



Advance Care Planning CDA Implementation Guide

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Document Information

Key Information

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| 1.0 | 21 Dec 2017 | Initial public release. This specification is published to support the My Health Record advance care planning document (2016). |
| 2.0.0 | NaN NaN | This version implements terminology updates and transitions from openEHR based models to FHIR-based models. This is a backwards incompatible release |

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| Name | Version/Release Date |
|---|---|
| Advance Care Records FHIR Implementation Guide | Version 1.0.0 (Draft for internal use), Not yet published |
| Advance Care Planning - My Health Record Conformance Profile | Version 1.1, Issued 31 March 2020 |
| Goals of Care My Health Record Conformance Profile | Version 1.0, Issued 13 March 2020 |
| CDA Rendering Specification | Version 1.0, Issued 07 March 2012 |
| My Health Record Advance Care Planning Information Requirements | Version 1.0, Not published |
| HL7 Clinical Document Architecture | Release 2, January 2010 |
| Representing Coding in CDA Documents Implementation Guidance | Version 1.0, Issued 10 October 2011 |

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Table of Contents

| | |
|---|-----------|
| 1. Introduction | 1 |
| 1.1. Document purpose and scope | 1 |
| 1.2. Context and use | 1 |
| 1.3. How to read this document | 2 |
| 1.4. Editorial note | 2 |
| 1.5. Intended audience | 2 |
| 1.6. Known issues | 3 |
| 2. Guidance | 5 |
| 2.1. Clinical Document Architecture Release 2 | 5 |
| 2.2. Australian Digital Health Agency CDA extensions | 6 |
| 2.3. Conformance conventions | 7 |
| 2.3.1. Template identifiers | 8 |
| 2.3.2. Open and closed templates | 9 |
| 2.3.3. Fixed value constraint | 11 |
| 2.3.4. XPath like notation | 12 |
| 2.3.5. Terminology binding | 14 |
| 2.3.6. Conformance verbs | 17 |
| 2.3.7. Cardinality notation | 19 |
| 2.3.8. Interpreting cardinality in a CDA mapping table for logical elements | 20 |
| 2.4. Mapping presentation and structure | 23 |
| 2.4.1. Legend - CDA mapping table for logical elements | 24 |
| 2.4.2. Legend - CDA mapping table for CDA schema elements | 25 |
| 3. Conformance | 27 |
| 3.1. Base conformance requirements | 27 |
| 3.2. Conformance profile conformance requirements | 28 |
| 3.3. CDA narrative conformance requirements | 29 |
| 4. Advance Care Planning hierarchy | 31 |
| 5. CDA Header templates | 33 |
| 5.1. ClinicalDocument | 33 |
| 5.2. legalAuthenticator | 36 |
| 5.3. component (Administrative Observations) | 37 |
| 6. Document CDA templates | 39 |
| 6.1. Composition (Advance Care Planning) | 39 |
| 7. Section CDA templates | 43 |
| 7.1. section (Advance Care Information) | 43 |
| 8. Participation CDA templates | 45 |
| 8.1. recordTarget (My Health Record Patient) | 45 |
| 8.2. recordTarget (Patient with Mandatory Identifier) | 50 |
| 8.3. participant (Patient contact) | 55 |
| 8.4. participant (Organization contact) | 57 |
| 8.5. participant (generalPractitioner Base Organization) | 59 |
| 8.6. participant (generalPractitioner Base Practitioner) | 61 |
| 8.7. author (My Health Record Patient) | 63 |
| 8.8. author (Patient with Mandatory Identifier) | 66 |
| 8.9. author (RelatedPerson with Mandatory Identifier) | 69 |
| 8.10. author (PractitionerRole with Practitioner with Mandatory Identifier) | 71 |
| 8.11. custodian (Organization with Mandatory Identifier) | 73 |
| 9. Entity CDA templates | 75 |
| 9.1. providerOrganization (Base Organization) | 75 |
| 9.2. representedOrganization (Base Organization) | 77 |
| 9.3. assignedPerson (Practitioner with Mandatory Identifier) | 79 |
| 9.4. wholeOrganization (Base Organization) | 81 |
| 9.5. scopingOrganization (Base Organization) | 83 |
| 10. Act CDA templates | 85 |
| 10.1. act (Advance Care Planning Document Reference) | 85 |
| 10.2. ext:coverage2 (Practitioner qualification) | 88 |
| 11. Common patterns | 91 |

11.1. Entity Identifier 91

11.2. Personal Relationship 93

11.3. Qualification 96

11.4. Language Communication 98

A. Complex data type mappings to CDA (R2) 101

 A.1. Identifier 102

 A.2. Base HumanName 107

 A.3. Address 110

 A.4. AU Base Address 113

 A.5. ContactPoint 116

 A.6. Attachment 118

B. Examples 121

 B.1. Advance Care Planning example 1 122

 B.2. Advance Care Planning example 2 124

 B.3. Advance Care Planning example 3 127

C. Mapping from requirements 155

 C.1. Mapping from ACP information requirements 156

References 159

List of Examples

| | |
|--|-----|
| 2.1. Use of templated to assert conformance to two CDA templates | 8 |
| 2.2. CDA mapping fragment - Interpreting an open template for logical elements | 9 |
| 2.3. XPath like notation | 12 |
| 2.4. CDA mapping fragment - XPath like notation | 13 |
| 2.5. Interpreting required value set binding | 15 |
| 2.6. Interpreting required value set binding | 16 |
| 2.7. CDA mapping fragment - Interpreting cardinality in a CDA mapping table for logical elements | 20 |
| 2.8. Interpreting cardinality in a CDA mapping table for logical elements | 21 |
| 11.1. Entity Identifier - Australian IHI | 92 |
| 11.2. Entity Identifier - Local Medical Record Number | 92 |
| 11.3. Entity Identifier - Australian HPI-I | 92 |
| 11.4. Entity Identifier - Australian HPI-O | 92 |
| 11.5. Personal Relationship - author related person | 94 |
| 11.6. Personal Relationship - performer related person | 94 |
| 11.7. Qualification - Bachelor of Pharmacy | 97 |
| 11.8. Qualification - List of qualifications | 97 |
| 11.9. Language Communication - English is preferred | 99 |
| 11.10. Language Communication - Pitjantjatjara is preferred | 99 |
| 11.11. Language Communication - German is spoken | 99 |
| A.1. Identifier - Patient identifiers | 103 |
| A.2. PractitionerRole identifiers | 104 |
| A.3. Identifier - Organization identifier | 105 |
| A.4. Identifier - ProcedureRequest identifier | 105 |
| A.5. Base HumanName - name use, given names, family name | 108 |
| A.6. Base HumanName - unstructured name | 108 |
| A.7. Base HumanName - given name only | 108 |
| A.8. Base HumanName - structured name with period | 108 |
| A.9. Address - structured work and postal address | 111 |
| A.10. Address - structured home and physical address | 111 |
| A.11. Address - temporary international address | 111 |
| A.12. AU Base Address - no fixed address in Melbourne, VIC | 114 |
| A.13. AU Base Address - unstructured address | 114 |
| A.14. AU Base Address - structured postal address with period | 114 |
| A.15. AU Base Address - structured physical address | 115 |
| A.16. ContactPoint - home telephone with period | 116 |
| A.17. ContactPoint - home telephone | 117 |
| A.18. ContactPoint - work email | 117 |
| A.19. Attachment - diagnostic report pdf | 119 |
| A.20. Attachment - base64 representation | 119 |
| A.21. Attachment - anatomical image jpeg | 119 |
| B.1. Advance Care Plan Level example 1 | 122 |
| B.2. Advance Care Plan Level example 2 | 124 |
| B.3. Advance Care Plan Level example 3 | 127 |

DRAFT

1 Introduction

This implementation guide is an [HL7 Clinical Document Architecture \[HL7CDAR2\]](#) specification to represent a Advance Care Planning, document, including Goals of Care (GoC). Advance Care Planning is a copy of a statement of an individual's decisions about their future care, should they become incapable of participating in medical treatment decisions.

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 Advance Care Planning (ACP) model ([Advance Care Records FHIR Implementation Guide \[DH2020h\]](#)) to a corresponding CDA attribute or element. The resulting CDA document can be used for the electronic exchange of ACP information between healthcare providers.

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 ([Australian Base Implementation Guide \(AU Base 1.1.1\) \[HL7AUF3B2\]](#)) 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 advance care planning documents. These constraints are defined as a set of templates.

For implementers, the starting point for the CDA templates is [Composition \(Advance Care Planning\)](#), 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 Advance Care Planning hierarchy](#) - hierarchical overview of the model for this 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. Advance Care Planning, in this implementation guide.
- [7 Section CDA templates](#) - defines the `section` templates referenced by a `ClinicalDocument` template in this implementation guide.
- [8 Participation CDA templates](#) - defines the templates for individuals and organisations, called participations, referenced by other templates in this implementation guide.
- [9 Entity CDA templates](#) - defines the templates for entities referenced by a participation 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. Advance Care Planning, 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 be 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.

It is intended to supersede [Advance Care Information Structured Content Specification \[DH2017e\]](#) and [Advance Care Information CDA Implementation Guide \[DH2017f\]](#). This new, backwards incompatible version, is intended to address alignment 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 |
|---|--|
| Placeholder logical type icons | <p>There is ongoing discussion on the use of icons as a visual aid denoting different logical types in a hierarchical view in implementation guides.</p> <p>Feedback on the work in progress FHIR-driven CDA implementation guides has included consistent feedback that a logical hierarchy with icons was a key piece of informative material – the old NEHTA developed logical data types had their own icons, FHIR does not provide a similar type of icons for its types so this would need to be a piece of work to develop a set of meaningful icons to be used in a FHIR logical hierarchy in the CDA implementation guides.</p> <p>In the interim a placeholder set of icons from the Digital Health Icon Library v1.0 have been used in this implementation guide (and some others) to elicit further feedback and provide a baseline from which a useful set of icons may be developed.</p> |
| Source material errors | <p>Material in this specification is based on existing standards and all efforts have been made to minimise divergence. Issues of an editorial nature in the source material (such as spelling or punctuation errors in an element description) are intentionally reproduced.</p> |
| Advance Care Planning CDA implementation guide roadmap | <p>The objective of this specification is to provide guidance on the implementation in HL7 CDA Release 2 of advance care planning documents (defined in HL7 FHIR).</p> <p>The current guide covers implementation in HL7 CDA Release 2 of the advance care planning model, including goals of care, defined in FHIR Release 3 (STU) (Advance Care Records FHIR Implementation Guide [DH2020h]).</p> <p>The model is a candidate to transition to a FHIR Release 4 representation in collaboration with HL7 Australia. Such a move has normative implications to the CDA representation in this draft including widespread changes to terminology, including code system and value set identifiers. Some FHIR Release 4 terminology has been pre-adopted in this implementation guide.</p> <p>Future releases of this implementation guide are also expected to provide support for additional advance care plan usage scenarios.</p> |
| PractitionerRole > healthcareService | <p>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.</p> |
| Resolving URLs to Agency logical models (FHIR profiles) – not available | <p>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.</p> <p>At this time the Agency logical models are only available via the Advance Care Records FHIR Implementation Guide [DH2020h].</p> |
| Appendix B. Examples | <p>Alignment with examples between the CDA-IG and FHIR-IG is not yet complete.</p> |

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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 standards [\[HL7V3\]](#).

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 Version 3 Standard \[HL7V3\]](#)
- [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.

An advance care planning 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 advance care planning. 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 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:h17-org:v3" xmlns:ex="urn:h17-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"/>
  <!-- ClinicalDocument (Shared Medicines List Authored by Practitioner) templateId-->
  <templateId root="1.2.36.1.2001.1001.102.101.100065"/>
  ...
</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 [HL7CDAR2] 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..* | Composition | 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" | |
| 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). |
| 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. 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"/>
          <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>
        </section>
      </component>
    </structuredBody>
  </component>
  ...
</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: <code>/ClinicalDocument/component/structuredBody/component[admin_obs]/section</code> | |
| Patient > closing-the-gap-registration | Indication for eligibility for the Closing the Gap program. | 0..1 | boolean | <code>entry[close_gap]</code> | The containing component[admin_obs]/section SHALL conform to the template defined in component (Administrative Observations) . |
| | | | | <code>entry[close_gap]/observation</code> | |
| | | | | <code>entry[close_gap]/observation/@classCode="OBS"</code> | |
| | | | | <code>entry[close_gap]/observation/@moodCode="EVN"</code> | |
| | | | | <code>entry[close_gap]/observation/code</code> | |
| | | | | <code>entry[close_gap]/observation/code/@code="103.32011"</code> | |
| | | | | <code>entry[close_gap]/observation/code/@codeSystem="1.2.36.1.2001.1001.101"</code> | NCTIS Data Components |
| | | | | <code>entry[close_gap]/observation/code/@displayName</code> | displayName SHOULD be "Closing the Gap Copayment Eligibility Indicator". |
| | | | | <code>entry[close_gap]/observation/value</code> | 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 \(required\)](#)

Where used in this implementation guide, binding strengths are hyperlinked to their normative definition. An excerpt is provided in the below table for ease of use, where there are conflicts the target normative definition in [FHIR Release 3 \(STU\) \[HL7FHIR3\]](#) applies.

| Binding strength | Description |
|------------------|--|
| required | To be conformant, codes in this element SHALL be from the specified value set. |
| extensible | To be conformant, codes in this element SHALL be from the specified value set if any of the codes within the value set can apply to the concept being communicated. |
| preferred | Instances are encouraged to draw from the specified codes for interoperability purposes but are not required to do so to be considered conformant. |
| example | Instances are not expected or even encouraged to draw from the specified value set. The value set merely provides examples of the types of concepts intended to be included. |

Terminology binding notation

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:

[Encounter Act Status HL7 v3 \(required\)](#)

In simple terms the above required binding indicates that the CDA schema element **SHALL** be valued with one of the codes from that value set. However valuing of an element in CDA is always in the context of the data type and the code system specification (e.g. case sensitive or version required).

Example of interpreting a required terminology binding on an element of type Coded Simple Value (CS)

A Coded Simple Value data type, or CS is defined in the HL7 V3 Data types standards [HL7V3]. It is the simplest form of coded data and consists only of a code, other attributes are prohibited. The code system and code system version are fixed by the context in which CS value occurs. Common instances typed as CS include `statusCode`, `@classCode`, `@moodCode`, and `@nullFlavor` which have HL7-defined value sets.

For example, [Encounter Act Status HL7 v3 \(required\)](#), applied to a `encounter/statusCode` element is to be interpreted as:

- `statusCode/@code` **SHALL** be present and **SHALL** contain a code from [Encounter Act Status HL7 v3](#)
- `statusCode/@nullFlavor` **SHALL NOT** be present as no meaningful value can be supplied
- no other attributes can be supplied as `encounter/statusCode` is of type Coded Simple (CS) which prohibits additional attributes

Example 2.5. Interpreting required value set binding

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

Example of interpreting a required terminology binding on an element of type Concept Descriptor (CD)

A Concept Descriptor data type, or CD, is defined in the HL7 V3 Data types standards [HL7V3]. It is a reference to a concept defined in a code system. Common instances typed as CD include `code`, and `value` when typed to CD.

For example, [Encounter Act Status HL7 v3 \(required\)](#) applied to an `observation/code` is to be interpreted as:

- `code/@code` **SHALL** be present and **SHALL** contain a code from [Encounter Act Status HL7 v3](#)
- `code/@codeSystem="2.16.840.1.113883.5.14"` **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 2.6. Interpreting required value set binding

```
<code code="active" codeSystem="2.16.840.1.113883.5.14" />

<!-- or -->

<code code="active" codeSystem="2.16.840.1.113883.5.14"
codeSystemName="v3.ActStatus" displayName="active"/>

<!-- or -->

<code code="active" codeSystem="2.16.840.1.113883.5.14"
codeSystemName="v3.ActStatus" displayName="active">
  <originalText>Active</originalText>
</code>
```

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 | <p>An absolute requirement.</p> <p>Where SHALL appears in any conformance constraint it indicates a mandatory requirement.</p> <p>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.</p> |
| SHOULD | <p>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.</p> <p>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.</p> <p>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.</p> <p>Implementers must support an optional requirement.</p> |
| MAY | <p>A requirement that can be included or omitted as the author decides with no implications.</p> <p>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.</p> <p>Implementers must support an optional requirement.</p> |
| SHALL NOT | <p>An absolute prohibition.</p> <p>Where SHALL NOT appears in any conformance constraint it indicates a mandatory prohibition requirement.</p> |

| Conformance verb | Interpretation |
|------------------|--|
| SHOULD NOT | <p>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.</p> <p>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.</p> <p>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.</p> <p>Implementers must support an optional requirement.</p> |

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.

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 | A set of allergies or intolerances that have been categorised as critical. | Cardinality comes from linking element | BackboneElement | section | section/@nullFlavor SHALL NOT be present. |
| | | | | section/templateId | |
| | | | | section/templateId/@root="1.2.36.1.2001.1001.102.101.100092" | |

| Logical element | Logical element description | Logical card | Logical type | CDA schema element | CDA constraints and comments |
|-----------------|--|--------------|---------------------------------|--|--|
| 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. | 1..* | Reference() | section/entry[adv] | observation SHALL conform to the template defined in observation (Critical Allergy or Intolerance). |
| | | | | section/entry[adv]/observation | |

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

- section attributes that are not nullFlavor (e.g. classCode) are allowed as defined in the CDA schema as long as conformance to [Base conformance requirements](#) is maintained.
- One templateId with a root="1.2.36.1.2001.1001.102.101.100092". 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.
- At least one entry[adv]/observation that conforms to the template observation (Summary Statement of Allergy or Intolerance) [templateId: 1.2.36.1.2001.1001.102.101.100093]. Additional instances of entry that do not contain an observation are allowed.
- Additional section 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

```
<ClinicalDocument xmlns="urn:h17-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>
      ...
      <!-- section (Allergies) -->
      <component>
        <section>
```

```
<templateId root="1.2.36.1.2001.1001.102.101.100092"/>
<code code="48765-2" codeSystem="2.16.840.1.113883.6.1" displayName="Allergies &or adverse reactions"/>
<title>Critical Allergies and Adverse Reactions</title>
<text mediaType="text/x-hl7-text+xml">Allergy to Latex (CRITICAL)</text>
...
<!--section entry -->
<entry typeCode="DRIV">
  <observation classCode="OBS" moodCode="EVN">
    <templateId root="1.2.36.1.2001.1001.102.101.100093"/>
    ...
  </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 [Advance Care Records FHIR Implementation Guide \[DH2020h\]](#)) 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. [8 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` (My Health Record Patient) defines the CDA template of the `recordTarget` CDA schema element to represent the logical model My Health Record Patient.

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 | |
| <p>The logical hierarchical path in the logical model expressed using names of the elements in the logical model.</p> <p>If there is a name in round brackets after the path, this is the label for that element or resource.</p> <p>The text in bold (the last in the path) is the subject for this row in the convention <Parent (Label)> > <Child (Label)>, e.g.</p> <p>Composition > section (Allergies)</p> | <p>The description of the element in the logical model.</p> | <p>The cardinality of the logical element in the logical model (see Cardinality notation).</p> <p>The root element of each template will typically express an inherited cardinality from the parent element in a parent template by stating:</p> <p>Cardinality comes from linking element</p> <p>A logical cardinality is applied to the mapped CDA schema elements as described in Interpreting cardinality in a CDA mapping table for logical elements:</p> <ul style="list-style-type: none"> 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]. | <p>The type of the logical element (hyperlinked to the definition of the [HL7FHIR3] type) in the logical model.</p> <p>This may be expressed as a type that is further constrained by a model in the convention <model name>, e.g.</p> <p>Patient with Mandatory Identifier.</p> | <p>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 <i>XPath like notation</i>, e.g.:</p> <p>participant[location]/associatedEntity/code</p> <p>The path always starts from the context as defined in the grey header row above each group of mapping rows.</p> <p>The last CDA schema element in the path is presented in bold to aid the reader.</p> <p>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).</p> | <p>Additional information or guidance on implementing the logical element in CDA to support usage scenarios, e.g.</p> <p>When sending to the My Health Record, an IHI is expected.</p> <p>Constraints on the CDA schema elements, identified by use of Conformance verbs, e.g.</p> <p>code/original-Text or code/@displayName SHALL be included.</p> <p>Terminology binding, e.g.</p> <p>Address Type HL7 v3 (required).</p> |

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

3 Conformance

Conformance claims are typically made against the templates in this implementation guide and additional conformance profiles documented elsewhere such as [Advance Care Planning - My Health Record Conformance Profile \[DH2020n\]](#).

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* CDA documents that claim conformance to a `ClinicalDocument` template defined in this implementation guide or any derived conformance profile **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.

DRAFT



















4 Advance Care Planning hierarchy



















Advance Care Planning is defined as:

A copy of a statement of an individual's decisions about their future care, should they become incapable of participating in medical treatment decisions. [Advance Care Records FHIR Implementation Guide \[DH2020h\]](#)

The table below provides a hierarchical view of the Advance Care Planning model as a tree structure in a hierarchical table; it is not intended to represent how the data contents are represented in a CDA document.

Composition (Advance Care Planning), published as a set of FHIR profiles, can be found in the [Advance Care Records FHIR Implementation Guide \[DH2020h\]](#).

| Logical element | | Logical card | Logical type | CDA template |
|--|------------------------------------|--------------|---|---|
|  Composition (Advance Care Planning) | | | Advance Care Planning | Composition (Advance Care Planning) |
|  | composition-author-role | 0..1 | Reference (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 with Mandatory Identifier My Health Record Patient) | recordTarget (Patient with Mandatory Identifier) recordTarget (My Health Record Patient) |
|  | date | 0..1 | dateTime | |
|   | author | 1..1 | Reference (RelatedPerson with Mandatory Identifier Patient with Mandatory Identifier My Health Record Patient Practitioner with Mandatory Identifier) | author (RelatedPerson with Mandatory Identifier) author (Patient with Mandatory Identifier) author (My Health Record Patient) assignedPerson (Practitioner with Mandatory Identifier) |
|  | title | 1..1 | string | |
|  | attester (Legal Attester) | 0..1 | BackboneElement | legalAuthenticator |
|  | mode | 1..1 | code | |
|  | time | 1..1 | dateTime | |
|   | party | 0..1 | Reference (Patient with Mandatory Identifier My Health Record Patient Practitioner with Mandatory Identifier) | |
|  | attester-related-party | 0..1 | Reference (RelatedPerson with Mandatory Identifier) | |
|  | custodian | 1..1 | Reference (Organization with Mandatory Identifier) | custodian (Organization with Mandatory Identifier) |
|  | section (Advance Care Information) | 1..1 | BackboneElement | section (Advance Care Information) |

| Logical element | | Logical card | Logical type | CDA template |
|--|--|--------------|---|---|
|  | title | 1..1 | string | |
|  | code | 1..1 | CodeableConcept | |
|  | text | 1..1 | Narrative | |
|  | entry (Advance Care Planning Document Reference) | 1..1 | Reference (Advance Care Planning Document Reference) | act (Advance Care Planning Document Reference) |
|  | author-role | 0..1 | Reference (PractitionerRole with Practitioner with Mandatory Identifier) | author (PractitionerRole with Practitioner with Mandatory Identifier) |
|  | masterIdentifier | 0..1 | Identifier | |
|  | identifier | 0..* | Identifier | |
|  | status | 1..1 | code | |
|  | docStatus | 0..1 | code | |
|  | type | 1..1 | CodeableConcept | |
|  | subject | 1..1 | Reference (Patient with Mandatory Identifier My Health Record Patient) | |
|  | created | 1..1 | dateTime | |
|  | indexed | 1..1 | instant | |
|   | author | 1..1 | Reference (Practitioner with Mandatory Identifier Patient with Mandatory Identifier My Health Record Patient RelatedPerson with Mandatory Identifier) | assignedPerson (Practitioner with Mandatory Identifier) author (Patient with Mandatory Identifier) author (My Health Record Patient) author (RelatedPerson with Mandatory Identifier) |
|  | description | 0..1 | string | |
|  | content | 1..1 | BackboneElement | |
|  | attachment | 1..1 | Attachment | |



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.

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 Advance Care Planning model.

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

5.1 ClinicalDocument

This template is referenced by [Composition \(Advance Care Planning\)](#).

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/realmsCode | A realmsCode signals the imposition of realm-specific constraints. The value identifies the realm in question. | 0..* | All attributes of the realmsCode 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..* | <p>All attributes of the templateId element defined by the Australian Digital Health Agency CDA schema SHALL be allowed.</p> <p>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".</p> <p>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".</p> <p>In addition to the template identifiers above, a template identifier is expected for the clinical document model as per Composition (Advance Care Planning). Additional template identifiers may be required by other specifications.</p> <p>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.</p> |
| ClinicalDocument/ id | Represents the unique instance identifier of a clinical document. | 1..1 | <p>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.</p> <p>id/@root SHALL be present and it SHALL be a UUID or an OID.</p> |
| ClinicalDocument/ code | The code specifying the particular kind of document (e.g. History and Physical, Discharge Summary, Progress Note). | 1..1 | All attributes of the code element defined by the Australian Digital Health Agency CDA schema SHALL be allowed with the exception that @nullFlavor SHALL NOT be present. |
| ClinicalDocument/ title | Represents the title of the document. | 0..1 | |
| 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/ languageCode | Specifies the human language of character data (whether they be in contents or attribute values). | 0..1 | <Language Code> – <DIALECT> The <Language Code> SHALL be "en". The <DIALECT> SHOULD be "AU". |
| ClinicalDocument/ languageCode/@code | | 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 | <p>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.</p> <p>Australian Healthcare Clinical Document Architecture Document Lifecycle Status (required)</p> |
| 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. |

| CDA schema element | CDA element description | CDA card | CDA constraints and comments |
|---|---|----------|---|
| 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. |
| 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

This template is referenced by [Composition \(Advance Care Planning\)](#).

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 | Represents a participant who has legally authenticated the document. | Cardinality comes from linking element | |
| 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/ 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)

This template is referenced by [recordTarget \(Patient with Mandatory Identifier\)](#), and [recordTarget \(My Health Record Patient\)](#).

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 models contain 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/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 (Advance Care Planning), as a `ClinicalDocument` template.

6.1 Composition (Advance Care Planning)

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

- A clinical information system (CIS) or contracted service provider (CSP) sends or receives an Advance Care Plan with the My Health Record system
- A CIS or CSP sends or receives an Advance Care Plan with another CIS or CSP
- A registered portal sends or receives an Advance Care Plan
- A registered repository receives an Advance Care Plan

An expected usage scenario; further scoping the above overarching scenarios is:

- A Goals of Care (GoC) advance care planning 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 copy of a statement of an individual's decisions about their future care, should they become incapable of participating in medical treatment decisions. | 0..* | Composition | 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="1.2.36.1.2001.1001.102.101.100016" | |
| 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 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 | |
| | | | | ClinicalDocument/code/@code="100.16975" | |
| | | | | ClinicalDocument/code/@codeSystem="1.2.36.1.2001.1001.101" | NCTIS Data Components |
| | | | | ClinicalDocument/code/@displayName | displayName SHOULD be "Advance Care Information". |
| 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 with Mandatory Identifier My Health Record Patient) | ClinicalDocument/recordTarget | When sending to the My Health Record, recordTarget (My Health Record Patient) is expected. recordTarget SHALL conform to one of the templates defined in: recordTarget (Patient with Mandatory Identifier) or recordTarget (My Health Record Patient) . |
| 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 with Mandatory Identifier My Health Record Patient Practitioner with Mandatory Identifier Related-Person with Mandatory Identifier) | ClinicalDocument/ author | If the author is a patient, when sending to the My Health Record author (My Health Record Patient) is expected. In CDA an author (Practitioner) assignedPerson (Practitioner with Mandatory Identifier) is part of composition-author-role (PractitionerRole) author (PractitionerRole with Practitioner with Mandatory Identifier). author SHALL conform to one of the templates defined in: author (Patient with Mandatory Identifier) or author (My Health Record Patient) 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 | When sending a GoC document, title is expected to include "Goals of Care". |
| Composition > attester (Legal Attester) | A participant who has attested to the accuracy of the composition/document. | 0..1 | BackboneElement | ClinicalDocument/ legalAuthenticator | A legal attester SHALL have a party or an attester-related-party but not both. legalAuthenticator SHALL conform to the template defined in legalAuthenticator . |
| Composition > attester (Legal Attester) > mode | The type of attestation the authenticator offers. | 1..1 | code | n/a | Not mapped separately, the logical mode of "legal" is implicit in legalAuthenticator . |
| Composition > attester (Legal Attester) > time | When the composition was attested by the party. | 1..1 | dateTime | ClinicalDocument/legalAuthenticator/ time/@value | |
| Composition > attester (Legal Attester) > party | Who attested the composition in the specified way. | 1..1 | Reference (Patient with Mandatory Identifier My Health Record Patient Practitioner with Mandatory Identifier) | ClinicalDocument/legalAuthenticator/ assignedEntity | |
| Composition > attester (Legal Attester) > attester-related-party | A related person that attested this composition. | 0..1 | Reference (Related-Person with Mandatory Identifier) | ClinicalDocument/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 with Mandatory Identifier) | ClinicalDocument/ custodian | custodian SHALL conform to the template defined in custodian (Organization with Mandatory Identifier). |
| Composition > section (Advance Care Information) | A section that contains a statement of a person's decisions about their future care, should they become incapable of participating in medical treatment decisions. | 1..1 | BackboneElement | ClinicalDocument/component/structuredBody/ component[aci] | |
| | | | | ClinicalDocument/component/structuredBody/component[aci]/ section | section SHALL conform to the template defined in section (Advance Care Information). |

¹This value set differs from the value set bound to status in the Agency logical model (see [Advance Care Records FHIR Implementation Guide \[DH2020h\]](#)) 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 Section CDA templates

This chapter defines the `section` templates referenced by a `ClinicalDocument` template for a document-level model in [6 Document CDA templates](#).

7.1 section (Advance Care Information)

This template is referenced by [Composition \(Advance Care Planning\)](#).

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 section that contains a statement of a person's decisions about their future care, should they become incapable of participating in medical treatment decisions. | Cardinality comes from linking element | BackboneElement | section[aci] | |
| | | | | section[aci]/templateId | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | section[aci]/templateId/@root="1.2.36.1.2001.1001.102.101.100009" | |
| 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[aci]/title | When sending a GoC document, title is expected to include "Goals of Care". |
| 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[aci]/code | |
| | | | | section[aci]/code/@code="101.16973" | |
| | | | | section[aci]/code/@codeSystem="1.2.36.1.2001.1001.101" | NCTIS Data Components |
| | | | | component/structuredBody/component[aci]/section/code/@displayName | displayName SHOULD be "Advance Care Information Section". |
| 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[aci]/text | |

| Logical element | Logical element description | Logic- al 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. | 1..1 | Reference(DocumentReference as Advance Care Planning Document Reference) | section[aci]/ entry[doc_ref_acp] | |
| | | | | section[aci]/entry[doc_ref_acp]/ act | act SHALL conform to the template defined in act (Advance Care Planning Document Reference) . |

8 Participation CDA templates

This chapter defines the participation templates referenced other templates such as those in [7 Section CDA templates](#) and [6 Document CDA templates](#).

8.1 recordTarget (My Health Record Patient)

This template is referenced by [Composition \(Advance Care Planning\)](#).

See [Legend - CDA mapping table for logical elements](#) for an explanation of mapping table presentation.

CDA mapping

| Logical element | Logical element description | Logic- al 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. | Cardinal- ity comes from linking element | Patient | recordTarget | recordTarget/patientRole/telecom SHALL NOT be present. recordTarget/patientRole/addr SHALL NOT be present. |
| | | | | recordTarget/templateId | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | recordTarget/templateId/@root="1.2.36.1.2001.1001.102.101.100091" | |
| | | | | recordTarget/patientRole | |
| | | | | 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 AU Base Address . |
| Patient > indigenous-status | National Health Data Dictionary (NHDD) based indigenous status for a patient. | 1..1 | Coding | recordTarget/patientRole/patient/ethnicGroupCode | Australian Indigenous Status (required) |

| Logical element | Logical element description | Logic- al 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-regis- tration | 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-mothersMaid- enName | 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 | The logical cardinality of identifier is 1..*. In this template the minimum cardinality is satisfied by supplying a National Individual Healthcare Identifier (ext:asEntityIdentifier[ihi]). The common pattern Entity Identifier SHALL be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier . |

| Logical element | Logical element description | Logical card | Logical type | CDA schema element | CDA constraints and comments |
|---|---|--------------|----------------------------|---|---|
| Patient > identifier (National Individual Healthcare Identifier (IHI)) | National Healthcare Identifier (IHI) for the patient. | 1..1 | Identifier | recordTarget/patientRole/patient/ext:asEntityIdentifier[ihi] | In CDA, an Individual Healthcare Identifier (IHI) is sent as the last arc of an OID. For example an IHI of 8003608833357361 would be sent as 1.2.36.1.2001.1003.0.8003608833357361. If present, ext:asEntityIdentifier[ihi]/ext:assigningGeographicArea/ext:name SHALL be "National Identifier". |
| | | | | recordTarget/patientRole/patient/ext:asEntityIdentifier[ihi]/@classCode="IDENT" | |
| | | | | recordTarget/patientRole/patient/ext:asEntityIdentifier[ihi]/ext:id | ext:id/@extension SHALL NOT be present. |
| | | | | recordTarget/patientRole/patient/ext:asEntityIdentifier[ihi]/ext:id/@root | root SHALL be an OID. root SHALL have the OID arcs "1.2.36.1.2001.1003.0" preceding the IHI value. The IHI value (last arc of the root OID) prefix SHALL be "800360". The IHI value (last arc of the root OID) SHALL pass the Luhn algorithm check. |
| | | | | recordTarget/patientRole/patient/ext:asEntityIdentifier[ihi]/ext:id/@assigningAuthorityName="IHI" | |
| 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. | 1..* | Base HumanName | recordTarget/patientRole/patient/name | At least one name SHALL contain a family name (name/family). The model Base HumanName is not applied to name. Recommended mappings for this logical type to CDA (R2) are available: Base HumanName . |
| Patient > gender | Administrative Gender - the gender that the patient is considered to have for administration and record keeping purposes. | 1..1 | code | recordTarget/patientRole/patient/administrativeGenderCode | AdministrativeGender (required) ¹ |
| Patient > birthDate | The date of birth for the individual. | 1..1 | date | recordTarget/patientRole/patient/birthTime | |

| Logical element | Logical element description | Logi- al card | Logical type | CDA schema element | CDA constraints and comments |
|--|--|---------------------|--|---|---|
| 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) |
| 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) |

| Logical element | Logical element description | Logical card | Logical type | CDA schema element | CDA constraints and comments |
|--|---|--------------|---|--|---|
| CDA Header Data Elements | | | | Context: /ClinicalDocument/ | |
| 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) . |
| 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 (Base Organization 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 (Base Organization) | recordTarget/patientRole/ providerOrganization | providerOrganization SHALL conform to the template defined in providerOrganization (Base Organization) . |

¹This 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.

8.2 recordTarget (Patient with Mandatory Identifier)

This template is referenced by [Composition \(Advance Care Planning\)](#).

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 | Patient | recordTarget | |
| | | | | recordTarget/templated | The use of templated signals the imposition of a set of template-defined constraints. |
| | | | | recordTarget/templated/@root="1.2.36.1.2001.1001.102.101.100004" | |
| | | | | recordTarget/patientRole | |
| | | | | recordTarget/patientRole/id | id/@root SHALL be present and it SHALL be a UUID or an OID. |
| 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 AU Base Address . |
| Patient > indigenous-status | National Health Data Dictionary (NHDD) based indigenous status for a patient. | 0..1 | Coding | recordTarget/patientRole/patient/ethnicGroupCode | 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-mothersMaid-enName | 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 | 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. |
| Patient > name | A name associated with the individual. | 0..* | 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: Base HumanName . |

| Logical element | Logical element description | Logical card | Logical type | CDA schema element | CDA constraints and comments |
|--|--|--------------|--|---|---|
| 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 | 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 | 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 | |
| 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) |
| 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 | |

| 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 > 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 | Recommended mappings for this logical type to CDA (R2) are available: Address 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) . |
| 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 | |

| 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 (Base Organization 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 (Base Organization) | recordTarget/patientRole/ providerOrganization | providerOrganization SHALL conform to the template defined in providerOrganization (Base Organization) . |

¹This 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.

8.3 participant (Patient contact)

This template is referenced by [recordTarget \(Patient with Mandatory Identifier\)](#), and [recordTarget \(My Health Record Patient\)](#).

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: <ul style="list-style-type: none"> name (participant[pat_contact]/associatedEntity/associatedPerson/name), or telecom (participant[pat_contact]/associatedEntity/telecom), or address (participant[pat_contact]/associatedEntity/address), or organization (participant[pat_contact]/associatedEntity/scopingOrganization) |
| | | | | participant[pat_contact]/@typeCode="IND" | |
| | | | | participant[pat_contact]/templateId | |
| | | | | participant[pat_contact]/templateId/@root="1.2.36.1.2001.1001.102.101.100056" | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | 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) |
| Patient > contact > name | A name associated with the contact person. | 0..1 | 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: Base HumanName . |

| Logical element | Logical element description | Logical card | Logical type | CDA schema element | CDA constraints and comments |
|---|--|--------------|---|---|---|
| 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 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 (Base Organization) | 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. |

¹This 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.

8.4 participant (Organization contact)

This template is referenced by [participant \(generalPractitioner Base Organization\)](#), [custodian \(Organization with Mandatory Identifier\)](#), [providerOrganization \(Base Organization\)](#), [represente-dOrganization \(Base Organization\)](#), [scopingOrganization \(Base Organization\)](#), and [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 |
|---|---|--|---------------------------------|---|---|
| CDA Header Data Elements | | | | Context: /ClinicalDocument/ | |
| Organization > contact | Contact for the organization for a certain purpose. | Cardinality comes from linking element | Organization | 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]/associatedEntity | |
| | | | | participant[org_contact]/associatedEntity/@classCode="CON" | |
| | | | | participant[org_contact]/associatedEntity/scopingOrganization | |
| | | | | participant[org_contact]/associatedEntity/scopingOrganization/id | <p>Organization > contact is represented in CDA by a participant that is scoped by the Organization for which they are a contact.</p> <p>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).</p> <p>id/@root SHALL be present and it SHALL be a UUID or an OID.</p> |
| Organization > contact > purpose | Indicates a purpose for which the contact can be reached. | 0..1 | CodeableConcept | participant[org_contact]/associatedEntity/code | <p>code/originalText or code/@displayName SHALL be included.</p> <p>Contact entity type (extensible)¹</p> |
| Organization > contact > name | A name associated with the contact. | 0..1 | Base HumanName | participant[org_contact]/associatedEntity/associatedPerson | |
| | | | | participant[org_contact]/associatedEntity/associatedPerson/name | <p>The model Base HumanName is not applied to name.</p> <p>Recommended mappings for this logical type to CDA (R2) are available: Base HumanName.</p> |
| 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 AU Base Address . |

¹This value set differs from the value set bound to contact purpose in the Agency logical model (see [Advance Care Records FHIR Implementation Guide \[DH2020h\]](#)) due to pre-adoption of FHIR Release 4 terminology.

8.5 participant (generalPractitioner Base Organization)

This template is referenced by [recordTarget \(Patient with Mandatory Identifier\)](#), and [recordTarget \(My Health Record Patient\)](#).

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 | Organization | participant[gen_prac] | Organization SHALL have at least: |
| | | | | participant[gen_prac]/@typeCode="PART" | <ul style="list-style-type: none"> • identifier (participant[gen_prac]/associatedEntity/scopingOrganization/ext:asEntityIdentifier), or • name (participant[gen_prac]/associatedEntity/scopingOrganization/name) |
| | | | | 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]/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 | <p>The common pattern Entity Identifier SHALL be applied.</p> <p>Recommended mappings for this logical type to CDA (R2) are available: Identifier.</p> |
| 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 | <p>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.</p> <p>code/originalText or code/@displayName SHALL be included.</p> <p>OrganizationType (example)</p> |

| Logical element | Logical element description | Logical 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 AU Base Address . |
| Organization > partOf | The organization of which this organization forms a part. | 0..1 | Reference (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) . |

¹This 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.

²This 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.

8.6 participant (generalPractitioner Base Practitioner)

This template is referenced by [recordTarget \(Patient with Mandatory Identifier\)](#), and [recordTarget \(My Health Record Patient\)](#).

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 | Practitioner | participant[gen_prac] | Practitioner SHALL have at least: <ul style="list-style-type: none"> 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]/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..* | 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: 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 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 | n/a | This logical element has no mapping to CDA. |
| Practitioner > qualification | Qualifications obtained by training and certification. | 0..* | BackboneElement | See: instantiation choices | <p>It is possible that the qualification may be able to be captured as a complex structure or as a text list.</p> <p>instantiation choices:</p> <p>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.</p> <p>If more information can be captured than a narrative list then qualification is expected to be instantiated as ClinicalDocument/component/structuredBody/component[admin_obs]/section/ext:coverage2[prac_qual] and SHALL conform to the template defined in ext:coverage2 (Practitioner qualification).</p> |
| 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. |

8.7 author (My Health Record Patient)

This template is referenced by [Composition \(Advance Care Planning\)](#).

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 | Patient | author | author/assignedAuthor/telecom SHALL NOT be present. author/assignedAuthor/addr SHALL NOT be present. |
| | | | | author/templatedId | The use of templatedId signals the imposition of a set of template-defined constraints. |
| | | | | author/templatedId/@root="1.2.36.1.2001.1001.102.101.100029" | |
| | | | | 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" | v3 Code System RoleCode |
| | | | | author/assignedAuthor/assignedPerson | |
| Patient > birthPlace | The registered place of birth of the patient. A system 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. |
| 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. |

| Logical element | Logical element description | Logical card | Logical type | CDA schema element | CDA constraints and comments |
|---|---|--------------|--|---|---|
| Patient > identifier | An identifier for this patient. | 1..* | Identifier | author/assignedAuthor/assignedPerson/ ext:asEntityIdentifier | The logical cardinality of identifier is 1..*. In this template the minimum cardinality is satisfied by supplying a National Individual Healthcare Identifier (ext:asEntityIdentifier[ihi]). The common pattern Entity Identifier SHALL be applied. Recommended mappings for this logical type to CDA (R2) are available: Identifier . |
| Patient > identifier (National Individual Healthcare Identifier (IHI)) | National Healthcare Identifier (IHI) for the patient. | 1..1 | Identifier | author/assignedAuthor/assignedPerson/ ext:asEntityIdentifier[ihi] | In CDA, an Individual Healthcare Identifier (IHI) is sent as the last arc of an OID. |
| | | | | author/assignedAuthor/assignedPerson/ext:asEntityIdentifier[ihi]/ @classCode="IDENT" | For example an IHI of 8003608833357361 would be sent as 1.2.36.1.2001.1003.0.8003608833357361. If present, ext:asEntityIdentifier[ihi]/ext:assigningGeographicArea/ext:name SHALL be "National Identifier". |
| | | | | author/assignedAuthor/assignedPerson/ext:asEntityIdentifier[ihi]/ ext:id | ext:id/@extension SHALL NOT be present. |
| | | | | author/assignedAuthor/assignedPerson/ext:asEntityIdentifier[ihi]/ ext:id/@root | root SHALL be an OID. root SHALL have the OID arcs "1.2.36.1.2001.1003.0" preceding the IHI value. The IHI value (last arc of the root OID) prefix SHALL be "800360". The IHI value (last arc of the root OID) SHALL pass the Luhn algorithm check. |
| | | | | author/assignedAuthor/assignedPerson/ext:asEntityIdentifier[ihi]/ ext:id/@assigningAuthorityName="IHI" | |
| 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. | 1..* | Base HumanName | author/assignedAuthor/assignedPerson/ name | The model Base HumanName is not applied to name. At least one name SHALL contain a family name (name/family). Recommended mappings for this logical type to CDA (R2) are available: Base HumanName . |
| 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. |

| Logical element | Logical element description | Logical card | Logical type | CDA schema element | CDA constraints and comments |
|---------------------------------------|---|--------------|---|--------------------|---|
| 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. |
| Patient > generalPractitioner | Patient's nominated care provider. | 0..* | Reference (Base Organization 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 (Base Organization) | n/a | This logical element has no mapping to CDA. |

¹This 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.

8.8 author (Patient with Mandatory Identifier)

This template is referenced by [act \(Advance Care Planning Document Reference\)](#).

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 | Patient | author | Patient SHALL have at least: <ul style="list-style-type: none"> name (author/assignedAuthor/assignedPerson/name), or identifier (author/assignedAuthor/assignedPerson/ext:asEntityIdentifier) |
| | | | | author/templatedId | The use of templatedId signals the imposition of a set of template-defined constraints. |
| | | | | author/templatedId/@root="1.2.36.1.2001.1001.102.101.100003" | |
| | | | | 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" | v3 Code System RoleCode |
| | | | | author/assignedAuthor/assignedPerson | |
| Patient > birthPlace | The registered place of birth of the patient. A system 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..* | 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: 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 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. |
| Patient > generalPractitioner | Patient's nominated care provider. | 0..* | Reference (Base Organization Base Practitioner) | 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 > managingOrganization | Organization that is the custodian of the patient record. | 0..1 | Reference (Base Organization) | n/a | This logical element has no mapping to CDA. |

¹This 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.

8.9 author (RelatedPerson with Mandatory Identifier)

This template is referenced by [act \(Advance Care Planning Document Reference\)](#).

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 elements | RelatedPerson | 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/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" | v3 Code System RoleClass |
| | | | | 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 (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 | Logic- al card | Logical type | CDA schema element | CDA constraints and comments |
|----------------------------------|---|----------------------|------------------------------|---|--|
| RelatedPerson > name | A name associated with the person. | 0..* | 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: 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 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. |

¹This 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.

8.10 author (PractitionerRole with Practitioner with Mandatory Identifier)

This template is referenced by [Composition \(Advance Care Planning\)](#), and [act \(Advance Care Planning Document Reference\)](#).

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 | PractitionerRole | 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/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 | <p>In CDA the identifier for both PractitionerRole and Practitioner for an author participation are included in assignedPerson/ext:asEntityIdentifier.</p> <p>When sending to the My Health Record, an HPI-I is expected.</p> <p>The cardinality of ext:asEntityIdentifier SHALL be interpreted as 1..*.</p> <p>The common pattern Entity Identifier SHALL be applied.</p> <p>Recommended mappings for this logical type to CDA (R2) are available: Identifier.</p> |
| 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 organization. | 1..1 | Reference (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 (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(Health-careService) | 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. |

¹Note: The source representation of this terminology binding on code in PractitionerRole with Practitioner with Mandatory Identifier [DH2020h] 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.

8.11 custodian (Organization with Mandatory Identifier)

This template is referenced by [Composition \(Advance Care Planning\)](#).

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 | Organization | 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/ 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 representedCustodian-Organization/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 representedCustodian-Organization/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 AU Base Address . |
| Organization > partOf | The organization of which this organization forms a part. | 0..1 | Reference (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) . |

¹This 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.

²This 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 Entity CDA templates

This chapter contains the entity templates referenced by a participation template in [8 Participation CDA templates](#).

9.1 providerOrganization (Base Organization)

This template is referenced by [recordTarget \(Patient with Mandatory Identifier\)](#), and [recordTarget \(My Health Record Patient\)](#).

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 | Organization | providerOrganization | Organization SHALL have at least: <ul style="list-style-type: none"> • 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/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 AU Base Address . |
| Organization > partOf | The organization of which this organization forms a part. | 0..1 | Reference (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) . |

¹This 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.

²This 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.

9.2 representedOrganization (Base Organization)

This template is referenced by [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 | |
| 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 | Organization | representedOrganization | Organization SHALL have at least: <ul style="list-style-type: none"> name (representedOrganization/name), or identifier (representedOrganization/ext:asEntityIdentifier) |
| | | | | representedOrganization/templatedId | The use of templatedId signals the imposition of a set of template-defined constraints. |
| | | | | representedOrganization/templatedId/@root="1.2.36.1.2001.1001.102.101.100039" | |
| | | | | 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 AU Base Address . |
| Organization > partOf | The organization of which this organization forms a part. | 0..1 | Reference (Base Organization) | representedOrganization/ asOrganizationPartOf | wholeOrganization SHALL conform to the template defined in wholeOrganization (Base Organization) . |
| | | | | representedOrganization/asOrganizationPartOf/ wholeOrganization | |
| 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) . |

¹This 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.

9.3 assignedPerson (Practitioner with Mandatory Identifier)

This template is referenced by [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 | | |
| Practitioner | A person who is directly or indirectly involved in the provisioning of healthcare. | Cardinality comes from linking element | Practitioner | 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" | |
| 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..* | Base HumanName | assignedPerson/name | The model Base HumanName is not applied to name. Recommended mappings for this logical type to CDA (R2) are available: 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 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 | 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 |
|-------------------------------------|--|--------------|---------------------------------|--|---|
| Practitioner > qualification | Qualifications obtained by training and certification. | 0..* | BackboneElement | See: instantiation choices | <p>It is possible that the qualification may be able to be captured as a complex structure or as a text list.</p> <p>instantiation choices:</p> <p>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.</p> <p>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:coverage2 (Practitioner qualification):</p> <ul style="list-style-type: none"> qualification for a Practitioner SHALL be instantiated in the same section e.g. qualification for an AllergyIntolerance recorder is expected to be instantiated as ClinicalDocument/component/structuredBody/component[allergy]/section/ext:coverage2[prac_qual], or qualification for a CDA Header Practitioner (e.g. ClinicalDocument author) SHALL be instantiated as ClinicalDocument/component/structuredBody/component[admin_obs]/section/ext:coverage2[prac_qual] |
| 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. |

9.4 wholeOrganization (Base Organization)

This template is referenced by [participant \(generalPractitioner Base Organization\)](#), [providerOrganization \(Base Organization\)](#), [representedOrganization \(Base Organization\)](#), [scopingOrganization \(Base Organization\)](#), and [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 | Organization | wholeOrganization | Organization SHALL have at least: <ul style="list-style-type: none"> 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/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. |

| 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 | wholeOrganization/ 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 | wholeOrganization/ addr | addr/@use Organization Address Use HL7 V3 (required) ² . Recommended mappings for this logical type to CDA (R2) are available: Address AU Base Address . |
| Organization > partOf | The organization of which this organization forms a part. | 0..1 | Reference (Base Organization) | wholeOrganization/ asOrganizationPartOf | wholeOrganization/asOrganizationPartOf/wholeOrganization SHALL conform to the template defined in wholeOrganization (Base Organization) . |
| | | | | wholeOrganization/asOrganizationPartOf/ wholeOrganization | |
| 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) . |

¹This 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.

²This 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.

9.5 scopingOrganization (Base Organization)

This template is referenced by [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 |
|---|---|--|---------------------------------|--|--|
| 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 | Organization | scopingOrganization | Organization SHALL have at least: <ul style="list-style-type: none"> 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/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 AU Base Address . |
| Organization > partOf | The organization of which this organization forms a part. | 0..1 | Reference (Base Organization) | scopingOrganization/ asOrganizationPartOf | wholeOrganization SHALL conform to the template defined in wholeOrganization (Base Organization) . |
| | | | | scopingOrganization/asOrganizationPartOf/ wholeOrganization | |
| 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) . |

¹This 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.

²This 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.

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 [7 Section CDA templates](#).

10.1 act (Advance Care Planning Document Reference)

This template is referenced by [section \(Advance Care Information\)](#).

See [Legend - CDA mapping table for logical elements](#) for an explanation of mapping table presentation.

CDA mapping

| Logical element | Logical element description | Logic-al card | Logical type | CDA schema element | CDA constraints and comments |
|---|--|---|--|---|--|
| Conformance level comes from linking elements | | | | Context: Context: Comes from linking elements | |
| DocumentReference | A reference to a document. | Cardinal-ity comes from linking element | DocumentReference | act | |
| | | | | 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="1.2.36.1.2001.1001.102.101.100013" | |
| | | | | act/code | |
| | | | | act/code/@code="102.16971" | |
| | | | | act/code/@codeSystem="1.2.36.1.2001.1001.101" | NCTIS Data Components |
| | | | | act/code/@displayName | displayName SHOULD be "Related Document". |
| DocumentReference > 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 with Practitioner with Mandatory Identifier) | act/author | author SHALL conform to the template defined in author (PractitionerRole with Practitioner with Mandatory Identifier) . |
| DocumentReference > master-identifier | Document identifier as assigned by the source of the document. This identifier is specific to this version of the document. This unique identifier may be used elsewhere to identify this version of the document. | 0..1 | Identifier | act/reference[content]/externalDocument/id[master] | |

86 Draft for external use 16 April 2020
 Draft version 006 DH-XXXX:2020

| Logical element | Logical element description | Logical card | Logical type | CDA schema element | CDA constraints and comments |
|---|--|--------------|---|--|---|
| DocumentReference > indexed | When the document reference was created. | 1..1 | instant | n/a | This logical element has no mapping to CDA. |
| DocumentReference > author | Identifies who is responsible for adding the information to the document. | 1..1 | Reference (Practitioner with Mandatory Identifier Patient with Mandatory Identifier My Health Record Patient RelatedPerson with Mandatory Identifier) | act/ author | <p>If the author is a patient, when sending to the My Health Record author (My Health Record Patient) is expected.</p> <p>In CDA an author (Practitioner) is part of an author-role; if the author is a practitioner then author-role SHALL be instantiated.</p> <p>author SHALL conform to a template defined in author (Patient with Mandatory Identifier) or author (My Health Record Patient) or author (RelatedPerson with Mandatory Identifier) or author (PractitionerRole with Practitioner with Mandatory Identifier).</p> |
| DocumentReference > description | Human-readable description of the source document. This is sometimes known as the 'title'. | 0..1 | string | act/ text | |
| DocumentReference > content | The document and format referenced. There may be multiple content element repetitions, each with a different format. | 1..1 | BackboneElement | act/ reference[content] | |
| | | | | act/reference[content]/ @typeCode="REFR" | |
| | | | | act/reference[content]/ externalDocument | |
| | | | | act/reference[content]/externalDocument/ @classCode="DOC" | |
| DocumentReference > content > attachment | The document or URL of the document along with critical metadata to prove content has integrity. | 1..1 | Attachment | act/reference[content]/externalDocument/ text | <p>When sending a to the My Health Record, a PDF is expected.</p> <p>The link SHALL also be present in the corresponding CDA <linkHtml> element</p> <p>Recommended mappings for the complex data type to CDA (R2): Attachment.</p> <p>text/@nullFlavor SHALL NOT be present.</p> |

10.2 ext:coverage2 (Practitioner qualification)

This template is referenced by [participant \(generalPractitioner Base Practitioner\)](#), and [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 |
|--|---|--|---------------------------------|--|---|
| 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]/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" />
      </ext:personalRelationship>
    </associatedPerson>
  </associatedEntity>
</participant>
```



```
<!--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 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 | v3 Code System LanguageAbilityMode (preferred) |
| | ext:languageCommunication/proficiencyLevelCode | | 0..1 | v3 Code System LanguageAbilityProficiency (preferred) |
| | ext:languageCommunication/preferenceInd | | 0..1 | This CDA schema element is of type Boolean (BL). |

Examples

Example 11.9. Language Communication - English is preferred

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

Example 11.10. Language Communication - Pitjantjatjara is preferred

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

Example 11.11. 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 [\[HL7V3\]](#) 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". ext:code/originalText or ext:code/@displayName SHALL be included. 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 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 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. |

| Logical element | Logical element description | Logic- al card | Logical type | CDA schema element | CDA constraints and comments |
|------------------------------|---|----------------------|--|----------------------------|--|
| 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. |
| Identifier > assigner | Organization that issued/manages the identifier. | 0..1 | Reference (Organ- ization) | See: instantiation choices | instantiation choices: 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=Medicare 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"/>
      </ext:asEntityIdentifier>
    </patient>
  </patientRole>
</recordTarget>
```

```

    <!-- 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 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 [\[HL7V3\]](#) 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 | |

¹This 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>
```

</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 [HL7V3] 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 | |

¹This 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.

²This 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 Lougoraia 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 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 [HL7V3] 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 | |

¹This 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.

²This 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 [\[HL7V3\]](#) 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 | |

¹This 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 Attachment

This informative appendix provides some guidance on how the complex data type [Attachment](#), referenced in the body of this specification can map to CDA (R2). The mapping table below provides a set of preferred mappings and do not represent conformance requirements.

CDA mapping

| Logical element | Logical element description | Logical card | Logical type | CDA schema element | CDA constraints and comments |
|---------------------------------|--|--|------------------------------|-----------------------------------|---|
| Attachment | For referring to data content defined in other formats. | Cardinality comes from linking element | Element | n/a | In CDA this is equivalent to the data type EncapsulatedData (ED). If data is present, contentType SHALL be present. |
| Attachment > contentType | Identifies the type of the data in the attachment and allows a method to be chosen to interpret or render the data. Includes mime type parameters such as charset where appropriate. | 0..1 | code | // mediaType | This CDA schema element is of type CodedSimpleValue (CS). MimeType (required) The preferred value set for HL7 CDA is defined in <i>HL7 Version 3 Standard [HL7V3]</i> but may be further constrained by requirements in <i>Advance Care Planning - My Health Record Conformance Profile [DH2020n]</i> . |
| Attachment > language | The human language of the content. The value can be any valid value according to BCP 47. | 0..1 | code | // language | This CDA schema element is of type CodedSimpleValue (CS). Common Languages in Australia (extensible) |
| Attachment > data | The actual data of the attachment - a sequence of bytes. In XML, represented using base64. | 0..1 | base64Binary | // @representation="B64" | |
| | | | | n/a | In CDA, the inline data is included as part of the encapsulated data value (e.g. between the opening and closing XML tags) of the CDA schema element. |
| Attachment > url | An alternative location where the data can be accessed. | 0..1 | uri | // reference | |
| | | | | //reference/ @value | |
| Attachment > size | The number of bytes of data that make up this attachment (before base64 encoding, if that is done). | 0..1 | unsignedInt | n/a | This logical element has no mapping to CDA. |
| Attachment > hash | The calculated hash of the data using SHA-1. Represented using base64. | 0..1 | base64Binary | // integrityCheck | |
| | | | | // integrityCheckAlgorithm | This CDA schema element is of type CodedSimpleValue (CS). |
| Attachment > title | A label or set of text to display in place of the data. | 0..1 | string | n/a | This logical element has no mapping to CDA. In CDA, attachment title may be captured in the parent act and/or section narrative. |
| Attachment > creation | The date that the attachment was first created. | 0..1 | dateTime | n/a | This logical element has no mapping to CDA. In CDA, attachment creation may be captured in the parent act and/or section narrative. |

Examples

Example A.19. Attachment - diagnostic report pdf

```
<entry>
  <observation classCode="OBS" moodCode="EVN">
    <!-- DiagnosticReport.code -->
    <code code="275711006" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
      displayName="Serum Chemistry Test" xsi:type="CD"/>
    <!-- DiagnosticReport.presentedForm[Attachment].hash=IiZNlyLY4gyewfICeWhFe2NcDDw=,
      DiagnosticReport.presentedForm[Attachment].contentType=application/pdf,
      DiagnosticReport.presentedForm[Attachment].url=http://foo.org/documents/DiagnosticReport.pdf -->
    <text integrityCheck="IiZNlyLY4gyewfICeWhFe2NcDDw="
      mediaType="application/pdf">
      <reference value="DiagnosticReport.pdf"/>
    </text>
  </observation>
</entry>
```

Example A.20. Attachment - base64 representation

```
<entry>
  <!-- Attachment -->
  <observationMedia classCode="OBS" moodCode="EVN">
    <!-- Attachment.data -->
    <value representation="B64">VGhpcyBpcyBCYXN1LTY0IGVuY29kZWQgdGV4C4NCg</value>
  </observationMedia>
</entry>
```

Example A.21. Attachment - anatomical image jpeg

```
<entry>
  <!-- Attachment -->
  <observationMedia classCode="OBS" moodCode="EVN">
    <!-- Attachment.contentType=image/jpeg,
      Attachment.url=http://foo.org/images/left_hand_image.jpeg -->
    <value mediaType="image/jpeg">
      <reference value="left_hand_image.jpeg"/>
    </value>
  </observationMedia>
</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) |
|---|---------|-------------------|
| Advance Care Planning example 1 | TBD | TBD |
| Advance Care Planning example 2 | TBD | TBD |
| Advance Care Planning 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 [Advance Care Records FHIR Implementation Guide \[DH2020h\]](#).

B.1 Advance Care Planning example 1

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

Example B.1. Advance Care Plan Level 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" xsi:schemaLocation="urn:hl7-org:v3 .
<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"/>
<!-- Advance Care Planning document model templateId -->
<templateId root="1.2.36.1.2001.1001.102.101.100016" extension="1.0"/>
<!-- CDA Rendering Specification templateId -->
<templateId root="1.2.36.1.2001.1001.100.226" extension="1.0" />
<id root="2.25.134045617645909421812767683577428735500" />
<code code="100.16975" codeSystem="1.2.36.1.2001.1001.101" codeSystemName="NCTIS Data Components" displayName="Advance Care Planning"/>
<title>Advance Care Planning Document</title>
<effectiveTime value="20170621090015+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="ac0cbaae-f63c-4472-a0ee-268ff8f1f661" />
<!-- Patient.address -->
<addr nullFlavor="MSK" />
<patient>
<!-- Patient.name -->
<name use="C">
<family>Everyman</family>
<given>Adam</given>
<given>A.</given>
</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>
</patientRole>
</recordTarget>
<!-- author (Patient with mandatory identifier) -->
<author typeCode="AUT">
<templateId root="1.2.36.1.2001.1001.102.101.100003" extension="1.0" />
<!-- Composition.date -->
<time value="20170621090015+1000" />
<assignedAuthor>
<id root="ac0cbaae-f63c-4472-a0ee-268ff8f1f661" />
<code code="ONESELF" codeSystem="2.16.840.1.113883.5.111" />
<assignedPerson>
<!-- Patient.name -->
<name use="L">
<given>Damo</given>
</name>
<!-- 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>
</assignedPerson>
</assignedAuthor>
</author>
<!-- custodian (Organization) -->
<custodian>
<templateId root="1.2.36.1.2001.1001.102.101.100002" extension="1.0" />
<assignedCustodian>
<representedCustodianOrganization>
<id root="987d6a7e-6264-43b0-8666-a14e1d1bf91" />
<!-- Organization.identifier -->
<ext:asEntityIdentifier classCode="IDENT">
<ext:id root="1.2.36.1.2001.1007.1.8003640001000036" assigningAuthorityName="PAI-0" />
<ext:assigningGeographicArea classCode="PLC">
<ext:name>National Identifier</ext:name>
</ext:assigningGeographicArea>
</ext:asEntityIdentifier>
</representedCustodianOrganization>
</assignedCustodian>
</custodian>
```

```
<component>
<structuredBody>
  <!-- section (Advance Care Information Section) -->
  <component>
    <section>
      <templateId root="1.2.36.1.2001.1001.102.101.100009" extension="1.0" />
      <!-- section.code -->
      <code code="101.16973" codeSystem="1.2.36.1.2001.1001.101" displayName="Advance Care Information Section"/>
      <!-- section.title -->
      <title>Advance Care Planning</title>
      <!-- section.text -->
      <text mediaType="text/x-hl7-text+xml">
        <paragraph>
          <linkHtml href="attachment.pdf">Advance Care Plan for Adam</linkHtml>
        </paragraph>
        <paragraph>Created on: 03 November 2009</paragraph>
        <paragraph>Created by: Adam Everyman</paragraph>
      </text>
      <entry>
        <!-- DocumentReference -->
        <act classCode="ACT" moodCode="EVN">
          <templateId root="1.2.36.1.2001.1001.102.101.100013" extension="1.0"/>
          <code code="102.16971" codeSystem="1.2.36.1.2001.1001.101" displayName="Related Document"/>

          <!-- DocumentReference.status -->
          <statusCode code="active"/>

          <!-- DocumentReference.created -->
          <effectiveTime value="200911031235+1000"/>

          <!-- DocumentReference.author (Patient with mandatory identifier) -->
          <author typeCode="AUT">
            <templateId root="1.2.36.1.2001.1001.102.101.100003" extension="1.0" />
            <time value="200911031235+1000"/>
            <assignedAuthor>
              <id root="ac0cbaae-f63c-4472-a0ee-268ff8f1f661" />
              <code code="ONESELF" codeSystem="2.16.840.1.113883.5.111"/>
              <assignedPerson>
                <!-- 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>
              </assignedPerson>
            </assignedAuthor>
          </author>

          <reference typeCode="REFR">
            <externalDocument classCode="DOC">
              <!-- DocumentReference.identifier & DocumentReference.msaterIdentifier -->
              <id root="31c45290-2883-11z2-81c1-0800000c9a67"/>
              <!-- DocumentReference.type -->
              <code code="100.16998" codeSystem="1.2.36.1.2001.1001.101" displayName="Advance Care Planning Document"/>
              <!-- DocumentReference.content.attachment -->
              <text integrityCheck="IiZNlyLY4gyewfICeWhFe2NcDDw=" mediaType="application/pdf">
                <reference value="attachment.pdf" />
              </text>
            </externalDocument>
          </reference>

        </act>
      </entry>
    </section>
  </component>
</structuredBody>
</component>
</ClinicalDocument>
```

B.2 Advance Care Planning example 2

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

Example B.2. Advance Care Plan Level 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"
<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"/>
<!-- Advance Care Planning document model templateId -->
<templateId root="1.2.36.1.2001.1001.102.101.100016" extension="1.0"/>
<!-- CDA Rendering Specification templateId -->
<templateId root="1.2.36.1.2001.1001.100.226" extension="1.0"/>
<id root="2.25.134045617645909421812767683577428735500"/>
<code code="100.16975" codeSystem="1.2.36.1.2001.1001.101"
codeSystemName="NCTIS Data Components" displayName="Advance Care Planning"/>
<title>Advance Care Planning Document</title>
<effectiveTime value="20170621090015+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="ac0cbaae-f63c-4472-a0ee-268ff8f1f661"/>
<!-- Patient.address -->
<addr nullFlavor="MSK"/>
<patient>
<!-- Patient.name -->
<name use="C">
<given>Adam</given>
<given qualifier="IN">A.</given>
<family>Everyman</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>
</patientRole>
</recordTarget>
<!-- composition-author-role :: author (PractitionerRole with practitioner) -->
<author typeCode="AUT">
<templateId root="1.2.36.1.2001.1001.102.101.100006" extension="1.0"/>
<!-- Composition.date -->
<time value="20170621090015+1000"/>
<assignedAuthor>
<id root="1323691d-27fc-4583-a172-710a787aa204"/>
<!-- PractitionerRole.code -->
<code code="253111" codeSystem="2.16.840.1.113883.13.62"
displayName="General Practitioner">
<originalText>GP</originalText>
</code>
<!-- Practitioner.telecom -->
<telecom uses="WP" value="mailto:pchalmers@example.albiongp.com.au"/>
<!-- PractitionerRole.practitioner -->
<assignedPerson>
<!-- assignedPerson (Base Practitioner) -->
<templateId root="1.2.36.1.2001.1001.102.101.100040" extension="1.0"/>
<!-- Practitioner.name -->
<name use="C">
<prefix>Dr.</prefix>
<given>Peter</given>
<family>Chalmers</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>
</assignedPerson>
<!-- PractitionerRole.organization -->
```

```
<representedOrganization>
  <!-- representedOrganization (Base Organization) -->
  <templateId root="1.2.36.1.2001.1001.102.101.100039" extension="1.0"/>
  <!-- Organization.name -->
  <name>Albion GP Clinic</name>
  <!-- Organization.identifier -->
  <ext:asEntityIdentifier classCode="IDENT">
    <ext:id root="1.2.36.1.2001.1003.0.8003621566684455"
      assigningAuthorityName="HPI-O"/>
    <ext:assigningGeographicArea classCode="PLC">
      <ext:name>National Identifier</ext:name>
    </ext:assigningGeographicArea>
  </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="987d6a7e-6264-43b0-8666-a14e1dbff91"/>
      <!-- Organization.name -->
      <name>Albion GP Clinic</name>
      <!-- Organization.identifier -->
      <ext:asEntityIdentifier classCode="IDENT">
        <ext:id root="1.2.36.1.2001.1003.0.8003621566684455"
          assigningAuthorityName="HPI-O"/>
        <ext:assigningGeographicArea classCode="PLC">
          <ext:name>National Identifier</ext:name>
        </ext:assigningGeographicArea>
      </ext:asEntityIdentifier>
    </representedCustodianOrganization>
  </assignedCustodian>
</custodian>
<!-- attester (Legal Attester) -->
<legalAuthenticator>
  <templateId root="1.2.36.1.2001.1001.102.101.100012" extension="1.0"/>
  <time value="20170621090015+1000"/>
  <signatureCode code="S"/>
  <assignedEntity>
    <!-- attester (Legal Attester) indicating same entity as the author via the same id -->
    <id root="1323691d-27fc-4583-a172-710a787aa204"/>
  </assignedEntity>
</legalAuthenticator>

<component>
  <structuredBody>
    <!-- section (Advance Care Information Section) -->
    <component>
      <section>
        <templateId root="1.2.36.1.2001.1001.102.101.100009" extension="1.0"/>
        <!-- section.code -->
        <code code="101.16973" codeSystem="1.2.36.1.2001.1001.101"
          displayName="Advance Care Information Section"/>
        <!-- section.title -->
        <title>Advance Care Planning</title>
        <!-- section.text -->
        <text mediaType="text/x-hl7-text+xml" ID="ACP1">
          <paragraph>
            <linkHtml href="attachment.pdf">Advance Care Plan for Adam</linkHtml>
          </paragraph>
          <paragraph>Created on: 03 November 2009</paragraph>
          <paragraph>Created by: Dr. Peter Chalmers</paragraph>
          <paragraph>Document status: Final</paragraph>
        </text>
        <entry>
          <!-- DocumentReference -->
          <act classCode="ACT" moodCode="EVN">
            <templateId root="1.2.36.1.2001.1001.102.101.100013" extension="1.0"/>
            <code code="102.16971" codeSystem="1.2.36.1.2001.1001.101"
              displayName="Related Document"/>
            <text><reference value="#ACP1"/></text>

            <!-- DocumentReference.status -->
            <statusCode code="active"/>

            <!-- DocumentReference.created -->
            <effectiveTime value="200911031235+1000"/>

            <!-- DocumentReference.author (PractitionerRole with practitioner) -->
            <author typeCode="AUT">
              <templateId root="1.2.36.1.2001.1001.102.101.100006" extension="1.0"/>
              <time value="200911031235+1000"/>
              <assignedAuthor>
                <id root="1323691d-27fc-4583-a172-710a787aa204"/>
                <!-- PractitionerRole.practitioner -->
                <assignedPerson>
                  <!-- assignedPerson (Base Practitioner) -->
                  <templateId root="1.2.36.1.2001.1001.102.101.100040"
                    extension="1.0"/>
                  <!-- 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>
```

```
</assignedPerson>
</assignedAuthor>
</author>

<!-- DocumentReference.docStatus -->
<entryRelationship typeCode="COMP">
  <observation classCode="OBS" moodCode="EVN">
    <code code="103.20104" codeSystem="1.2.36.1.2001.1001.101"
      displayName="Document Status"/>
    <value xsi:type="CD" code="F"
      codeSystem="1.2.36.1.2001.1001.101.104.20104"
      displayName="Final"/>
  </observation>
</entryRelationship>

<reference typeCode="REFR">
  <externalDocument classCode="DOC">
    <!-- DocumentReference.identifier & DocumentReference.msaterIdentifier -->
    <id root="31c45290-2883-11z2-81c1-0800000c9a67"/>
    <!-- DocumentReference.type -->
    <code code="100.16998" codeSystem="1.2.36.1.2001.1001.101"
      displayName="Advance Care Planning Document"/>
    <!-- DocumentReference.content.attachment -->
    <text integrityCheck="IiZNlyLY4gyewfICeWhFe2NcDDw="
      mediaType="application/pdf">
      <reference value="attachment.pdf"/>
    </text>
  </externalDocument>
</reference>

</act>
</entry>
</section>
</component>

</structuredBody>
</component>
</ClinicalDocument>
```


B.3 Advance Care Planning example 3

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

Example B.3. Advance Care Plan Level 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"
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"/>
<!-- ClinicalDocument templateId -->
<templateId root="1.2.36.1.2001.1001.102.101.100033" extension="1.0"/>
<!-- Advance Care Planning document model templateId -->
<templateId root="1.2.36.1.2001.1001.102.101.100016" extension="1.0"/>
<!-- CDA Rendering Specification templateId -->
<templateId root="1.2.36.1.2001.1001.100.226" extension="1.0"/>
<id root="1323691d-27fc-4583-a172-710a787aa204"/>
<code code="100.16975" codeSystem="1.2.36.1.2001.1001.101"
codeSystemName="NCTIS Data Components" displayName="Advance Care Planning"/>
<title>Advance Care Planning Document</title>
<effectiveTime value="20170621090015+1000"/>
<confidentialityCode nullFlavor="NA"/>
<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="6caf1912-969f-4311-b6c0-b4ec7728db64"/>
<!-- Patient.address -->
<addr nullFlavor="MSK"/>
<patient>
<!-- 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="987d6a7e-6264-43b0-8666-a14e1d1bfff91"/>
<name>Devonport Family Medicine Clinic</name>
</wholeOrganization>
</asOrganizationPartOf>
</providerOrganization>
</patientRole>
</recordTarget>
<!-- composition-author-role :: author (PractitionerRole with practitioner) -->
<author typeCode="AUT">
<templateId root="1.2.36.1.2001.1001.102.101.100006" extension="1.0"/>
<!-- Composition.date -->
<time value="20170621090015+1000"/>
<assignedAuthor>
<id root="5cc8ab2f-9dd0-4d36-aed6-0e95bba3308f"/>
<!-- PractitionerRole.code -->
<code code="253111" codeSystem="2.16.840.1.113883.13.62"
displayName="General Practitioner">
<originalText>GP</originalText>
</code>
<!-- PractitionerRole.telecom -->
<telecom use="WP" value="mailto:pchalmer@example.albiongp.com.au"/>
<!-- PractitionerRole.practitioner -->
<assignedPerson>
<!-- assignedPerson (Base Practitioner) -->
<templateId root="1.2.36.1.2001.1001.102.101.100040" extension="1.0"/>
<!-- Practitioner.name -->
<name use="C">
<family>Chalmers</family>
<given>Peter</given>
<prefix>Dr.</prefix>
</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="987d6a7e-6264-43b0-8666-a14e1d1bfff91"/>
  <!-- Organization.name -->
  <name>Devonport Family Medicine Clinic</name>
  <!-- Organization.telecom -->
  <telecom use="WP" value="mailto:reception@example.dfmc.com.au"/>
  <telecom use="WP" value="fax:0385435557"/>
  <telecom use="WP" value="tel:0385435556"/>
  <!-- Organization.address -->
  <addr use="PST">
    <streetAddressLine>LPO Box 235</streetAddressLine>
    <city>Strahan</city>
    <state>TAS</state>
    <postalCode>7468</postalCode>
  </addr>
  <!-- Organization.identifier -->
  <ext:asEntityIdentifier classCode="IDENT">
    <ext:id root="1.2.36.51824754455"
      assigningAuthorityName="Devonport Family Medicine Clinic"/>
    <ext:code code="XX" codeSystem="2.16.840.1.113883.12.203"
      codeSystemName="Identifier Type (HL7)"/>
  </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="987d6a7e-6264-43b0-8666-a14e1d1bfff91"/>
      <!-- Organization.name -->
      <name>Devonport Family Medicine Clinic</name>
      <!-- Organization.identifier -->
      <ext:asEntityIdentifier classCode="IDENT">
        <ext:id root="1.2.36.51824754455"
          assigningAuthorityName="Devonport Family Medicine Clinic"/>
        <ext:code code="XX" codeSystem="2.16.840.1.113883.12.203"
          codeSystemName="Identifier Type (HL7)"/>
      </ext:asEntityIdentifier>
    </representedCustodianOrganization>
  </assignedCustodian>
</custodian>
<!-- attester (Legal Attester) -->
<legalAuthenticator>
  <templateId root="1.2.36.1.2001.1001.102.101.100012" extension="1.0"/>
  <time value="20170621090015+1000"/>
  <signatureCode code="S"/>
  <assignedEntity>
    <!-- attester (Legal Attester) indicating same entity as the author via the same id -->
    <id root="5cc8ab2f-9dd0-4d36-aed6-0e95bba3308f"/>
  </assignedEntity>
</legalAuthenticator>
<!-- Patient.generalPractitioner (Base Practitioner)-->
<participant typeCode="PART">
  <functionCode code="PCP"/>
  <associatedEntity classCode="PROV">
    <!-- indicating same entity as the author via the same id -->
    <id root="5cc8ab2f-9dd0-4d36-aed6-0e95bba3308f"/>
    <code code="253111" codeSystem="2.16.840.1.113883.13.62"
      codeSystemName="1220.0 - ANZSCO - Australian and New Zealand Standard Classification of Occupations, First Edition, Revision 1"
      displayName="General Medical Practitioner"/>
  <associatedPerson classCode="PSN">
    <!-- Practitioner.identifier -->
    <ext:asEntityIdentifier classCode="IDENT">
      <ext:id assigningAuthorityName="HPI-I"
        root="1.2.36.1.2001.1003.0.8003619900015717"/>
      <ext:assigningGeographicArea classCode="PLC">
        <ext:name>National Identifier</ext:name>
      </ext:assigningGeographicArea>
    </ext:asEntityIdentifier>
  </associatedPerson>
</associatedEntity>
</participant>
<component>
  <structuredBody>
    <!-- section (Advance Care Information Section) -->
    <component>
      <section>
        <templateId root="1.2.36.1.2001.1001.102.101.100009" extension="1.0"/>
        <!-- section.code -->
        <code code="101.16973" codeSystem="1.2.36.1.2001.1001.101"
          displayName="Advance Care Information Section"/>
        <!-- section.title -->
        <title>Advance Care Planning</title>
        <!-- section.text -->

```

16 April 2020
DH-XXXX:2020

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16 April 2020
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16 April 2020
DH-XXXX:2020

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16 April 2020
DH-XXXX:2020

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| | | |
|-------------------|------------------------|---------------|
| 152 | Draft for external use | 16 April 2020 |
| Draft version 006 | | DH-XXXX:2020 |

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Appendix C. Mapping from requirements

This informative appendix provides a mapping from the requirements of each end-product clinical specification to a logical element (profiled FHIR resource) and its corresponding mapping to a CDA schema element (in a CDA template).

The mapping from requirements tables in this appendix demonstrates the logical decomposition of each requirement to the lowest possible element in the applicable logical model and CDA template.

Legend for mapping from requirements

| Data item | Req No. | Logical element | CDA schema element | Additional notes |
|---|---|--|--|--|
| The heading text of the requirement as taken from the requirements specification. | The requirement number as taken from the requirement specification. | <p>Either the name of the lowest element in a profiled FHIR resource that addresses the requirement or n/a where the requirement has been deemed not applicable.</p> <p>If the lowest possible decomposition is to the resource then only the resource name (e.g. Patient) is present. If the lowest possible decomposition is to one or more child elements of a FHIR resource then a ">" notation is used to indicate the hierarchical relationship.</p> <p>For example Patient > communication > language indicates the requirement maps to the language element, that is a child of the communication element, in the Patient FHIR resource.</p> <p>Where a requirement is addressed by multiple elements, the elements are presented in order of appearance in the profiled FHIR resource.</p> | <p>Either the path to the lowest level CDA schema element in a template that addresses the requirement or n/a where the requirement has been deemed not applicable to a CDA template.</p> <p>The syntax for this uses an XPath like notation and starts as the root element ClinicalDocument e.g.</p> <p>ClinicalDocument/recordTarget/patientRole/patient/name</p> <p>Where an element is addressed by multiple CDA schema element paths, each path is presented.</p> | <p>Additional notes are provided where a gap between a requirement, or parts of a requirement, and the templates is identified.</p> <p>Where a requirement is fully addressed by the mapped elements then no entry in this column is expected.</p> |

C.1 Mapping from ACP information requirements

The table below provides mapping from the requirements in *My Health Record Advance Care Planning Information Requirements [NEHT2015x]* to the corresponding supported element in the Composition (Advance Care Planning) model and their corresponding CDA schema element(s) in the *Composition (Advance Care Planning)* template from the root `ClinicalDocument`.

See [C.1 Legend for mapping from requirements](#) for an explanation of requirements mapping table presentation.

| Data item | Req No. | Logical element | CDA schema element | Additional notes |
|---|---------|---|--|------------------|
| Individual's electronic communication details (optional) | 024042 | Patient > telecom | /ClinicalDocument/recordTarget/patientRole/patient/telecom /ClinicalDocument/author/assignedAuthor/assignedPerson/telecom | |
| Individual Healthcare Identifier (mandatory) | 022082 | Patient > identifier | /ClinicalDocument/recordTarget/patientRole/patient/ext:asEntityIdentifier /ClinicalDocument/author/assignedAuthor/assignedPerson/ext:asEntityIdentifier | |
| Individual's title (optional) | 022081 | Patient > name | /ClinicalDocument/recordTarget/patientRole/patient/name /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
| Individual's given name (optional) | 023056 | Patient > name | /ClinicalDocument/recordTarget/patientRole/patient/name /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
| Individual's family name (mandatory) | 023058 | Patient > name | /ClinicalDocument/recordTarget/patientRole/patient/name /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
| Individual's name suffix (optional) | 023059 | Patient > name | /ClinicalDocument/recordTarget/patientRole/patient/name /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
| Individual's sex (mandatory) | 024032 | n/a; related to Patient > gender | /ClinicalDocument/recordTarget/patientRole/patient/administrativeGenderCode /ClinicalDocument/author/assignedAuthor/assignedPerson/ext:administrativeGenderCode | |
| Individual's date of birth (mandatory) | 023060 | Patient > birthdate | /ClinicalDocument/recordTarget/patientRole/patient/birthTime | |
| Date of birth accuracy indicator (optional) | 024026 | Patient > birthdate > date-accuracy-indicator | /ClinicalDocument/component/structuredBody/component[admin_obs]/section/entry[dob_acc]/observation/value:CS | |
| | 027005 | | | |
| Healthcare provider organisation name (mandatory) | 023070 | Organization > name | /ClinicalDocument/author/assignedAuthor/representedOrganization/name | |
| Healthcare provider individual's workplace address (optional) | 024035 | Practitioner > address | /ClinicalDocument/author/assignedAuthor/addr | |
| Healthcare provider individual's workplace electronic communication details (mandatory) | 024892 | Practitioner > telecom | /ClinicalDocument/author/assignedAuthor/telecom | |
| Healthcare Provider Identifier-Individual (mandatory) | 023066 | PractitionerRole > identifier | /ClinicalDocument/author/assignedAuthor/assignedPerson/ext:asEntityIdentifier | |

| Data item | Req No. | Logical element | CDA schema element | Additional notes |
|--|---------|---|--|------------------|
| Healthcare Provider Identifier-Organisation (mandatory) | 023071 | Organization > identifier | /ClinicalDocument/author/assignedAuthor/representedOrganization/ext:asEntityIdentifier | |
| Healthcare provider's title (optional) | 023061 | Practitioner > name | /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
| Healthcare provider given name (optional) | 023062 | Practitioner > name | /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
| Healthcare provider family name (mandatory) | 023064 | Practitioner > name | /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
| Healthcare provider name suffix (optional) | 023065 | Practitioner > name | /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
| Individual's electronic communication details (optional) | 024042 | Patient > telecom RelatedPerson > telecom Practitioner > telecom | /ClinicalDocument/author/assignedAuthor/assignedPerson/telecom | |
| Individual's title (optional) | 022081 | Patient > name RelatedPerson > name Practitioner > name | /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
| Individual's given name (optional) | 023056 | Patient > name RelatedPerson > name Practitioner > name | /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
| Individual's family name (mandatory) | 023058 | Patient > name RelatedPerson > name Practitioner > name | /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
| Individual's family name (mandatory) | 023058 | Patient > name RelatedPerson > name Practitioner > name | /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
| Individual's name suffix (optional) | 023059 | Patient > name RelatedPerson > name Practitioner > name | /ClinicalDocument/author/assignedAuthor/assignedPerson/name | |
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| Data item | Req No. | Logical element | CDA schema element | Additional notes |
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| | 027148 | | | |

References

- [DH2017e] Australian Digital Health Agency, 21 December 2017, *Advance Care Information Structured Content Specification*, Version 1.0.
<https://developer.digitalhealth.gov.au/resources-and-documentation/clinical-documents/ep-2322-2017/-dh-1531-2017>
- [DH2017f] Australian Digital Health Agency, 21 December 2017, *Advance Care Information CDA Implementation Guide*, Version 1.0.
<https://developer.digitalhealth.gov.au/resources-and-documentation/clinical-documents/ep-2322-2017/-dh-1532-2017>
- [DH2019a] Australian Digital Health Agency, 28 February 2019, *Common - Clinical Document*, Version 1.5.2.
<https://developer.digitalhealth.gov.au/specifications/clinical-documents/ep-2807-2019>
- [DH2020h] Australian Digital Health Agency, Not yet published, *Advance Care Records FHIR Implementation Guide*, Version 1.0.0 (Draft for internal use).
<https://github.com/AuDigitalHealth/ci-fhir-stu3/releases/tag/ACR-1.0.0-2020APR>
- [DH2020m] Australian Digital Health Agency, 13 March 2020, *Goals of Care My Health Record Conformance Profile*, Version 1.0.
<https://developer.digitalhealth.gov.au/specifications/clinical-documents/ep-3024-2020/dh-3025-2020>
- [DH2020n] National E-Health Transition Authority, 31 March 2020, *Advance Care Planning - My Health Record Conformance Profile*, Version 1.1.
<https://developer.digitalhealth.gov.au/specifications/clinical-documents/ep-3142-2020/dh-3141-2020>
- [HI2011] Health Intersections, 2011, *Representation of Common Australian Identifiers in v2 and CDA*, accessed 28 November 2011.
<http://www.healthintersections.com.au/?p=721>
- [HL7AUF3B2] HL7 Australia, *Australian Base Implementation Guide (AU Base 1.1.1)*, version 1.1.1 21 January 2020.
<http://hl7.org.au/fhir/base/aubase1.1/index.html>
- [HL7CDAR2] Health Level Seven, Inc., January 2010, *HL7 Clinical Document Architecture*, Release 2.
http://www.hl7.org/implement/standards/product_brief.cfm?product_id=7
- [HL7FHIR3] Health Level Seven, Inc., 24 October 2019, *FHIR Release 3 (STU)*.
<http://hl7.org/fhir/STU3/>
- [HL7RIM] Health Level Seven, Inc., January 2010, *HL7 Version 3 Standard – Reference Information Model*.
http://www.hl7.org/implement/standards/product_brief.cfm?product_id=77
- [HL7V3] Health Level Seven, Inc., January 2010, *HL7 Version 3 Standard*.
http://www.hl7.org/implement/standards/product_brief.cfm?product_id=186
- [IHST2010] International Health Terminology Standards Development Organisation, January 2010, *SNOMED CT*, accessed 15 March 2010.
<http://www.ihtsdo.org/snomed-ct>
- [INFO2009] Canada Health Infoway, *CDA Validation Tools: infoway_release_2_2X_18.zip*.
<http://www.hl7.org/memonly/downloads/v3edition.cfm>
- [NEHT2011bv] National E-Health Transition Authority, 10 October 2011, *Representing Coding in CDA Documents Implementation Guidance*, Version 1.0.
<https://developer.digitalhealth.gov.au/specifications/clinical-documents/ep-1094-2011/nehta-1097-2011>
- [NEHT2012s] National E-Health Transition Authority, 07 March 2012, *CDA Rendering Specification*, Version 1.0.
<https://developer.digitalhealth.gov.au/specifications/clinical-documents/ep-1457-2013/nehta-1199-2012>
- [NEHT2015x] National E-Health Transition Authority, Not published, *My Health Record Advance Care Planning Information Requirements*, Version 1.0.

- [RFC2119] Network Working Group, 1997, *Key Words for Use in RFCs to Indicate Requirement Levels*, accessed 05 March 2019.
<https://tools.ietf.org/html/rfc2119>
- [RING2009] Ringholm, 2009, *CDA Examples*, accessed 15 March 2010.
http://www.ringholm.de/download/CDA_R2_examples.zip
- [SA2014a] Standards Australia, 2014, *AS 4846 (2014) – Person and provider identification in healthcare*.
<http://infostore.saiglobal.com/store/details.aspx?ProductID=1753860>

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