5550-1212, use=home -->
<telecom value="tel:+1-(03)5550-1212" use="H">
    <!-- ContactPoint.period -->
```

```
    <useablePeriod xsi:type="IVL_TS">
        <low value="01012001" />
        <high value="01012012" />
    </useablePeriod>
</telecom>
```

Example A.17. ContactPoint - home telephone

```
<!-- ContactPoint where system=phone, value=0755501234, use=home -->
<telecom use="H" value="tel:0755501234" />
```

Example A.18. ContactPoint - work email

```
<!-- ContactPoint where system=email, value=sfranklin@amail.example.com, use=work -->
<telecom use="WP" value="mailto:sfranklin@amail.com.au" />
```

A.6 Dosage as AU Base Dosage

This informative appendix provides some guidance on how the constrained form of complex data type Dosage as AU Base Dosage published by HL7 Australia can map to CDA (R2).

The mapping table below provides a set of preferred mappings to CDA Schema elements and do not represent conformance requirements. See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Dosage	Indicates how the medication is/was taken or should be taken by the patient.	Cardinality comes from linking element	Element	See: instantiation choices	**instantiation choices:** When a single instance of dosage is recorded the logical element has no direct mapping; it is implicit in the mapping of the child elements. When more than one instance of dosage is recorded, each instance of dosage is recorded as a child substanceAdministration, e.g. substanceAdministration/entryRelationship[dosage]/substanceAdministration[@typeCode="SBADM", @moodCode="INT"].

Dosage > **sequence**	Indicates the order in which the dosage instructions should be applied or interpreted.	0..1	integer	//**entryRelationship[dosage]**
				//entryRelationship[dosage]/**@typeCode="COMP"**
				//entryRelationship[dosage]/**sequenceNumber**
					sequenceNumber **SHALL NOT** be instantiated for a single instance of dosage.
					
					The value of sequenceNumber **SHALL** be an ordinal number starting at "1" and increasing by "1" for each subsequent instance of dosage.

Dosage > **text**	Free text dosage instructions e.g. SIG.	0..1	string	**//text**	
Dosage > **additionalInstruction**	Supplemental instruction - e.g. 'with meals'.	0..*	CodeableConcept	n/a	Not mapped directly for this model; included implicitly in text, or patientInstruction, or timing, asNeeded.
Dosage > **patientInstruction**	Instructions in terms that are understood by the patient or consumer.	0..1	string	**//text**	
Dosage > **timing**	When medication should be administered.	0..1	Timing	**//effectiveTime**	Recommended mappings for this logical type to CDA (R2)are available: Timing.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Dosage > **asNeeded[x]**	Indicates whether the Medication is only taken when needed within a specific dosing schedule (Boolean option), or it indicates the precondition for taking the Medication (CodeableConcept).	0..1	boolean | CodeableConcept	**//precondition**	
				//precondition/**@typeCode="PRCN"**	
				//precondition/**criterion**	
				//precondition/criterion/**code**	
				//precondition/criterion/code/**@code="ASSERTION"**	
				//precondition/criterion/code/**@codeSystem="2.16.840.1.113883.5.4"**	
				//precondition/criterion/**value**	value/@xsi:type SHALL be "CD" or "BL". Clinical Finding (preferred)
Dosage > **site**	Body site to administer to.	0..1	CodeableConcept	**//approachSiteCode**	approachSiteCode/originalText or approachSiteCode/@displayName **SHALL** be included. Body Site (preferred)
Dosage > **route**	How drug should enter body.	0..1	CodeableConcept	**//routeCode**	routeCode/originalText or routeCode/@displayName **SHALL** be included. Route of Administration (preferred)
Dosage > **method**	Technique for administering medication.	0..1	CodeableConcept	**//ext:methodCode**	ext:methodCode/originalText or ext:methodCode/@displayName **SHALL** be included. SNOMED CT Administration Method Codes (preferred)
Dosage > **dose[x]**	Amount of medication per dose.	0..1	Range | SimpleQuantity	**//doseQuantity**	
Dosage > **maxDosePerPeriod**	Upper limit on medication per unit of time.	0..1	Ratio	**//maxDoseQuantity**	
Dosage > **maxDosePerAdministration**	Upper limit on medication per administration.	0..1	SimpleQuantity	n/a	Not directly supported in CDA however this may be represented by an administration schedule with a maxDosePerAdministration in that administration schedule represented as maxDoseQuantity with a period of a single administration.
Dosage > **maxDosePerLifetime**	Upper limit on medication per lifetime of the patient.	0..1	SimpleQuantity	n/a	Not directly supported in CDA. One possible way to represent this concept is to represent an observation with a code equivalent to max dose per lifetime. One possibly way to represent this concept is to represent an instance of dosage with maxDoseQuantity and effectiveTime/high/@value="PINF" thus indicating that the end of the period of administration is positive infinity.
Dosage > **rate[x]**	Amount of medication per unit of time.	0..1	Ratio | Range | SimpleQuantity	**//rateQuantity**	

Examples

Example A.19. AU Base Dosage - MedicationStatement with two instances of structured dosage

```
<entry>
    <!-- MedicationStatement - more than one instance of Dosage -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!-- identifier -->
        <id root="4255b903-6f90-41b8-a71c-8ac0ee1ebdc3"/>
        <!-- medication.as(medicationCodeableConcept) -->
        <consumable>
            <manufacturedProduct>
                <manufacturedMaterial>
                    <code code="60060110000036102"
                        codeSystem="1.2.36.1.2001.1004.100"
                        displayName="Lasix (frusemide 40 mg) tablet: uncoated, 1 tablet">
                        <originalText>Lasix (frusemide 40 mg)
                            tablet</originalText>
                    </code>
                </manufacturedMaterial>
            </manufacturedProduct>
        </consumable>
        <!-- Dosage to indicate asNeeded with a condition-->
        <entryRelationship typeCode="COMP"  >
            <!-- sequence -->
            <sequenceNumber value="1"/>
            <substanceAdministration  classCode="SBADM" moodCode="INT" >
                <consumable>
                    <manufacturedProduct>
                        <manufacturedMaterial nullFlavor="NA" />
                    </manufacturedProduct>
                </consumable>
                <!-- asNeededCodeableConcept  - instantiated as prn with specified condition -->
                <precondition typeCode="PRCN">
                    <criterion>
                        <code code="ASSERTION"
                            codeSystem="2.16.840.1.113883.5.4"/>
                        <!-- joint pain -->
                        <value xsi:type="CD" code="57676002"
                            codeSystem="2.16.840.1.113883.6.96"
                            displayName="Joint pain"/>
                    </criterion>
                </precondition>
            </substanceAdministration>
        </entryRelationship>
        <!-- Dosage to indicate timing -->
        <entryRelationship typeCode="COMP">
            <!-- sequence -->
            <sequenceNumber value="2"/>
            <substanceAdministration classCode="SBADM" moodCode="INT">
                <!-- additionalInstruction / patientInstruction -->
                <text>Every day at 8 in the morning for 10 minutes</text>
                <!-- timing -->
                <effectiveTime xsi:type="PIVL_TS" operator="A">
                    <phase>
                        <low value="198701010800" inclusive="true"/>
                        <width value="10" unit="min"/>
                    </phase>
                    <period value="1" unit="d"/>
```

```
                </effectiveTime>
                <!-- route -->
                <routeCode code="C38288" codeSystem="2.16.840.1.113883.3.26.1.1" codeSystemName="NCI Thesaurus" displayName="Oral"/>
                <!-- dose -->
                <doseQuantity value ="1" />
                <consumable>
                    <manufacturedProduct>
                        <manufacturedMaterial nullFlavor="NA" />
                    </manufacturedProduct>
                </consumable>
            </substanceAdministration>
        </entryRelationship>
    </substanceAdministration>
</entry>
```

Example A.20. AU Base Dosage - MedicationStatement with one instance of structured dosage

```
<entry>
    <!-- MedicationStatement - single instance of Dosage  -->
    <substanceAdministration classCode="SBADM" moodCode="EVN" >
        <!--identifier-->
        <id root="ab6d45ff-fd58-4f38-8009-ae1aa84a4f43"/>
        <!-- method -->
        <ext:methodCode code="421134003" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT" displayName="Inhale" />
        <!-- route -->
        <routeCode code="ORNEB" codeSystem="2.16.840.1.113883.5.112" codeSystemName="Route Code" displayName="Inhalation, nebulization, oral"/>
        <!-- dose -->
        <doseQuantity value ="1"  />
        <!-- maxDosePerPeriod -->
        <maxDoseQuantity>
            <numerator value="1" />
            <denominator value="1" unit="h" />
        </maxDoseQuantity>
        <administrationUnitCode code="415215001" codeSystem="2.16.840.1.113883.6.96"  codeSystemName="SNOMED CT" displayName="Puff" />
        <!-- medication.as(medicationCodeableConcept) -->
        <consumable>
            <manufacturedProduct>
                <manufacturedMaterial>
                    <code code="7113011000036100"
                        codeSystem="1.2.36.1.2001.1004.100"
                        displayName="Spiriva (tiotropium (as bromide monohydrate) 18 microgram) inhalation: powder for, 1 capsule">
                        <originalText>Spiriva (tiotropium bromide 18mg per
                            inhalation) inhalant</originalText>
                    </code>
                </manufacturedMaterial>
            </manufacturedProduct>
        </consumable>
        <!-- asNeededBoolean=true - instantiated as prn with no specified condition -->
        <precondition typeCode="PRCN">
            <criterion>
                <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>
                <value xsi:type="CD" nullFlavor="NI"/>
            </criterion>
        </precondition>
    </substanceAdministration>
</entry>
```

A.7 Timing

This informative appendix provides some guidance on how the complex data type Timing can map to CDA (R2).

The mapping table below provides a set of preferred mappings to CDA Schema elements and do not represent conformance requirements. See Legend - CDA mapping table for logical elements for an explanation of mapping table presentation.

CDA mapping

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Timing	Specifies an event that may occur multiple times. Timing schedules are used to record when things are planned, expected or requested to occur. The most common usage is in dosage instructions for medications. They are also used when planning care of various kinds, and may be used for reporting the schedule to which past regular activities were carried out.	Cardinality comes from linking element	Element	**//effectiveTime**	
Timing > **event**	Identifies specific times when the event occurs.	0..*	dateTime	//effectiveTime/**@value**	
Timing > **repeat**	A set of rules that describe when the event is scheduled.	0..1	Element	n/a	Not mapped directly; implicit in the instantiation of the effectiveTime xsi:type, e.g. PIVL_TS or EIVL_TS, and the mapping of the child elements. If duration is present, durationUnit **SHALL** be present. If timeOfDay is present, when **SHALL NOT** be present. If period is present, periodUnit **SHALL** be present. duration **SHALL** be a non-negative value. period **SHALL** be a non-negative value. If periodMax is present, period **SHALL** be present. If offset is present, when **SHALL** be present.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Timing > repeat > **bounds[x]**	Either a duration for the length of the timing schedule, a range of possible length, or outer bounds for start and/or end limits of the timing schedule.	0..1	Duration | Range | Period	See: instantiation choices	effectiveTime/@xsi:type **SHALL** be "IVL_TS". **instantiation choices:** If bounds is a Duration then it **SHALL** be instantiated as effectiveTime/width. If bounds is a Range then it is expected to be included in Dosage as text, or additionalInstruction, or patientInstruction as appropriate. If bounds is a Period then it **SHALL** be instantiated as effectiveTime/low/@value and effectiveTime/high/@value.
Timing > repeat > **count**	A total count of the desired number of repetitions.	0..1	integer	//repeatNumber/@value	count **SHALL** only be instantiated in the repeatNumber element of the Dosage substanceAdministration act where the moodCode is "INT" or "PLAN".
Timing > repeat > **countMax**	A maximum value for the count of the desired repetitions (e.g. do something 6-8 times).	0..1	integer	//repeatNumber/high/@value	
Timing > repeat > **duration**	How long this thing happens for when it happens.	0..1	decimal	//effectiveTime/phase/width/**@value**	effectiveTime/@xsi:type **SHOULD** be "PIVL_TS".
Timing > repeat > **durationMax**	The upper limit of how long this thing happens for when it happens.	0..1	decimal	n/a	This logical element has no mapping to CDA.
Timing > repeat > **durationUnit**	The units of time for the duration, in UCUM units.	0..1	code	//effectiveTime/phase/width/**@unit**	effectiveTime/@xsi:type **SHOULD** be "PIVL_TS".

Timing > repeat > **frequency**	The number of times to repeat the action within the specified period / period range (i.e. both period and periodMax provided).	0..1	integer	//effectiveTime/**frequency**
				
				//effectiveTime/frequency/**numerator**
					frequency is expressed as the numerator (with an xsi:type of "INT") and period is expressed in CDA as the denominator.
					
					frequency is often not included in CDA as a separate element but addressed by adjusting the values of period and periodUnit to take into account frequency.
					
					effectiveTime/@xsi:type **SHALL** be "PIVL_TS".

Timing > repeat > **frequencyMax**	If present, indicates that the frequency is a range - so to repeat between [frequency] and [frequencyMax] times within the period or period range.	0..1	integer	//effectiveTime/**phase**	effectiveTime/@xsi:type **SHOULD** be "PIVL_TS".
Timing > repeat > **period**	Indicates the duration of time over which repetitions are to occur; e.g. to express '3 times per day', 3 would be the frequency and '1 day' would be the period.	0..1	decimal	See: instantiation choices	effectiveTime/@xsi:type **SHOULD** be "PIVL_TS". **instantiation choices:** May be represented by effectiveTime/phase or effectiveTime/period.
Timing > repeat > **periodMax**	If present, indicates that the period is a range from [period] to [periodMax], allowing expressing concepts such as 'do this once every 3-5 days.	0..1	decimal	See: instantiation choices	effectiveTime/@xsi:type **SHOULD** be "PIVL_TS". **instantiation choices:** May be represented by effectiveTime/phase or effectiveTime/period/high.

Logical element	Logical element description	Logical card	Logical type	CDA schema element	CDA constraints and comments
Timing > repeat > **periodUnit**	The units of time for the period in UCUM units.	0..1	code	See: instantiation choices	effectiveTime/@xsi:type **SHOULD** be "PIVL_TS". **instantiation choices:** May be represented by effectiveTime/phase/@unit or effective-Time/period/low/@unit or effectiveTime/period/high/@unit.
Timing > repeat > **dayOfWeek**	If one or more days of week is provided, then the action happens only on the specified day(s).	0..*	code	//effectiveTime/**@xsi:type="PIVL_TS"**	The value between low and high represents the day of the week by selecting a known day. For example a low/@value of 20001202 and a high/@value of 20001203 represents Saturday by setting the period to the whole of the Saturday of the 2nd of December 2000.
				//effectiveTime/**@alignment="DW"**	
				//effectiveTime/**phase**	
				//effectiveTime/phase/**low/@value**	
				//effectiveTime/phase/**low/@inclusive="true"**	
				//effectiveTime/phase/**high/@value**	
				//effectiveTime/phase/**high/@inclusive="false"**	
Timing > repeat > **timeOfDay**	Specified time of day for action to take place.	0..*	time	//effectiveTime/**phase**	effectiveTime/@xsi:type **SHOULD** be "PIVL_TS".
				//effectiveTime/phase/**low**	
				//effectiveTime/phase/low/**@value**	
Timing > repeat > **when**	Real world events that the occurrence of the event should be tied to.	0..*	code	//effectiveTime/**event**	This CDA schema element is of type CodedSimpleValue (CS). effectiveTime/@xsi:type **SHALL** be "EIVL_TS". EventTiming (required)
Timing > repeat > **offset**	The number of minutes from the event. If the event code does not indicate whether the minutes is before or after the event, then the offset is assumed to be after the event.	0..1	unsignedInt	//effectiveTime/**offset**	effectiveTime/@xsi:type **SHALL** be "EIVL_TS".
Timing > **code**	A code for the timing schedule. Some codes such as BID are ubiquitous, but many institutions define their own additional codes. If a code is provided, the code is understood to be a complete statement of whatever is specified in the structured timing data, and either the code or the data may be used to interpret the Timing, with the exception that .repeat.bounds still applies over the code (and is not contained in the code).	0..1	CodeableConcept	n/a	Not directly supported in CDA; implied by frequency.

Examples

Example A.21. Timing - Dosage with timing

```
<!-- Dosage to indicate timing -->
<entryRelationship typeCode="COMP">
```

```
    <!-- sequence -->
    <sequenceNumber value="2"/>
    <substanceAdministration classCode="SBADM" moodCode="INT">
        <!-- additionalInstruction / patientInstruction -->
        <text>Every day at 8 in the morning for 10 minutes</text>
        <!-- timing, 1st administered 2009-09-01 at 1:18am and to be taken every day at 8 in the morning for 10 minutes -->
        <!-- event -->
        <effectiveTime value="200509010118"/>
        <!-- repeat -->
        <effectiveTime xsi:type="PIVL_TS" operator="A">
            <phase>
                <!-- boundsPeriod / timeOfDay -->
                <low value="200509020800" inclusive="true"/>
                <!-- duration and durationUnit -->
                <width value="10" unit="min"/>
            </phase>
            <!-- frequency=1, period=1 -->
            <period value="1" unit="d"/>
        </effectiveTime>
            <consumable>
            <manufacturedProduct>
                <manufacturedMaterial nullFlavor="NA"/>
            </manufacturedProduct>
        </consumable>
    </substanceAdministration>
</entryRelationship>
```

Example A.22. Timing - b.i.d twice a day

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- b.i.d twice a day  -->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true" operator="A">
            <!-- frequency=2, period=1, periodUnit=d -->
            <period value="0.5" unit="d"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.23. Timing - q12h Every 12 hours

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- q12h Every 12 hours  -->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
            operator="A">
```

```
            <!-- frequency=1, period=12, periodUnit=h -->
            <period value="12" unit="h"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.24. Timing - t.i.d Three times a day, at times determined by the person administering the medication

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!--t.i.d Three times a day, at times determined by the person administering the medication-->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true"
            operator="A">
            <!-- frequency=3, period=1, periodUnit=d -->
            <period value="0.3333" unit="d"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.25. Timing - q8h Every 8 hours

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- q8h Every 8 hours -->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
            operator="A">
            <!-- frequency=1, period=8, periodUnit=h -->
            <period value="8" unit="h"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.26. Timing - qid four times daily

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!--qid four times daily-->
```

```
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true"
            operator="A">
            <!-- frequency=4, period=1, periodUnit=d -->
            <period value="0.25" unit="d"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.27. Timing - q6h Every 6 hours

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- q6h Every 6 hours -->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
            operator="A">
            <!-- frequency=1, period=6, periodUnit=h -->
            <period value="6" unit="h"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.28. Timing - qd daily

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- qd daily -->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true"
            operator="A">
            <!-- frequency=1, period=1, periodUnit=d -->
            <period value="1" unit="d"/>
        </effectiveTime>

    </substanceAdministration>
</entry>
```

Example A.29. Timing - q24h Every 24 hours

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
```

```
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- q24h Every 24 hours -->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
            operator="A">
            <!-- frequency=1, period=24, periodUnit=h -->
            <period value="24" unit="h"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.30. Timing - qod Every other day

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- qod Every other day -->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
            operator="A">
            <!-- frequency=1, period=2, periodUnit=d -->
            <period value="2" unit="d"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.31. Timing - qm Once a month

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- qm Once a month -->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
            operator="A">
            <!-- frequency=1, period=1, periodUnit=mo -->
            <period value="1" unit="m"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.32. Timing - q4-6h Every 4 to 6 hours

```
<entry>
    <!-- MedicationStatement - common timing representations -->
```

```
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- q4-6h Every 4 to 6 hours -->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
            operator="A">
            <!-- frequency (where frequency=1)-->
            <period xsi:type="IVL_PQ">
                <!-- period and periodUnit -->
                <low value="4" unit="h" />
                <!-- periodMax and periodUnit -->
                <high value="6" unit="h" />
            </period>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.33. Timing - qam In the morning

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- qam In the morning -->
        <effectiveTime xsi:type="EIVL_TS" operator="A">
            <!-- when using code from TimingEvent value set (2.16.840.1.113883.5.139) -->
            <event code="ACM"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.34. Timing - qam Every day at 8 in the morning for 10 minutes

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- qam Every day at 8 in the morning for 10 minutes -->
        <effectiveTime xsi:type="PIVL_TS" operator="A">
            <phase>
                <!-- boundsPeriod / timeOfDay -->
                <low value="198701010800" inclusive="true"/>
                <!-- duration and durationUnit -->
                <width value="10" unit="min"/>
            </phase>
            <period value="1" unit="d"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.35. Timing - 1 hour after meal

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- 1 hour after meal -->
        <effectiveTime xsi:type="EIVL_TS" operator="A">
            <!-- when using code from TimingEvent value set (2.16.840.1.113883.5.139) -->
            <event code="PC"/>
            <!-- offset -->
            <offset>
                <low value="1" unit="h" />
            </offset>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.36. Timing - before dinner

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- before dinner -->
        <effectiveTime xsi:type="EIVL_TS" operator="A">
            <!-- when using code from TimingEvent value set (2.16.840.1.113883.5.139) -->
            <event code="ACV"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.37. Timing - every evening

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- every evening -->
        <effectiveTime xsi:type="EIVL_TS" operator="A">
            <!-- when using code from TimingEvent value set (2.16.840.1.113883.5.139) -->
            <event code="ICV"/>
```

```
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Example A.38. Timing - every Saturday

```
<entry>
    <!-- MedicationStatement - common timing representations -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <effectiveTime xsi:type="PIVL_TS" alignment="DW" operator="A">
            <!-- every Saturday -->
            <phase>
                <low value="20001202" inclusive="true"/>
                <high value="20001203" inclusive="false"/>
            </phase>
            <period value="1" unit="wk"/>
        </effectiveTime>
    </substanceAdministration>
</entry>
```

Appendix B. Examples

This implementation guide is intended to support multiple usage scenarios; some templates described within this implementation guide are reused across usage scenarios and other implementation guides.

This informative appendix provides examples that conform to the CDA templates defined in this implementation guide to support implementation by demonstrating one or more supported usage scenarios.

Example	Context	Usage Scenario(s)
Prescription List example 1	TBD	TBD
Dispense List example 2	TBD	TBD
Prescription and Dispense List example 3	TBD	TBD

A corresponding set of FHIR Release 3 (STU) examples, conforming to the FHIR profiles used as logical models for this CDA implementation guide, are available in the *Prescription and Dispense Lists FHIR Implementation Guide [DH2019o]*.

B.1 Prescription List example 1

This informative appendix provides an example instance that conforms to the requirements of this implementation guide.

Example B.1. Prescription List example 1

```
<!-- This example is illustrative only. This fragment cannot be treated as clinically valid.
While every effort has been taken to ensure that the examples are consistent with the message specification, where
there are conflicts with the written message specification or schema, the specification or schema will take precedence. -->


<ClinicalDocument classCode="DOCCLIN" moodCode="EVN" xmlns="urn:hl7-org:v3"
 xmlns:ex="urn:hl7-org/v3-example"
 xmlns:ext="http://ns.electronichealth.net.au/Ci/Cda/Extensions/3.0"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" >
 <typeId root="2.16.840.1.113883.1.3" extension="POCD_HD000040"/>
   <!-- ClinicalDocument templateId -->
    <templateId root="1.2.36.1.2001.1001.102.101.100033" extension="1.0"/>
    <!-- Shared Medicines List document model templateId-->
    <templateId root="1.2.36.1.2001.1001.102.101.100065" extension="1.0"/>
    <!--CDA Rendering Specification templateId-->
    <templateId root="1.2.36.1.2001.1001.100.226" extension="1.0"/>
    <id root="cbc73f0e-90a3-11e9-bc42-526af7764f64"/>
    <code code="56445-0" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
        displayName="Medication summary Document"/>
    <title>Pharmacist Shared Medicines List</title>
    <effectiveTime value="201812111230+1000"/>
    <confidentialityCode nullFlavor="NA"/>
    <languageCode code="en-AU"/>
    <ext:completionCode code="F" codeSystem="1.2.36.1.2001.1001.101.104.20104"
        codeSystemName="NCTIS Document Status Values" displayName="Final"/>
    <!-- subject (Patient with mandatory identifier) -->
    <recordTarget typeCode="RCT">
        <templateId root="1.2.36.1.2001.1001.102.101.100004" extension="1.0"/>
        <patientRole classCode="PAT">
            <id root="ba75907e-90a4-11e9-bc42-526af7764f64"/>
            <!-- Patient.address -->
            <addr nullFlavor="MSK"/>
            <patient>
                <!-- Patient.name -->
                <name>
                    <given>Frank</given>
                    <family>Goodpatient</family>
                </name>
                <!-- Patient.gender -->
                <administrativeGenderCode code="male" codeSystem="2.16.840.1.113883.4.642.1.2"
                    codeSystemName="AdministrativeGender" displayName="Male"/>
                <!-- Patient.identifier -->
                <ext:asEntityIdentifier classCode="IDENT">
                    <ext:id root="1.2.36.1.2001.1003.0.8003608833357361"
                        assigningAuthorityName="IHI"/>
                    <ext:assigningGeographicArea classCode="PLC">
                        <ext:name>National Identifier</ext:name>
                    </ext:assigningGeographicArea>
                </ext:asEntityIdentifier>
            </patient>
            <!-- Patient.managingOrganization -->
            <providerOrganization classCode="ORG">
                <asOrganizationPartOf>
                    <wholeOrganization>
                        <id root="add4c63c-90ae-11e9-bc42-526af7764f64"/>
                        <name>GoodDoctor Clinic</name>
                    </wholeOrganization>
                </asOrganizationPartOf>
            </providerOrganization>
        </patientRole>
    </recordTarget>

    <!-- composition-author-role : author (PractitionerRole with practitioner with mandatory identifier) -->
    <author typeCode="AUT">
        <templateId root="1.2.36.1.2001.1001.102.101.100006" extension="1.0"/>
        <!-- Composition.date -->
        <time value="201812111230+1000"/>
        <assignedAuthor>
            <id root="6c4b9640-90af-11e9-bc42-526af7764f64"/>
            <!-- PractitionerRole.code -->
            <code code="46255001" codeSystem="2.16.840.1.113883.13.62"
                displayName="General Pharmacist">
                <originalText>Pharmacist</originalText>
            </code>

            <!-- PractitionerRole.practitioner -->
            <assignedPerson>
                <!-- assignedPerson (Base Practitioner) -->
                <templateId root="1.2.36.1.2001.1001.102.101.100040" extension="1.0"/>
                <!-- Practitioner.name -->
                <name>
                    <given>Joanne</given>
                    <family>Mosenna </family>
                </name>
                <!-- PractitionerRole.identifier or Practitioner.identifier -->
                <ext:asEntityIdentifier classCode="IDENT">
```

```
                <ext:id root="1.2.36.1.2001.1003.0.8003619900015717"
                    assigningAuthorityName="HPI-I"/>
                <ext:assigningGeographicArea classCode="PLC">
                    <ext:name>National Identifier</ext:name>
                </ext:assigningGeographicArea>
            </ext:asEntityIdentifier>
            <ext:asEntityIdentifier classCode="IDENT">
                <ext:id root="1.2.36.174030967.0.2" extension="5544887B"
                    assigningAuthorityName="Medicare Provider number"/>
                <ext:code code="PRN" codeSystem="2.16.840.1.113883.12.203"/>
                <ext:assigningGeographicArea classCode="PLC">
                    <ext:name>National Identifier</ext:name>
                </ext:assigningGeographicArea>
            </ext:asEntityIdentifier>
        </assignedPerson>
        <!-- PractitionerRole.organization -->
        <representedOrganization>
            <!-- representedOrganization (Base Organization) -->
            <templateId root="1.2.36.1.2001.1001.102.101.100039" extension="1.0"/>
            <id root="0d8a68b8-90b2-11e9-bc42-526af7764f64"/>
            <!-- Organization.name -->
            <name>Tes Health Service</name>
            <!-- Organization.telecom -->
            <telecom use="WP" value="tel:0798046688"/>

            <!-- Organization.address -->
            <!--<addr use="PST">
                <streetAddressLine>LPO Box 235</streetAddressLine>
                <city>Strahan</city>
                <state>TAS</state>
                <postalCode>7468</postalCode>
            </addr>-->

            <!-- Organization.identifier as an ABN -->
            <ext:asEntityIdentifier classCode="IDENT">
                <!-- identifier.value=51824754455, identifier.system=urn:oid:1.2.36, identifier.assigner=ABN -->
                <ext:id root="1.2.36.51824754455" assigningAuthorityName="ABN"/>
                <!-- identifier.type -->
                <ext:code code="XX" codeSystem="2.16.840.1.113883.12.203"/>
            </ext:asEntityIdentifier>
        </representedOrganization>
    </assignedAuthor>
</author>

<!-- custodian (Organization with mandatory identifier) -->
<custodian>
    <templateId root="1.2.36.1.2001.1001.102.101.100002" extension="1.0"/>
    <assignedCustodian>
        <representedCustodianOrganization>
            <id root="0d8a68b8-90b2-11e9-bc42-526af7764f64"/>
            <!-- representedOrganization (Base Organization) -->
            <id root="0d8a68b8-90b2-11e9-bc42-526af7764f64"/>
            <!-- Organization.name -->
            <name>Tes Health Service</name>
            <!-- Organization.telecom -->
            <telecom use="WP" value="tel:0798046688"/>
            <!-- Organization.identifier as an ABN -->
            <ext:asEntityIdentifier classCode="IDENT">
                <!-- identifier.value=51824754455, identifier.system=urn:oid:1.2.36, identifier.assigner=ABN -->
                <ext:id root="1.2.36.51824754455" assigningAuthorityName="ABN"/>
                <!-- identifier.type -->
                <ext:code code="XX" codeSystem="2.16.840.1.113883.12.203"/>
            </ext:asEntityIdentifier>
        </representedCustodianOrganization>
    </assignedCustodian>
</custodian>
<legalAuthenticator>
    <templateId root="1.2.36.1.2001.1001.102.101.100012" extension="1.0"/>
    <time value="201812111230+1000"/>
    <signatureCode code="S"/>
    <assignedEntity>
        <!-- attester (Legal Attester) indicating same entity as the author via the same id -->
        <id root="6c4b9640-90af-11e9-bc42-526af7764f64"/>
    </assignedEntity>
</legalAuthenticator>
<!-- Patient.generalPractitioner (Base Practitioner) -->
<participant typeCode="PART">
    <functionCode code="PCP"/>
    <associatedEntity classCode="PROV">
        <id root="fdb10052-30e9-4425-b771-8b8a81ae7107"/>
        <associatedPerson classCode="PSN">
            <!-- Practitioner.name -->
            <name>
                <prefix>Dr.</prefix>
                <given>Good</given>
                <family>Doctor</family>
            </name>
        </associatedPerson>
    </associatedEntity>
</participant>
<componentOf>
    <encompassingEncounter>
        <templateId root="1.2.36.1.2001.1001.102.101.100064" extension="1.0"/>
        <id root="4fe85f68-9151-11e9-b683-526af7764f64"/>
        <code code="AMB" codeSystem="2.16.840.1.113883.1.11.13955"
            codeSystemName="ActEncounterCode" displayName="ambulatory"/>
        <effectiveTime xsi:type="IVL_TS">
            <low value="2018121101000+1000"/>
            <high value="201812111230+1000"/>
```

```
        </effectiveTime>
    </encompassingEncounter>
</componentOf>
<component>
    <structuredBody>
        <!--       section (Medications> -->
        <component>
            <section>
                <templateId root="1.2.36.1.2001.1001.102.101.100061" extension="1.0"/>
                <id root="1eed2cdc-9169-11e9-bc42-526af7764f64"/>
                <code code="10160-0" codeSystem="2.16.840.1.113883.6.1"
                    displayName="History of Medication use Narrative"/>

                <text mediaType="text/x-hl7-text+xml">
                    <table>
                        <caption>Current medicines</caption>
                        <thead>
                            <tr>
                                <th>Medicine</th>
                                <th>Brand name</th>
                                <th>Direction</th>
                                <th>Medicine purpose</th>
                                <th>Medicine status</th>
                                <th>Expected end date</th>
                                <th>Special instructions</th>
                                <th>Medicine Image</th>
                                <th>Physical Description</th>
                            </tr>
                        </thead>
                        <tbody>
                            <tr ID="medicationstatement-ferro-grad-c">
                                <td/>
                                <td>Ferro-Grad C</td>
                                <td>One tablet daily</td>
                                <td>Iron Supplement</td>
                                <td>Unchanged</td>
                                <td/>
                                <td/>
                                <td/>
                                <td/>
                            </tr>
                            <tr ID="medicationstatement-amoxicillin-875mg">
                                <td>Amoxicillin 875 mg + clavunalic acid 125 mg tablet</td>
                                <td>Augmentin Duo Forte</td>
                                <td>One tablet twice a day until all finished</td>
                                <td>Infection</td>
                                <td>New</td>
                                <td>20/01/2019</td>
                                <td/>
                                <td/>
                                <td/>
                            </tr>
                            <tr ID="medicationstatement-metformin-500mg">
                                <td>Metformin 500mg tablet</td>
                                <td>Sandoz</td>
                                <td>One tablet twice a day</td>
                                <td>Reduce blood sugar</td>
                                <td>Dose changed</td>
                                <td/>
                                <td/>
                                <td>insert link...</td>
                                <td>White and round with 227 imprinted</td>
                            </tr>
                            <tr ID="medicationstatement-multi-vitamins">
                                <td>Multi-vitamins</td>
                                <td/>
                                <td>One tablet daily</td>
                                <td/>
                                <td/>
                                <td/>
                                <td/>
                                <td/>
                                <td/>
                            </tr>
                            <tr ID="medicationstatement-paracetamol-665mg">
                                <td>Paracetamol 665 mg caplet</td>
                                <td>Panadol Osteo</td>
                                <td>Two caplets every 6 to 8 hours when required</td>
                                <td>Osteoarthritis, pain relief</td>
                                <td/>
                                <td/>
                                <td>No more than 6 caplets in 24 hours</td>
                                <td/>
                                <td/>
                            </tr>
                            <tr ID="medicationstatement-warfarin">
                                <td>Warfarin sodium 5 mg tablet</td>
                                <td>Coumadin</td>
                                <td>Once a day at night</td>
                                <td>Blood thinning</td>
                                <td>Withheld</td>
                                <td/>
                                <td/>
                                <td/>
                                <td>Peach.Round.Imprinted.</td>
                            </tr>
                        </tbody>
                    </table>
                    <table>
```

```
            <caption>Ceased medicines</caption>
            <thead>
                <tr>
                    <th>Medicine</th>
                    <th>Reason for ceasing medicine</th>
                    <th>Ceased date</th>
                </tr>
            </thead>
            <tbody>
                <tr ID="medicationstatement-paracetamol-500mg">
                    <td/>
                    <td>Paracetamol 500mg tablet</td>
                    <td>Duplicated medicine</td>
                    <td>Dec 2018</td>
                </tr>
                <tr ID="medicationstatement-ibuprofen">
                    <td>Ibuprofen</td>
                    <td>Allergic Reaction</td>
                    <td/>
                </tr>
            </tbody>
        </table>
    </text>
    <entry>
        <!-- Medicines list-->
        <act classCode="ACT" moodCode="EVN">
            <templateId root="1.2.36.1.2001.1001.102.101.100067" extension="1.0"/>
            <code code="10160-0" codeSystem="2.16.840.1.113883.6.1"
                displayName="History of Medication use Narrative"/>
            <statusCode code="active"/>
            <effectiveTime value="201812111230+1000"/>
            <!--   List.note-->
            <entryRelationship typeCode="COMP">
                <act classCode="INFRM" moodCode="EVN">
                    <code code="103.16044" codeSystem="1.2.36.1.2001.1001.101"
                        codeSystemName="NCTIS Data Components"
                        displayName="Additional Comments"/>
                    <text xsi:type="ST">Please review this list with your pharmacist
                        on or soon after 02/Apr/2019.</text>
                </act>
            </entryRelationship>
            <!--Medicine review encounter-->
            <entryRelationship typeCode="COMP">
                <encounter classCode="ENC" moodCode="EVN">
                    <templateId root="1.2.36.1.2001.1001.102.101.100062"
                        extension="1.0"/>
                    <id root="4fe85f68-9151-11e9-b683-526af7764f64"/>
                    <code code="AMB" codeSystem="2.16.840.1.113883.1.11.13955"
                        codeSystemName="ActEncounterCode" displayName="ambulatory"/>
                    <statusCode code="finished"/>
                    <effectiveTime xsi:type="IVL_TS">
                        <low value="20181211101000+1000"/>
                        <high value="201812111230+1000"/>
                    </effectiveTime>
                    <entryRelationship typeCode="COMP">
                        <observation classCode="OBS" moodCode="EVN">
                            <code code="103.17018"
                                codeSystem="1.2.36.1.2001.1001.101"
                                codeSystemName="NCTIS Data Components"
                                displayName="Category"/>
                            <value xsi:type="CD">
                                <originalText>Community pharmacy medicine
                                  review</originalText>
                            </value>
                        </observation>
                    </entryRelationship>
                </encounter>
            </entryRelationship>

            <!--  List.entry.item: Ferro-Grad C-->
            <entryRelationship typeCode="COMP">
                <!--  MedicationStatement; taken=y -->
                <substanceAdministration classCode="SBADM" moodCode="EVN">
                    <templateId root="1.2.36.1.2001.1001.102.101.100066"
                        extension="1.0"/>
                    <id root="31fbf5f4-9170-11e9-bc42-526af7764f64"/>
                    <!--   MedicationStatement.dosage-->
                    <text>
                        <reference value="#medicationstatement-ferro-grad-c"/>
                    </text>
                    <!-- MedicationStatement.status-->
                    <statusCode code="active"/>
                    <!--   MedicationStatement.medication-->
                    <consumable>
                        <manufacturedProduct>
                            <templateId root="1.2.36.1.2001.1001.102.101.100068"
                                extension="1.0"/>
                            <manufacturedMaterial determinerCode="KIND">
                                <code code="53373011000036103"
                                  codeSystem="2.16.840.1.113883.6.96"
                                  codeSystemName="SNOMED CT"
                                  displayName="Ferro-Grad C">
                                  <originalText>Ferro-Grad C</originalText>
                                </code>
                            </manufacturedMaterial>
                        </manufacturedProduct>
                    </consumable>
                    <!-- MedicationStatement.reasonCode-->
                    <entryRelationship typeCode="RSON">
```

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                <observation classCode="OBS" moodCode="EVN">
                    <code code="103.10141"
                        codeSystem="1.2.36.1.2001.1001.101"
                        codeSystemName="NCTIS Data Components"
                        displayName="Clinical Indication"/>
                    <value xsi:type="CD">
                        <originalText>Iron supplement</originalText>
                    </value>
                </observation>
            </entryRelationship>
            <!--  List.entry.flag-->
            <entryRelationship typeCode="SUBJ" inversionInd="true">
                <observation classCode="OBS" moodCode="EVN">
                    <code code="288533004"
                        codeSystem="2.16.840.1.113883.6.96"
                        displayName="Change values"/>
                    <value xsi:type="CD" code="nochange"
                        codeSystem="1.2.36.1.2001.1004.201.10075"/>
                </observation>
            </entryRelationship>
        </substanceAdministration>
    </entryRelationship>
    <!--  List.entry.item: amoxicillin-875mg -->
    <entryRelationship typeCode="COMP">
        <!--  MedicationStatement; taken=y -->
        <substanceAdministration classCode="SBADM" moodCode="EVN">
            <templateId root="1.2.36.1.2001.1001.102.101.100066"
                extension="1.0"/>
            <id root="42d8d5b0-9178-11e9-bc42-526af7764f64"/>
            <!--   MedicationStatement.dosage-->
            <text>
                <reference value="#medicationstatement-amoxicillin-875mg"/>
            </text>
            <!-- MedicationStatement.status-->
            <statusCode code="active"/>
            <!-- MedicationStatement.effective-->
            <effectiveTime xsi:type="IVL_TS">
                <low value="20181210"/>
                <high value="20190120"/>
            </effectiveTime>
            <!--   MedicationStatement.medication-->
            <consumable>
                <manufacturedProduct>
                    <templateId root="1.2.36.1.2001.1001.102.101.100068"
                        extension="1.0"/>
                    <manufacturedMaterial determinerCode="KIND">
                        <code>
                          <originalText>Augmentin Duo Forte</originalText>
                        </code>
                    </manufacturedMaterial>
                </manufacturedProduct>
            </consumable>
            <!-- Medication.medication-brand-name-->
            <entryRelationship typeCode="COMP">
                <act classCode="ACT" moodCode="EVN">
                    <code code="103.16676"
                        codeSystem="1.2.36.1.2001.1001.101"
                        codeSystemName="NCTIS Data Components"
                        displayName="Pharmaceutical Item Brand"/>
                    <text>Augmentin Duo Forte</text>
                </act>
            </entryRelationship>
            <!-- Medication.medication-generic-name-->
            <entryRelationship typeCode="COMP">
                <act classCode="ACT" moodCode="EVN">
                    <code code="103.16703"
                        codeSystem="1.2.36.1.2001.1001.101"
                        codeSystemName="NCTIS Data Components"
                        displayName="Pharmaceutical Item Generic Name"/>
                    <text>Amoxicillin 875 mg + clavunalic acid 125 mg
                        tablet</text>
                </act>
            </entryRelationship>
            <!-- MedicationStatement.reasonCode-->
            <entryRelationship typeCode="RSON">
                <observation classCode="OBS" moodCode="EVN">
                    <code code="103.10141"
                        codeSystem="1.2.36.1.2001.1001.101"
                        codeSystemName="NCTIS Data Components"
                        displayName="Clinical Indication"/>
                    <value xsi:type="CD">
                        <originalText>Infection</originalText>
                    </value>
                </observation>
            </entryRelationship>
            <!--  List.entry.flag-->
            <entryRelationship typeCode="SUBJ" inversionInd="true">
                <observation classCode="OBS" moodCode="EVN">
                    <code code="288533004"
                        codeSystem="2.16.840.1.113883.6.96"
                        displayName="Change values"/>
                    <value xsi:type="CD" code="new"
                        codeSystem="1.2.36.1.2001.1004.201.10075"/>
                </observation>
            </entryRelationship>
        </substanceAdministration>
    </entryRelationship>

    <!--  List.entry.item: metformin-500mg -->
```

```
<entryRelationship typeCode="COMP">
    <!--  MedicationStatement; taken=y-->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <templateId root="1.2.36.1.2001.1001.102.101.100066"
            extension="1.0"/>
        <id root="69433338-917a-11e9-bc42-526af7764f64"/>
        <!--   MedicationStatement.dosage-->
        <text>
            <reference value="#medicationstatement-metformin-500mg"/>
        </text>
        <!-- MedicationStatement.status-->
        <statusCode code="active"/>
        <!--   MedicationStatement.medication-->
        <consumable>
            <manufacturedProduct>
                <templateId root="1.2.36.1.2001.1001.102.101.100068"
                    extension="1.0"/>
                <manufacturedMaterial determinerCode="KIND">
                    <code code="23358011000036102"
                      codeSystem="2.16.840.1.113883.6.96"
                      codeSystemName="SNOMED CT"
                      displayName="metformin hydrochloride 500 mg tablet">
                      <originalText>Metformin 500mg
                      tablet</originalText>
                    </code>
                </manufacturedMaterial>
            </manufacturedProduct>
        </consumable>
        <!-- Medication.medication-generic-name-->
        <entryRelationship typeCode="COMP">
            <act classCode="ACT" moodCode="EVN">
                <code code="103.16703"
                    codeSystem="1.2.36.1.2001.1001.101"
                    codeSystemName="NCTIS Data Components"
                    displayName="Pharmaceutical Item Generic Name"/>
                <text>Metformin 500mg tablet</text>
            </act>
        </entryRelationship>
        <!-- Medication.medication-brand-name-->
        <entryRelationship typeCode="COMP">
            <act classCode="ACT" moodCode="EVN">
                <code code="103.16676"
                    codeSystem="1.2.36.1.2001.1001.101"
                    codeSystemName="NCTIS Data Components"
                    displayName="Pharmaceutical Item Brand"/>
                <text>Sandoz</text>
            </act>
        </entryRelationship>
        <!-- MedicationStatement.reasonCode-->
        <entryRelationship typeCode="RSON">
            <observation classCode="OBS" moodCode="EVN">
                <code code="103.10141"
                    codeSystem="1.2.36.1.2001.1001.101"
                    codeSystemName="NCTIS Data Components"
                    displayName="Clinical Indication"/>
                <value xsi:type="CD">
                    <originalText>Reduce blood sugar</originalText>
                </value>
            </observation>
        </entryRelationship>
        <!--  List.entry.flag-->
        <entryRelationship typeCode="SUBJ" inversionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <code code="288533004"
                    codeSystem="2.16.840.1.113883.6.96"
                    displayName="Change values"/>
                <text>Dose changed</text>
                <value xsi:type="CD" code="amended"
                    codeSystem="1.2.36.1.2001.1004.201.10075"/>
            </observation>
        </entryRelationship>
    </substanceAdministration>
</entryRelationship>


<!--  List.entry.item: multi-vitamins -->
<entryRelationship typeCode="COMP">
    <!--  MedicationStatement; taken=y-->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <templateId root="1.2.36.1.2001.1001.102.101.100066"
            extension="1.0"/>
        <id root="f1f476fa-917b-11e9-bc42-526af7764f64"/>
        <!--   MedicationStatement.dosage-->
        <text>
            <reference value="#medicationstatement-multi-vitamins"/>
        </text>
        <!-- MedicationStatement.status-->
        <statusCode code="active"/>
        <!--   MedicationStatement.medication-->
        <consumable>
            <manufacturedProduct>
                <templateId root="1.2.36.1.2001.1001.102.101.100068"
                    extension="1.0"/>
                <manufacturedMaterial determinerCode="KIND">
                    <code>
                      <originalText>Multi-vitamins</originalText>
                    </code>
                </manufacturedMaterial>
            </manufacturedProduct>
```

```
            </consumable>
            <!-- Medication.medication-generic-name-->
            <entryRelationship typeCode="COMP">
                <act classCode="ACT" moodCode="EVN">
                    <code code="103.16703"
                        codeSystem="1.2.36.1.2001.1001.101"
                        codeSystemName="NCTIS Data Components"
                        displayName="Pharmaceutical Item Generic Name"/>
                    <text>Multi-vitamins</text>
                </act>
            </entryRelationship>
            <!--  List.entry.flag-->
            <entryRelationship typeCode="SUBJ" inversionInd="true">
                <observation classCode="OBS" moodCode="EVN">
                    <code code="288533004"
                        codeSystem="2.16.840.1.113883.6.96"
                        displayName="Change values"/>
                    <value xsi:type="CD" code="unchanged"
                        codeSystem="1.2.36.1.2001.1004.201.10075"/>
                </observation>
            </entryRelationship>
        </substanceAdministration>
    </entryRelationship>


    <!--  List.entry.item: paracetamol-665mg -->
    <entryRelationship typeCode="COMP">
        <!--  MedicationStatement; taken=y -->
        <substanceAdministration classCode="SBADM" moodCode="EVN">
            <templateId root="1.2.36.1.2001.1001.102.101.100066"
                extension="1.0"/>
            <id root="815d5488-917c-11e9-bc42-526af7764f64"/>
            <!--   MedicationStatement.dosage-->
            <text>
                <reference value="#medicationstatement-paracetamol-665mg"/>
            </text>
            <!-- MedicationStatement.status-->
            <statusCode code="active"/>
            <!--   MedicationStatement.medication-->
            <consumable>
                <manufacturedProduct>
                    <templateId root="1.2.36.1.2001.1001.102.101.100068"
                        extension="1.0"/>
                    <manufacturedMaterial determinerCode="KIND">
                        <code>
                          <originalText>Panadol Osteo</originalText>
                        </code>
                    </manufacturedMaterial>
                </manufacturedProduct>
            </consumable>
            <!-- Medication.medication-generic-name-->
            <entryRelationship typeCode="COMP">
                <act classCode="ACT" moodCode="EVN">
                    <code code="103.16703"
                        codeSystem="1.2.36.1.2001.1001.101"
                        codeSystemName="NCTIS Data Components"
                        displayName="Pharmaceutical Item Generic Name"/>
                    <text>Paracetamol 665mg caplet</text>
                </act>
            </entryRelationship>
            <!-- Medication.medication-brand-name-->
            <entryRelationship typeCode="COMP">
                <act classCode="ACT" moodCode="EVN">
                    <code code="103.16676"
                        codeSystem="1.2.36.1.2001.1001.101"
                        codeSystemName="NCTIS Data Components"
                        displayName="Pharmaceutical Item Brand"/>
                    <text>Panadol Osteo</text>
                </act>
            </entryRelationship>
            <!-- MedicationStatement.reasonCode-->
            <entryRelationship typeCode="RSON">
                <observation classCode="OBS" moodCode="EVN">
                    <code code="103.10141"
                        codeSystem="1.2.36.1.2001.1001.101"
                        codeSystemName="NCTIS Data Components"
                        displayName="Clinical Indication"/>
                    <value xsi:type="CD">
                        <originalText>Osteoarthritis, pain
                          relief</originalText>
                    </value>
                </observation>
            </entryRelationship>
            <!--  List.entry.flag-->
            <entryRelationship typeCode="SUBJ" inversionInd="true">
                <observation classCode="OBS" moodCode="EVN">
                    <code code="288533004"
                        codeSystem="2.16.840.1.113883.6.96"
                        displayName="Change values"/>
                    <value xsi:type="CD" code="unchanged"
                        codeSystem="1.2.36.1.2001.1004.201.10075"/>
                </observation>
            </entryRelationship>
        </substanceAdministration>
    </entryRelationship>

    <!--  List.entry.item: warfarin -->
    <entryRelationship typeCode="COMP">
        <!--  MedicationStatement; taken=y -->
```

```
            <substanceAdministration classCode="SBADM" moodCode="EVN">
                <templateId root="1.2.36.1.2001.1001.102.101.100066"
                    extension="1.0"/>
                <id root="9cb2c758-917d-11e9-bc42-526af7764f64"/>
                <!--   MedicationStatement.dosage-->
                <text>
                    <reference value="#medicationstatement-warfarin"/>
                </text>
                <!-- MedicationStatement.status-->
                <statusCode code="active"/>
                <!--   MedicationStatement.medication-->
                <consumable>
                    <manufacturedProduct>
                        <templateId root="1.2.36.1.2001.1001.102.101.100068"
                            extension="1.0"/>
                        <manufacturedMaterial determinerCode="KIND">
                            <code code="22464011000036101"
                              codeSystem="2.16.840.1.113883.6.96"
                              codeSystemName="SNOMED CT"
                              displayName="warfarin sodium 5 mg tablet">
                              <originalText>Warfarin sodium 5 mg
                              tablet</originalText>
                            </code>
                        </manufacturedMaterial>
                    </manufacturedProduct>
                </consumable>
                <!-- Medication.medication-brand-name-->
                <entryRelationship typeCode="COMP">
                    <act classCode="ACT" moodCode="EVN">
                        <code code="103.16676"
                            codeSystem="1.2.36.1.2001.1001.101"
                            codeSystemName="NCTIS Data Components"
                            displayName="Pharmaceutical Item Brand"/>
                        <text>Coumadin</text>
                    </act>
                </entryRelationship>
                <!-- MedicationStatement.reasonCode-->
                <entryRelationship typeCode="RSON">
                    <observation classCode="OBS" moodCode="EVN">
                        <code code="103.10141"
                            codeSystem="1.2.36.1.2001.1001.101"
                            codeSystemName="NCTIS Data Components"
                            displayName="Clinical Indication"/>
                        <value xsi:type="CD">
                            <originalText>Blood thining</originalText>
                        </value>
                    </observation>
                </entryRelationship>
                <!--  List.entry.flag-->
                <entryRelationship typeCode="SUBJ" inversionInd="true">
                    <observation classCode="OBS" moodCode="EVN">
                        <code code="288533004"
                            codeSystem="2.16.840.1.113883.6.96"
                            displayName="Change values"/>
                        <text>Some reason here</text>
                        <value xsi:type="CD" code="suspended"
                            codeSystem="1.2.36.1.2001.1004.201.10075"/>
                    </observation>
                </entryRelationship>
            </substanceAdministration>
        </entryRelationship>


        <!--  List.entry.item: paracetamol-500mg -->
        <entryRelationship typeCode="COMP">
            <!--  MedicationStatement; taken=y -->
            <substanceAdministration classCode="SBADM" moodCode="EVN">
                <templateId root="1.2.36.1.2001.1001.102.101.100066"
                    extension="1.0"/>
                <id root="effedb80-91bf-11e9-bc42-526af7764f64"/>
                <!--   MedicationStatement.dosage-->
                <text>
                    <reference value="#medicationstatement-paracetamol-500mg"/>
                </text>
                <!-- MedicationStatement.status-->
                <statusCode code="aborted"/>
                <!--   MedicationStatement.medication-->
                <consumable>
                    <manufacturedProduct>
                        <templateId root="1.2.36.1.2001.1001.102.101.100068"
                            extension="1.0"/>
                        <manufacturedMaterial determinerCode="KIND">
                            <code code="22464011000036101"
                              codeSystem="2.16.840.1.113883.6.96"
                              codeSystemName="SNOMED CT"
                              displayName="Paracetamol 500 mg tablet">
                              <originalText>Paracetamol 500 mg
                              tablet</originalText>
                            </code>
                        </manufacturedMaterial>
                    </manufacturedProduct>
                </consumable>
                <!--  List.entry.flag-->
                <entryRelationship typeCode="SUBJ" inversionInd="true">
                    <observation classCode="OBS" moodCode="EVN">
                        <code code="288533004"
                            codeSystem="2.16.840.1.113883.6.96"
                            displayName="Change values"/>
                        <text>Duplicated medicine</text>
```

```
                            <value xsi:type="CD" code="ceased"
                                codeSystem="1.2.36.1.2001.1004.201.10075"/>
                        </observation>
                    </entryRelationship>
                </substanceAdministration>
            </entryRelationship>

            <!--  List.entry.item: ibuprofen -->
            <entryRelationship typeCode="COMP">
                <!--  MedicationStatement; taken=y -->
                <substanceAdministration classCode="SBADM" moodCode="EVN">
                    <templateId root="1.2.36.1.2001.1001.102.101.100066"
                        extension="1.0"/>
                    <id root="ec2f5562-91c3-11e9-bc42-526af7764f64"/>
                    <!--   MedicationStatement.dosage-->
                    <text>
                        <reference value="#medicationstatement-ibuprofen"/>
                    </text>
                    <!-- MedicationStatement.status-->
                    <statusCode code="aborted"/>
                    <!--   MedicationStatement.medication-->
                    <consumable>
                        <manufacturedProduct>
                            <templateId root="1.2.36.1.2001.1001.102.101.100068"
                                extension="1.0"/>
                            <manufacturedMaterial determinerCode="KIND">
                                <code code="21885011000036105"
                                  codeSystem="2.16.840.1.113883.6.96"
                                  codeSystemName="SNOMED CT" displayName="Ibuprofen">
                                  <originalText>Ibuprofen</originalText>
                                </code>
                            </manufacturedMaterial>
                        </manufacturedProduct>
                    </consumable>
                    <!--  List.entry.flag-->
                    <entryRelationship typeCode="SUBJ" inversionInd="true">
                        <observation classCode="OBS" moodCode="EVN">
                            <code code="288533004"
                                codeSystem="2.16.840.1.113883.6.96"
                                displayName="Change values"/>
                            <text>Allergic reaction</text>
                            <value xsi:type="CD" code="ceased"
                                codeSystem="1.2.36.1.2001.1004.201.10075"/>
                        </observation>
                    </entryRelationship>
                </substanceAdministration>
            </entryRelationship>

        </act>
    </entry>
</section>
</component>
<!-- section (Allergies> -->
<component>
    <section>
        <templateId root="1.2.36.1.2001.1001.102.101.100069" extension="1.0"/>
        <id root="e5911e16-915a-11e9-bc42-526af7764f64"/>
        <code code="48765-2" codeSystem="2.16.840.1.113883.6.1"
            displayName="Allergies andor adverse reactions"/>
        <title>Allergies and Adverse Reactions</title>
        <!--   section.text-->
        <text mediaType="text/x-hl7-text+xml">
            <table>
                <caption>Allergies and Adverse Reactions</caption>
                <thead>
                    <tr>
                        <th>Substance/Agent</th>
                        <th>Reaction Type</th>
                        <th>Reaction</th>
                        <th>Reaction Onset Date</th>
                    </tr>
                </thead>
                <tbody>
                    <tr ID="A1">
                        <td ID="A1A">Amoxicillin</td>
                        <td ID="A1RT">Allergic reaction</td>
                        <td ID="A1R">Anaphylaxis</td>
                        <td>October 2016</td>
                    </tr>
                </tbody>
            </table>
        </text>
        <!--entry (Summary Statement of Allergy or Intolerance)-->
        <entry>
            <!--AllergyIntolerance (Summary Statement of Allergy or Intolerance)-->
            <observation classCode="OBS" moodCode="EVN">
                <templateId root="1.2.36.1.2001.1001.102.101.100014" extension="1.0"/>
                <id root="134649c9-53c9-41fe-984c-2b3123646800"/>
                <code code="102.15517" codeSystem="1.2.36.1.2001.1001.101"
                    displayName="Adverse Reaction"/>
                <!--  AllergyIntolerance.onset-->
                <effectiveTime>
                    <low value="201610"/>
                </effectiveTime>
                <!--AllergyIntolerance.code-->
                <value xsi:type="CD">
                    <originalText>
                        <reference value="#A1A"/>
                    </originalText>
```

```
                        </value>
                        <!-- AllergyIntolerance.verificationStatus -->
                        <entryRelationship typeCode="COMP">
                            <observation classCode="OBS" moodCode="EVN">
                                <code code="103.32012" codeSystem="1.2.36.1.2001.1001.101"
                                    codeSystemName="NCTIS Data Components Code System"
                                    displayName="Verification Status"/>
                                <value xsi:type="CD" code="unconfirmed"
                                    codeSystem="2.16.840.1.113883.4.642.1.116"
                                    codeSystemName="AllergyIntoleranceVerificationStatus"
                                    displayName="Unconfirmed"/>
                            </observation>
                        </entryRelationship>
                        <!-- AllergyIntolerance.clinicalStatus -->
                        <entryRelationship typeCode="COMP">
                            <observation classCode="OBS" moodCode="EVN">
                                <code code="103.32013" codeSystem="1.2.36.1.2001.1001.101"
                                    codeSystemName="NCTIS Data Components Code System"
                                    displayName="Clinical Status"/>
                                <value xsi:type="CD" code="active"
                                    codeSystem="2.16.840.1.113883.4.642.1.118"
                                    codeSystemName="AllergyIntoleranceClinicalStatus"
                                    displayName="Active"/>
                            </observation>
                        </entryRelationship>
                        <!-- AllergyIntolerance.reaction -->
                        <entryRelationship typeCode="COMP">
                            <observation classCode="OBS" moodCode="EVN">
                                <code code="102.16474" codeSystem="1.2.36.1.2001.1001.101"
                                    displayName="Reaction Event"/>
                                <!-- AllergyIntolerance.type-->
                                <value xsi:type="CD">
                                    <originalText>
                                        <reference value="#A1RT"/>
                                    </originalText>
                                </value>
                                <!-- AllergyIntolerance.reaction.substance-->
                                <participant typeCode="CAGNT">
                                    <participantRole>
                                        <playingEntity>
                                            <code>
                                              <originalText>
                                              <reference value="#A1A"/>
                                              </originalText>
                                            </code>
                                        </playingEntity>
                                    </participantRole>
                                </participant>
                                <!-- AllergyIntolerance.reaction.manifestation -->
                                <entryRelationship typeCode="MFST" inversionInd="true">
                                    <observation classCode="OBS" moodCode="EVN">
                                        <code>
                                            <originalText>
                                              <reference value="#A1R"/>
                                            </originalText>
                                        </code>
                                    </observation>
                                </entryRelationship>
                            </observation>
                        </entryRelationship>
                    </observation>
                </entry>
            </section>
        </component>
    </structuredBody>
</component>
</ClinicalDocument>
```

B.2 Dispense List example 2

This informative appendix provides an example instance that conforms to the requirements of this implementation guide.

Example B.2. Dispense List example 2

```
<!-- This example is illustrative only. This fragment cannot be treated as clinically valid.
While every effort has been taken to ensure that the examples are consistent with the message specification, where
there are conflicts with the written message specification or schema, the specification or schema will take precedence. -->


<ClinicalDocument classCode="DOCCLIN" moodCode="EVN" xmlns="urn:hl7-org:v3"
 xmlns:ex="urn:hl7-org/v3-example"
 xmlns:ext="http://ns.electronichealth.net.au/Ci/Cda/Extensions/3.0"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xsi:schemaLocation="urn:hl7-org:v3 ../../../library/schema_au_published/CDA-AU-V1_0.xsd">
 <typeId root="2.16.840.1.113883.1.3" extension="POCD_HD000040"/>
 <!-- Put content here -->

</ClinicalDocument>
```

B.3 Prescription and Dispense List example 3

This informative appendix provides an example instance that conforms to the requirements of this implementation guide.

Example B.3. Prescription and Dispense List example 3

```
<!-- This example is illustrative only. This fragment cannot be treated as clinically valid.
While every effort has been taken to ensure that the examples are consistent with the message specification, where
there are conflicts with the written message specification or schema, the specification or schema will take precedence. -->


<ClinicalDocument classCode="DOCCLIN" moodCode="EVN" xmlns="urn:hl7-org:v3"
 xmlns:ex="urn:hl7-org/v3-example"
 xmlns:ext="http://ns.electronichealth.net.au/Ci/Cda/Extensions/3.0"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
 <typeId root="2.16.840.1.113883.1.3" extension="POCD_HD000040"/>
 <!-- Put content here -->

</ClinicalDocument>
```

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