Australian Government
Australian Digital Health Agency

# Event Summary

## CDA Implementation Guide

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# Document Information

## Key Information

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|---|---|
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## Product Version History

| Product version | Date | Release comments |
|---|---|---|
| 1.3 | 1 NaN | Initial public release. |
| 1.4 | 1 NaN | This version implements changes authorised in September 2014 (by CCB--345). |
| 2.0 | 24 May 2019 | This version implements terminology updates and transitions from openEHR based models to FHIR-based models. This is a backwards incompatible release |

## Related Documents

| Name | Version/Release Date |
|---|---|
| *Australian Base Profiles Implementation Guide* | v1.0.0 (Standard for Trial Use), Continuous Integration Build |
| *FHIR* | Release 3 (STU), Issued 19 April 2017 |
| *Participant Model Specification* | Version 1.0, Issued 01 November 2018 |
| *Common - Clinical Document* | Version 1.5.2, Issued 28 February 2019 |
| *CDA Rendering Specification* | Version 1.0, Issued 07 March 2012 |
| *Shared Health Summary Information Requirements* | Version 1.1, Issued 10 April 2015 |
| *Representing Coding in CDA Documents Implementation Guidance* | Version 1.0, Issued 10 October 2011 |
| *Clinical Documents Common Conformance Profile* | Version 1.7, Issued 21 December 2017 |

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# List of Examples

# 1 Introduction

## 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 Event Summary (ES) model (*Event Summary FHIR Implementation Guide [DH2019g]*) to a corresponding CDA attribute or element. The resulting CDA document can be used for the electronic exchange of ES 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 Profiles Implementation Guide [HL7AUBIG]*) 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, a specification package.

An Agency clinical document 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 (CDA IG) – a statement of constraints and custom extensions on *HL7 Clinical Document Architecture [HL7CDAR2]*
- FHIR implementation guide (FHIR IG) – a statement of constraints and custom extensions on *FHIR [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
- A set of release notes

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 the CDA and, where necessary, custom extensions to the CDA, for the purposes of fulfilling the requirements for Australian implementations of ES.

These descriptions are defined as a set of CDA templates (see Conformance conventions) presented in CDA mapping tables (see Mapping presentation and structure). The mapping tables take implementers step by step through mapping each element of the ES model to a corresponding CDA attribute or element.

A logical view of the ES model (*FHIR [HL7FHIR3]* StructureDefinitions) is presented as a tree structure in a hierarchical table (see *4 Event Summary hierarchy*). The ES model is published as a set of *FHIR [HL7FHIR3]* profiles in *Event Summary FHIR Implementation Guide [DH2019g]*.

The starting point for the CDA templates is the clinical document model template defined in ClinicalDocument (Event Summary), which references the additional templates necessary to assert conformance for this implementation guide.

# 1.4 Editorial note

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

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

It is intended to supersede *Event Summary Structured Content Specification [NEHT2015b]* and *Event Summary CDA Implementation Guide [NEHT2015f]*. 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 CDA 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 |
|---|---|
| Encounter > type | A code is required to represent this concept in CDA. This has yet to be identified and a NCTIS code may need to be developed as this is not a widely understood element. |

| Reference | Description |
|---|---|
| MedicationStatement > reasonNotTaken | A code is required to represent this concept in CDA.<br><br>The current LOINC code in the mappings of 77301-0 "Reason care action performed or not" supports this concept as defined in the STU3 FHIR model.<br><br>However this concept has changed significantly in R4 (now called status reason) to broaden the concept so that it is no longer just about a care action but also reason for administrative actions such as 'entered in error'. |
| Diagnostic Investigations section | Design of this section and its entries is in progress. It will be updated to reference appropriate Agency models (profiles) in the future. |
| Terminology publication | The following terminology are not yet available in NCTS:<br><br>• NCTIS Data Components code 103.17061 Information from a Primary Source not yet published.<br><br>• Encounter Act Status HL7 V3 |
| Appendix C. Examples | This chapter is a placeholder - examples are yet to be done. |
| Appendix D. Mapping from requirements | This chapter is a placeholder - mappings yet to be done. |
| *Event Summary FHIR Implementation Guide [DH2019g]* | The Event Summary FHIR IG is not yet published; draft content is held in the following repository: https://github.com/-AuDigitalHealth/ci-fhir-stu3 (public) \| https://-stash.digitalhealth.gov.au/projects/CIL/repos/ci-fhir-stu3/-browse (internal). |

# 2 Guidance

## 2.1 Clinical Document Architecture Release 2

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

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

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

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

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

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

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

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

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

# 2.2 Conformance conventions

## Templates

This implementation guide specifies the CDA templates for implementing the document model that is the subject of this implementation guide, i.e. Event Summary. >A CDA template is a set of constraints, and where necessary, custom extensions to *HL7 Clinical Document Architecture [HL7CDAR2]*.

In this implementation guide CDA templates are presented in a CDA mapping table and indicated by the presence of a `templateId`.

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

## Open and closed templates

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

For example if a specification of 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

The template context in this implementation guide is that of an open template unless otherwise stated.

## Terminology binding

Vocabulary is specified in this implementation guide, in some cases binding an element to a value set or binding an attribute to a single fixed code. For guidance on coding common clinical concepts in CDA documents see *Representing Coding in CDA Documents Implementation Guidance [NEHT2011bv]*.

A value set binding, if present in this specification, will be specified in the "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), e.g. v3 Code System ParticipationFunction (required).

# Conformance verbs

Where used in this document, 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 verbs**

| Conformance verb | Interpretation |
|---|---|
| **SHALL** | An absolute requirement.<br><br>Where **SHALL** appears in any conformance constraint it indicates a mandatory requirement.<br><br>Where **SHALL** is applied to the occurrences of an element or attribute then that element or attribute must be present but can be null if the value is not known and the value has not been constrained to not allow a null value. |
| **SHOULD** | A requirement that is considered best practice or recommendation for inclusion. There may be valid reasons to ignore an item, but the full implications must be understood and carefully weighed before choosing a different course.<br><br>Where **SHOULD** appears in an 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.<br><br>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.<br><br>Implementers must support an 'optional' requirement. |
| **MAY** | A requirement that can be included or omitted as the author decides with no implications.<br><br>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.<br><br>Implementers must support an 'optional' requirement. |
| **SHALL NOT** | An absolute prohibition.<br><br>Where **SHALL NOT** appears in any conformance constraint it indicates a mandatory prohibition requirement. |

| Conformance verb | Interpretation |
|---|---|
| **SHOULD NOT** | A requirement that is considered best practice or recommendation for 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.<br><br>Where **SHOULD NOT** appears in an 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.<br><br>For a sending application where **SHOULD NOT** is applied to the occurrences of 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.<br><br>Implementers must support an 'optional' requirement. |

# Cardinality

The cardinality range specifies the allowable occurrences within a document instance. Cardinality range is specified 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 Mapping presentation and structure

The content of this implementation guide is a set of CDA templates that are presented as a mapping from the logical view of a set of models (i.e. *FHIR [HL7FHIR3]* StructureDefinitions) to CDA. These models are published as *FHIR [HL7FHIR3]* profiles in *Event Summary FHIR Implementation Guide [DH2019g]*.

CDA templates are located within a 'templates' chapter, e.g. 9 *Section 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 ES model that template corresponds to, e.g. observation (Summary Statement of Allergy or Intolerance) defines the CDA template of the observation CDA schema element to represent the model for Summary Statement of Allergy or Intolerance.

A CDA mapping table aims to take implementers step by step through mapping each element of the ES 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.

# x.x CDA schema element (model / element)

Implementation guidance specific to the usage scenarios expected to be supported by this implementation guide may be present above the mapping table. This content is informative; there may be valid reasons not to follow this guidance, but the full implications must be understood and carefully weighed before choosing a different course.

# CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA conformance level, e.g. CDA Header, CDA Body Level 3 Data Elements** | | | | Context: The root context that is applied as a prefix to the CDA schema element paths in the mapping rows below | |
| The logical hierarchical path in the ES model expressed using names of the elements in the ES model.<br><br>If there is a name in round brackets after the path, this is the label for that element or resource.<br><br>The text in **bold** (the last in the path) is the subject for this row.<br><br>i.e. Parent (Label) > **Child**<br><br>e.g. AllergyIntolerance (Summary Statement of Allergy or Intolerance) > **patient** | The description of the element in the ES model. | The cardinality of the element in the ES model.<br><br>(See Conformance conventions) | The type of the element (hyperlinked to the definition of the [HL7FHIR3] type) in the ES model.<br><br>This may be expressed as a type that is further constrained by a model in the convention <type> as <model name>, e.g. Patient as Patient with Mandatory Identifier. | The CDA schema element(s) in the CDA template that correspond to the model element.<br><br>The syntax for this is similar to XPath:<br><br>{/name{[index]}}n<br><br>Where:<br><br>• {} indicates optional<br><br>• {}n means a section that may repeat<br><br>• [index] differentiates two similar mappings<br><br>Example:<br><br>**participant[location]**<br><br>participant[location]/**@typeCode="ORG"**<br><br>participant[location]/**associatedEntity**<br><br>participant[location]/associatedEntity/**@classCode="SDLOC"**<br><br>participant[location]/associatedEntity/**code**<br><br>A sequence of names refers to the XML path in the CDA document. The path always starts from the context as defined in the grey header row above each group of mapping rows.<br><br>The last name is shown in bold to make the path easier to read. The last name may be a reference to an attribute or an element, as defined in the Australian Digital Health Agency CDA schema.<br><br>An index after the name, such as 'participation[location]' implies that there can be two or more templates of a participation CDA schema element or that the CDA schema element name may be repeated in one or more templates. The indexes differentiate which CDA schema element is referenced in the path.<br><br>It is possible for one model element to map to more than one CDA schema element. | Constraints on the CDA schema element(s).<br><br>Terminology binding, identified by a hyperlinked value set title followed by the terminology binding strength (hyperlinked to the definition of the binding strength).<br><br>e.g. Route of Administration (extensible)<br><br>Additional information about the mapping and/or constraints which are identified by conformance verbs (See Conformance conventions).<br><br>e.g.<br><br>See <code> for available attributes. |

# 3 Conformance

## 3.1 Conformance requirements

This document describes how the ES model is implemented as a CDA document. Conformance claims are not made against this implementation guide directly; rather, they are made against additional conformance profiles documented elsewhere. Any document that claims conformance to 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** use the mappings as they are stated in this document.
- It **SHALL** use all fixed values specified in the mappings (e.g. @attribute="FIXED_VALUE").
- It **SHALL** be valid against the additional conformance requirements that are established in this document (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 and it **SHALL** be clinically safe for receivers of the document to ignore the non-narrative additions when interpreting the existing content.

A system that *consumes* ES CDA documents may claim conformance if it correctly processes conformant instance documents, including correctly understanding all the information in the header. It may, but is not required to, reject non-conformant documents. Conformant systems that consume ES CDA documents are not required to process any or all of the structured data entries in the CDA document, but they **SHALL** be able to correctly render the document for end-users when appropriate (see Clinical Document Architecture Release 2).

Conformance profiles of this document **MAY** make additional rules that override this document in regard to:

- Allowing the use of alternative value sets in place of the value sets specified in this document.
- Allowing the use of alternative identifiers in place of the Healthcare Identifiers Service identifiers.
- Making required data elements and section divisions optional.

# 3.2 CDA narratives

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

It is a *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. 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.
    - 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.
- The narrative contents **SHALL** completely and accurately represent the clinical information encoded in the section. Content **SHALL NOT** be omitted from the narrative.
- 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. The examples provided in sections of this document offer some guidance for narrative block markup and may be easily adapted as boilerplate markup.

# 4 Event Summary hierarchy

A Event Summary document is defined as:

> 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. *Event Summary FHIR Implementation Guide [DH2019g]*

## 4.1 Hierarchy

The hierarchy below provides a logical view of the Event Summary 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.

Each row contains information about a single element. The top level row contains two occupied cells: Name of the document model, and the Type (hyperlinked to the definition of the type).

Each following row contains three occupied cells: Name of the child element in the model, Cardinality (the lower and upper bounds on how many times this element is allowed to appear in the resource), and the Type (hyperlinked to the definition of the type). Type may be expressed as a type that is further constrained by a referenced model, e.g. Patient as Base Patient.

If present, an element with the Cardinality of 0..0 has the name of the element presented with a strike through.

| Name | | | Cardinality | Type |
|---|---|---|---|---|
| Composition (Event Summary) | | | | DomainResource |
| | composition-author-role | | 1..1 | Reference(PractitionerRole as PractitionerRole with Practitioner with Mandatory Identifier) |
| | identifier | | 0..1 | Identifier |
| | status | | 1..1 | code |
| | type | | 1..1 | CodeableConcept |
| | subject | | 1..1 | Reference(Patient as Patient with Mandatory Identifier) |
| | encounter | | 1..1 | Reference(Encounter as Summary of an Encounter for an Event) |
| | date | | 1..1 | dateTime |
| | author | | 1..1 | Reference(Practitioner as Practitioner with Mandatory Identifier) |
| | title | | 1..1 | string |
| | attester (Legal Attester) | | 1..1 | BackboneElement |
| | | mode | 1..1 | code |
| | | time | 1..1 | dateTime |
| | | party | 1..1 | Reference(Practitioner as Practitioner with Mandatory Identifier) |
| | custodian | | 1..1 | Reference(Organization as Organization with Mandatory Identifier) |
| | section (Event Overview) | | 1..1 | BackboneElement |
| | | title | 1..1 | string |
| | | code | 1..1 | CodeableConcept |
| | | text | 1..1 | Narrative |
| | | entry | 1..1 | Reference(Encounter as Summary of an Encounter for an Event) |
| | section (Allergies) | | 0..1 | BackboneElement |
| | | title | 1..1 | string |
| | | code | 1..1 | CodeableConcept |

| Name | | | Cardinality | Type |
|---|---|---|---|---|
| | | text | 1..1 | Narrative |
| | | entry | 0..* | Reference(AllergyIntolerance as Summary Statement of Allergy or Intolerance) |
| | | emptyReason | 0..1 | CodeableConcept |
| | section (Medications) | | 0..1 | BackboneElement |
| | | title | 1..1 | string |
| | | code | 1..1 | CodeableConcept |
| | | text | 1..1 | Narrative |
| | | entry | 0..1 | Reference(List as List of Medicine Changes from an Event \| Observation as Assertion of No Relevant Finding) |
| | | emptyReason | 0..1 | CodeableConcept |
| | section (Medical History) | | 0..1 | BackboneElement |
| | | title | 1..1 | string |
| | | code | 1..1 | CodeableConcept |
| | | text | 1..1 | Narrative |
| | | entry | 0..* | Reference(Condition as Summary Statement of Condition \| Procedure as Summary Statement of Known Procedure \| Observation as Assertion of No Relevant Finding) |
| | | emptyReason | 0..1 | CodeableConcept |
| | section (Immunisations) | | 0..1 | BackboneElement |
| | | title | 1..1 | string |
| | | code | 1..1 | CodeableConcept |
| | | text | 1..1 | Narrative |
| | | entry | 0..* | Reference(Immunization as Summary Statement of Vaccine \| Observation as Assertion of No Relevant Finding) |
| | | emptyReason | 0..1 | CodeableConcept |
| | section (Diagnostic Investigations) | | 0..1 | BackboneElement |
| | | title | 1..1 | string |
| | | code | 1..1 | CodeableConcept |
| | | text | 1..1 | Narrative |

# 4.2 Expanded hierarchy

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

Each row contains information about a single element. The top level row contains two occupied cells: Name of the document model, and the Type (hyperlinked to the definition of the type).

Each following row contains three occupied cells: Name of the child element in the model, Cardinality (the lower and upper bounds on how many times this element is allowed to appear in the resource), and the Type (hyperlinked to the definition of the type). Type may be expressed as a type that is further constrained by a referenced model, e.g. Patient as Base Patient.

If present, an element with the Cardinality of 0..0 has the name of the element presented with a strike through.

| Name | | | | Cardinality | Type |
|---|---|---|---|---|---|
| Composition (Event Summary) | | | | | DomainResource |
| | composition-author-role | | | 1..1 | Reference(PractitionerRole as PractitionerRole with Practitioner with Mandatory Identifier) |
| | | identifier | | 0..* | Identifier |
| | | active | | 0..1 | boolean |
| | | period | | 0..1 | Period |
| | | practitioner | | 1..1 | Reference(Practitioner as Practitioner with Mandatory Identifier) |
| | | organization | | 0..1 | Reference(Organization as Base Organization) |
| | | code | | 0..* | CodeableConcept |
| | | specialty | | 0..* | CodeableConcept |
| | | location | | 0..* | Reference(Location) |
| | | healthcareService | | 0..* | Reference(HealthcareService) |
| | | telecom | | 0..* | ContactPoint |
| | | availableTime | | 0..* | BackboneElement |
| | | | daysOfWeek | 0..* | code |
| | | | allDay | 0..1 | boolean |
| | | | availableStartTime | 0..1 | time |
| | | | availableEndTime | 0..1 | time |
| | | notAvailable | | 0..* | BackboneElement |
| | | | description | 1..1 | string |
| | | | during | 0..1 | Period |
| | | availabilityExceptions | | 0..1 | string |
| | identifier | | | 0..1 | Identifier |
| | status | | | 1..1 | code |
| | type | | | 1..1 | CodeableConcept |
| | subject | | | 1..1 | Reference(Patient as Patient with Mandatory Identifier) |
| | | birthPlace | | 0..1 | Address |
| | | indigenous-status | | 0..1 | Coding |
| | | closing-the-gap-registration | | 0..1 | boolean |
| | | patient-mothersMaidenName | | 0..1 | string |
| | | identifier | | 1..* | Identifier |
| | | active | | 0..1 | boolean |
| | | name | | 0..* | HumanName |

| Name | | | | Cardinality | Type |
|---|---|---|---|---|---|
| | | telecom | | 0..* | ContactPoint |
| | | gender | | 0..1 | code |
| | | birthDate | | 0..1 | date |
| | | | date-accuracy-indicator | 0..1 | Coding |
| | | | birthTime | 0..1 | dateTime |
| | | deceased | | 0..1 | boolean<br>dateTime |
| | | | date-accuracy-indicator | 0..1 | Coding |
| | | address | | 0..* | Address |
| | | maritalStatus | | 0..1 | CodeableConcept |
| | | multipleBirth | | 0..1 | boolean<br>integer |
| | | ~~photo~~ | | 0..0 | Attachment |
| | | contact | | 0..* | BackboneElement |
| | | | relationship | 0..* | CodeableConcept |
| | | | name | 0..1 | HumanName |
| | | | telecom | 0..* | ContactPoint |
| | | | address | 0..1 | Address |
| | | | gender | 0..1 | code |
| | | | organization | 0..1 | Reference(Organization as Base Organization) |
| | | | period | 0..1 | Period |
| | | communication | | 0..* | BackboneElement |
| | | | communication.language | 1..1 | CodeableConcept |
| | | | communication.preferred | 0..1 | boolean |
| | | generalPractitioner | | 0..* | Reference(Practitioner as Base Practitioner \| Organization as Base Organization) |
| | | managingOrganization | | 0..1 | Reference(Organization as Base Organization) |
| | encounter | | | 1..1 | Reference(Encounter as Summary of an Encounter for an Event) |
| | | encounter-description | | 0..1 | string |
| | | status | | 1..1 | code |
| | | class | | 0..1 | coding |
| | | type | | 0..* | CodeableConcept |
| | | subject | | 1..1 | Reference(Patient as Patient with Mandatory Identifier) |
| | | period | | 1..1 | Period |
| | | reason | | 0..* | CodeableConcept |
| | date | | | 1..1 | dateTime |
| | author | | | 1..1 | Reference(Practitioner as Practitioner with Mandatory Identifier) |
| | | identifier | | 1..* | Identifier |
| | | active | | 0..1 | boolean |
| | | name | | 0..* | HumanName |
| | | telecom | | 0..* | ContactPoint |
| | | address | | 0..* | Address |
| | | gender | | 0..1 | code |
| | | birthDate | | 0..1 | date |
| | | ~~photo~~ | | 0..0 | Attachment |

| Name | | | | | Cardinality | Type |
|---|---|---|---|---|---|---|
| | | qualification | | | 0..* | BackboneElement |
| | | | identifier | | 0..* | Identifier |
| | | | code | | 1..1 | CodeableConcept |
| | | | period | | 0..1 | Period |
| | | | issuer | | 0..1 | Reference(Organization as Base Organization) |
| | | communication | | | 0..* | CodeableConcept |
| | title | | | | 1..1 | string |
| | attester (Legal Attester) | | | | 1..1 | BackboneElement |
| | | mode | | | 1..1 | code |
| | | time | | | 1..1 | dateTime |
| | | party | | | 1..1 | Reference(Practitioner as Practitioner with Mandatory Identifier) |
| | | | identifier | | 1..* | Identifier |
| | | | active | | 0..1 | boolean |
| | | | name | | 0..* | HumanName |
| | | | telecom | | 0..* | ContactPoint |
| | | | address | | 0..* | Address |
| | | | gender | | 0..1 | code |
| | | | birthDate | | 0..1 | date |
| | | | ~~photo~~ | | 0..0 | Attachment |
| | | | qualification | | 0..* | BackboneElement |
| | | | | identifier | 0..* | Identifier |
| | | | | code | 1..1 | CodeableConcept |
| | | | | period | 0..1 | Period |
| | | | | issuer | 0..1 | Reference(Organization as Base Organization) |
| | | | communication | | 0..* | CodeableConcept |
| | custodian | | | | 1..1 | Reference(Organization as Organization with Mandatory Identifier) |
| | | identifier | | | 1..* | Identifier |
| | | active | | | 0..1 | boolean |
| | | type | | | 0..* | CodeableConcept |
| | | name | | | 0..1 | string |
| | | alias | | | 0..* | string |
| | | telecom | | | 0..* | ContactPoint |
| | | address | | | 0..* | Address |
| | | partOf | | | 0..1 | Reference(Organization as Base Organization) |
| | | contact | | | 0..* | BackboneElement |
| | | | purpose | | 0..1 | CodeableConcept |
| | | | name | | 0..1 | HumanName |
| | | | telecom | | 0..* | ContactPoint |
| | | | address | | 0..1 | Address |
| | section (Event Overview) | | | | 1..1 | BackboneElement |
| | | title | | | 1..1 | string |
| | | code | | | 1..1 | CodeableConcept |
| | | text | | | 1..1 | Narrative |
| | | entry | | | 1..1 | Reference(Encounter as Summary of an Encounter for an Event) |
| | | | encounter-description | | 0..1 | string |

| Name | | | | | Cardinality | Type |
|---|---|---|---|---|---|---|
| | | | status | | 1..1 | code |
| | | | class | | 0..1 | coding |
| | | | type | | 0..* | CodeableConcept |
| | | | subject | | 1..1 | Reference(Patient as Patient with Mandatory Identifier) |
| | | | period | | 1..1 | Period |
| | | | reason | | 0..* | CodeableConcept |
| | section (Allergies) | | | | 0..1 | BackboneElement |
| | | title | | | 1..1 | string |
| | | code | | | 1..1 | CodeableConcept |
| | | text | | | 1..1 | Narrative |
| | | entry | | | 0..* | Reference(AllergyIntolerance as Summary Statement of Allergy or Intolerance) |
| | | | recorder-related-person | | 0..1 | Reference(RelatedPerson as Base RelatedPerson) |
| | | | clinicalStatus | | 0..1 | code |
| | | | verificationStatus | | 1..1 | code |
| | | | type | | 0..1 | code |
| | | | code | | 1..1 | CodeableConcept |
| | | | patient | | 1..1 | Reference(Patient as Patient with Mandatory Identifier) |
| | | | onset[x] | | 0..1 | dateTime, Age, Period, Range |
| | | | recorder | | 0..1 | Reference(Patient as Base Patient \| Practitioner as Base Practitioner) |
| | | | note | | 0..* | Annotation |
| | | | reaction | | 0..* | BackboneElement |
| | | | | substance | 0..1 | CodeableConcept |
| | | | | manifestation | 1..* | CodeableConcept |
| | | emptyReason | | | 0..1 | CodeableConcept |
| | section (Medications) | | | | 0..1 | BackboneElement |
| | | title | | | 1..1 | string |
| | | code | | | 1..1 | CodeableConcept |
| | | text | | | 1..1 | Narrative |
| | | entry | | | 0..1 | Reference(List as List of Medicine Changes from an Event) |
| | | | status | | 1..1 | code |
| | | | code | | 1..1 | CodeableConcept |
| | | | subject | | 1..1 | Reference(Patient as Patient with Mandatory Identifier) |
| | | | date | | 0..1 | dateTime |
| | | | source | | 0..1 | Reference(Practitioner as Practitioner with Mandatory Identifier) |
| | | | entry | | 1..* | BackboneElement |
| | | | | change-description | 0..1 | string |
| | | | | flag | 1..1 | CodeableConcept |
| | | | | item | 1..1 | Reference(MedicationStatement as Summary Statement of Known Medicine) |
| | | | ~~emptyReason~~ | | 0..0 | CodeableConcept |
| | | entry | | | 0..1 | Reference(Observation as Assertion of No Relevant Finding) |
| | | | status | | 1..1 | code |
| | | | code | | 1..1 | CodeableConcept |
| | | | subject | | 1..1 | Reference(Patient as Patient with Mandatory Identifier) |
| | | | effective[x] | | 0..1 | dateTime \| Period |

| Name | | | | | Cardinality | Type |
|---|---|---|---|---|---|---|
| | | | performer | | 0..* | Reference(Practitioner as Base Practitioner) \| Organization as Base Organization) \| RelatedPerson as Base RelatedPerson) \| Patient as Base Patient) |
| | | | value[x] | | 1..1 | CodeableConcept |
| | | emptyReason | | | 0..1 | CodeableConcept |
| | section (Medical History) | | | | 0..1 | BackboneElement |
| | | title | | | 1..1 | string |
| | | code | | | 1..1 | CodeableConcept |
| | | text | | | 1..1 | Narrative |
| | | entry | | | 0..* | Reference(Condition as Summary Statement of Condition) |
| | | | recorder | | 0..1 | Reference(Practitioner as Base Practitioner) \| (Patient as Base Patient) \| (RelatedPerson as Base RelatedPerson) |
| | | | clinicalStatus | | 0..1 | code |
| | | | verificationStatus | | 0..1 | code |
| | | | code | | 1..1 | CodeableConcept |
| | | | subject | | 1..1 | Reference(Patient as Patient with Mandatory Identifier) |
| | | | onset[x] | | 0..1 | dateTime, Age, Period, Range |
| | | | abatement[x] | | 0..1 | dateTime, Age, boolean, Period, Range |
| | | | note | | 0..* | Annotation |
| | | entry | | | 0..* | Reference(Procedure as Summary Statement of Known Procedure) |
| | | | status | | 1..1 | code |
| | | | code | | 1..1 | CodeableConcept |
| | | | subject | | 1..1 | Reference(Patient as Patient with Mandatory Identifier) |
| | | | performed[x] | | 0..1 | dateTime, Period |
| | | | note | | 0..* | Annotation |
| | | entry | | | 0..1 | Reference(Observation as Assertion of No Relevant Finding) |
| | | | status | | 1..1 | code |
| | | | code | | 1..1 | CodeableConcept |
| | | | subject | | 1..1 | Reference(Patient as Patient with Mandatory Identifier) |
| | | | effective[x] | | 0..1 | dateTime \| Period |
| | | | performer | | 0..* | Reference(Practitioner as Base Practitioner) \| Organization as Base Organization) \| RelatedPerson as Base RelatedPerson) \| Patient as Base Patient) |
| | | | value[x] | | 1..1 | CodeableConcept |
| | | emptyReason | | | 0..1 | CodeableConcept |
| | section (Immunisations) | | | | 0..1 | BackboneElement |
| | | title | | | 1..1 | string |
| | | code | | | 1..1 | CodeableConcept |
| | | text | | | 1..1 | Narrative |
| | | entry | | | 0..* | Reference(Immunization as Summary Statement of Vaccine) |
| | | | status | | 1..1 | code |
| | | | notGiven | | 1..1 | boolean |
| | | | vaccineCode | | 1..1 | CodeableConcept |
| | | | patient | | 1..1 | Reference(Patient as Patient with Mandatory Identifier) |
| | | | date | | 0..1 | dateTime |
| | | | primarySource | | 1..1 | boolean |
| | | | vaccinationProtocol | | 0..* | BackboneElement |
| | | | | doseSequence | 0..1 | positiveInt |

| Name | | | | | Cardinality | Type |
|---|---|---|---|---|---|---|
| | | | | doseStatus | 1..1 | CodeableConcept |
| | | entry | | | 0..1 | Reference(Observation as Assertion of No Relevant Finding) |
| | | | status | | 1..1 | code |
| | | | code | | 1..1 | CodeableConcept |
| | | | subject | | 1..1 | Reference(Patient as Patient with Mandatory Identifier) |
| | | | effective[x] | | 0..1 | dateTime \| Period |
| | | | performer | | 0..* | Reference(Practitioner as Base Practitioner) \| Organization as Base Organization) \| RelatedPerson as Base RelatedPerson) \| Patient as Base Patient) |
| | | | value[x] | | 1..1 | CodeableConcept |
| | | emptyReason | | | 0..1 | CodeableConcept |

# 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 Event Summary model.

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

# 5.1 ClinicalDocument

## CDA mapping

| CDA schema element | Definition | Card | 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.<br><br>All attributes of the ClinicalDocument element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed.<br><br>The CDA document **SHALL** be valid against the Australian Digital Health Agency CDA schema after any additional extensions not in the Australian Digital Health Agency extension namespace have been removed. |
| ClinicalDocument/**realmCode** | A realmCode signals the imposition of realm-specific constraints. The value identifies the realm in question. | 0..* | All attributes of the //realmCode element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed. |
| ClinicalDocument/**typeId** | A technology-neutral explicit reference to the CDA Release 2 specification. | 1..1 | |
| ClinicalDocument/typeId/**@extension="POCD_HD000040"** | | 1..1 | The unique identifier for the CDA Release 2 Hierarchical Description. |
| ClinicalDocument/typeId/**@root="2.16.840.1.113883.1.3"** | | 1..1 | The OID for HL7 Registered models. |
| ClinicalDocument/**id** | Represents the unique instance identifier of a clinical document. | 1..1 | All attributes of the //id element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed with the exception that @nullFlavor **SHALL NOT** be present.<br><br>See <id> for available attributes. |
| 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.<br><br>See <time> for available attributes. |
| 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 | |

| CDA schema element | Definition | Card | Constraints and comments |
|---|---|---|---|
| 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.<br><br>See <id> for available attributes. |
| ClinicalDocument/**versionNumber** | An integer value used to version successive replacement documents. | 0..1 | |
| ClinicalDocument/versionNumber/**@value** | | 1..1 | |
| ClinicalDocument/**ext:completionCode** | The lifecycle status of a document. | 1..1 | All attributes of the //completionCode element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed with the exception that @nullFlavor **SHALL NOT** be present.<br><br>See <code> for available attributes.<br><br>Australian Healthcare Clinical Document Architecture Document Lifecycle Status (required)<br><br>See Australian Digital Health Agency CDA extension: ClinicalDocument.completionCode. |
| ClinicalDocument/**recordTarget** | Represents the medical record that this document belongs to. | 1..1 | All attributes and elements of the //recordTarget element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed. |
| ClinicalDocument/**author** | Represents the humans and/or machines that authored the document. | 1..1 | All attributes and elements of the //author element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed. |
| ClinicalDocument/**dataEnterer** | Represents the participant who has transformed a dictated note into text. | 0..1 | All attributes and elements of the //dataEnterer element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed. |
| ClinicalDocument/**informant** | Represents an informant (or source of information) who provides relevant information, such as the parent of a comatose patient who describes the patient's behavior prior to the onset of coma. Unless otherwise stated, the patient is implicitly the informant. | 0..* | All attributes and elements of the //informant element defined by the Australian Digital Health Agency CDA schema **SHALL** be allowed. |
| 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. |

| CDA schema element | Definition | Card | Constraints and comments |
|---|---|---|---|
| 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

## CDA mapping

| CDA schema element | Definition | Card | Constraints and comments |
|---|---|---|---|
| **CDA Header Data Elements** | | | Context: /ClinicalDocument/ |
| legalAuthenticator/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. | 1..1 | |
| legalAuthenticator/templateId/**@root="1.2.36.1.2001.1001.102.101.100012"** | | 1..1 | |
| legalAuthenticator/templateId/**@extension="1.0"** | | 1..1 | |
| legalAuthenticator/**time/@value** | Indicates the time of authentication. | 1..1 | |
| legalAuthenticator/**signatureCode/@code="S"** | Indicates that the signature has been affixed and is on file. | 1..1 | |
| legalAuthenticator/**assignedEntity** | A legalAuthenticator is a person in the role of an assigned entity (AssignedEntity class). An assigned entity is a person assigned to the role by the scoping organization. The entity playing the role is a person (Person class). The entity scoping the role is an organization (Organization class). | 1..1 | |
| legalAuthenticator/assignedEntity/**code** | The specific kind of role. | 0..1 | See <code> for available attributes. |
| legalAuthenticator/assignedEntity/**id** | A unique identifier for the player entity in this role. | 1..1 | See <id> for available attributes. |
| legalAuthenticator/assignedEntity/**assignedPerson** | The entity playing the role (assignedEntity) is a person. | 1..1 | |
| legalAuthenticator/assignedEntity/assignedPerson/**ext:asEntityIdentifier** | The entity identifier of the person. | 0..* | See <Entity Identifier> for available attributes.<br>Recommended mappings for the complex data type to CDA (R2): Identifier. |
| legalAuthenticator/assignedEntity/**addr** | A postal address for the entity (assignedPerson) while in the role (assignedEntity). | 0..* | Recommended mappings for the complex data type to CDA (R2): Address. |
| legalAuthenticator/assignedEntity/**telecom** | A telecommunication address for the entity (assignedPerson) while in the role (assignedEntity). | 0..* | Recommended mappings for the complex data type to CDA (R2): ContactPoint. |
| legalAuthenticator/assignedEntity/assignedPerson/**name** | A non-unique textual identifier or moniker for the entity (assignedPerson). | 0..* | Recommended mappings for the complex data type to CDA (R2): HumanName. |
| legalAuthenticator/assignedEntity/**representedOrganization** | The entity scoping the role (assignedEntity). | 0..1 | |
| legalAuthenticator/assignedEntity/representedOrganization/**ext:asEntityIdentifier** | A unique identifier for the scoping entity (represented organization) in this role (assignedEntity). | 0..* | See <Entity Identifier> for available attributes.<br>Recommended mappings for the complex data type to CDA (R2): Identifier. |
| legalAuthenticator/assignedEntity/representedOrganization/**name** | A non-unique textual identifier or moniker for the entity (representedOrganization). | 0..* | |

# 5.3 Administrative Observations

## CDA mapping

| CDA schema element | Definition | Card | Constraints and comments |
|---|---|---|---|
| Conformance level comes from linking elements | | Context: /ClinicalDocument/component/structuredBody/ | |
| **component[admin_obs]** | The ES document model contains a number of elements for which there are no equivalent elements at that point in the hierarchical structure of the model mapped into CDA. These elements are considered to be "Administrative Observations" about the encounter, the patient or some other participant.<br><br>Administrative Observations is a CDA section that is created to hold these elements in preference to creating extensions for them.<br><br>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 elements | ClinicalDocument **SHALL** contain at most one Administrative Observation section.<br><br>The Administrative Observations section **SHALL NOT** be populated if there are no entries or text to go in it. |
| component[admin_obs]/**section** | | 1..1 | |
| component[admin_obs]/section/**templateId** | | 1..1 | The use of templateId signals the imposition of a set of template-defined constraints. |
| component[admin_obs]/section/templateId/**@root="1.2.36.1.2001.1001.102.101.100000"** | | 1..1 | |
| component[admin_obs]/section/templateId/**@extension="1.0"** | | 1..1 | |
| component[admin_obs]/section/**id** | | 0..1 | See <id> for available attributes. |
| 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 | |
| component[admin_obs]/section/code/**@codeSystemName** | | 0..1 | Optional CDA element.<br><br>The value **SHOULD** be "NCTIS Data Components". |
| component[admin_obs]/section/code/**@displayName** | | 0..1 | Optional CDA element.<br><br>The value **SHOULD** be "Administrative Observations". |
| component[admin_obs]/section/**title="Administrative Observations"** | | 0..1 | |
| component[admin_obs]/section/**text** | | 0..1 | See CDA narratives. |

# 6 Document CDA templates

This chapter contains mapping from the Composition (Event Summary) model to a CDA clinical document class, expressed as a series of CDA templates that describe how the CDA document is composed.

CDA templates are expected to be reused from one document type (or Composition model) to another. Each CDA template is presented under a heading in the format of "CDA schema element" ("model name") where "CDA schema element" is the root element for a CDA template and "model name" is the name of a model that constrains an element in the Event Summary Hierarchy.

# 6.1 ClinicalDocument (Event Summary)

The following are the usage scenarios expected:

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

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | 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. | 1..1 | DomainResource | **ClinicalDocument** | In addition to the template defined in this mapping table, ClinicalDocument **SHALL** conform to the template defined in ClinicalDocument. |
| | | | | ClinicalDocument/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | ClinicalDocument/templateId/**@root="1.2.36.1.2001.1001.102.101.100020"** | |
| | | | | ClinicalDocument/templateId/**@extension="1.0"** | |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Composition > **composition-author-role** | A practitioner role that authored this composition. This is not to be confused with who typed in the information. | 1..1 | Reference(PractitionerRole as PractitionerRole with Practitioner with Mandatory Identifier) | ClinicalDocument/**author** | author **SHALL** conform to the template defined in author (PractitionerRole with Practitioner with Mandatory Identifier). |
| Composition > **identifier** | Logical identifier for the composition, assigned when created. This identifier stays constant as the composition is changed over time. | 0..1 | Identifier | ClinicalDocument/**setId** | |
| Composition > **status** | The workflow/clinical status of this composition. The status is a marker for the clinical standing of the document. | 1..1 | code | ClinicalDocument/**ext:completionCode** | See <code> for available attributes.<br><br>Australian Healthcare Clinical Document Architecture Document Lifecycle Status (required) |
| Composition > **subject** | Who or what the composition is about. The composition can be about a person, (patient or healthcare practitioner), a device (e.g. a machine) or even a group of subjects (such as a document about a herd of livestock, or a set of patients that share a common exposure). | 1..1 | Reference(Patient as Patient with Mandatory Identifier) | ClinicalDocument/**recordTarget** | recordTarget **SHALL** conform to the template defined in recordTarget (Patient with Mandatory Identifier). |
| Composition > **encounter** | Describes the clinical encounter or type of care this documentation is associated with. | 0..1 | Reference(Encounter as Summary of an Encounter for an Event) | ClinicalDocument/**componentOf[enc]**<br>ClinicalDocument/componentOf[enc]/**encompassingEncounter** | encompassingEncounter **SHALL** conform to the template defined in encompassingEncounter (Summary of an Encounter for an Event). |
| Composition > **date** | The composition editing time, when the composition was last logically changed by the author. | 1..1 | dateTime | ClinicalDocument/**author/time** | See <time> for available attributes. |
| Composition > **author** | Identifies who is responsible for the information in the composition, not necessarily who typed it in. | 1..1 | Reference(Practitioner as Practitioner with Mandatory Identifier | ClinicalDocument/**author** | In CDA an author (Practitioner) is part of composition-author-role (PractitionerRole).<br><br>author **SHALL** conform to the template defined in author (PractitionerRole with Practitioner with Mandatory Identifier). |
| Composition > **title** | Official human-readable label for the composition. | 1..1 | string | ClinicalDocument/**title** | |
| Composition > **attester (Legal Attester)** | A participant who has attested to the accuracy of the composition/document. | 1..1 | BackboneElement | ClinicalDocument/**legalAuthenticator** | 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 | attester.mode="legal"; the person authenticated the content and accepted legal responsibility for its content. |
| Composition > attester (Legal Attester) > **time** | When the composition was attested by the party. | 1..1 | dateTime | n/a | Not mapped separately, implicit in legalAuthenticator/time/@value. |
| Composition > attester (Legal Attester) > **party** | Who attested the composition in the specified way. | 0..1 | ReferencePractitioner as Practitioner with Mandatory Identifier | n/a | Not mapped separately, implicit in legalAuthenticator/assignedEntity. |
| Composition > **custodian** | Identifies the organization or group who is responsible for ongoing maintenance of and access to the composition/document information. | 1..1 | Reference(Organization as Organization with Mandatory Identifier) | ClinicalDocument/**custodian** | custodian **SHALL** conform to the template defined in custodian (Organization with Mandatory Identifier). |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| 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 and intolerances of the patient. This includes 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). |
| Composition > **section (Medications)** | Information about medicines that are relevant to the encounter. The medicines included do not constitute a full medications list, but are those medicines that have specifically changed as a result of the encounter, or those medicines directly relevant to the encounter. | 0..1 | BackboneElement | ClinicalDocument/component/structuredBody/**component[meds]** | |
| | | | | ClinicalDocument/component/structuredBody/component[meds]/**section** | section **SHALL** conform to the template defined in section (Medications). |
| Composition > **section (Medical History)** | Information about the problems, diagnoses and medical or surgical procedures of a patient. This can include statements that a patient does not have a particular condition. | 0..1 | BackboneElement | ClinicalDocument/component/structuredBody/**component[med_hist]** | |
| | | | | ClinicalDocument/component/structuredBody/component[med_hist]/**section** | section **SHALL** conform to the template defined in section (Medical History). |
| Composition > **section (Immunisations)** | Information about vaccinations administered or reported to be administered during this encounter. This may include statements that a patient has not had a particular vaccine administered. | 0..1 | BackboneElement | ClinicalDocument/component/structuredBody/**component[imms]** | |
| | | | | ClinicalDocument/component/structuredBody/component[imms]/**section** | section **SHALL** conform to the template defined in section (Immunisations). |
| Composition > **section (Diagnostic Investigations)** | Information about diagnostic tests or procedures performed on or requested for an individual during this encounter, that are considered relevant to the individual's ongoing care. This does not include a full list of diagnostic tests and procedures performed on or request for the individual but only those that are relevant to the encounter. | 0..1 | BackboneElement | ClinicalDocument/component/structuredBody/**component[diag_inv]** | |
| | | | | ClinicalDocument/component/structuredBody/component[diag_inv]/**section** | section **SHALL** conform to the template defined in section (Diagnostic Investigations). |

# 7 Participation CDA templates

This chapter contains mapping from the Individual (e.g. Patient with Mandatory Identifier) and Entity (e.g. Organization with Mandatory Identifier) models to CDA participation classes, expressed as a series of CDA templates that describe how each CDA participation is composed.

CDA templates are expected to be reused from one document type (or Composition model) to another. Each CDA template is presented under a heading in the format of "CDA schema element" ("model name") where "CDA schema element" is the root element for a CDA template and "model name" is the name of a model that constrains an element in the Event Summary Hierarchy.

## 7.1 recordTarget (Patient with Mandatory Identifier)

### CDA mapping

| Element | Element description | Card | Element type | CDA schema element | 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 elements | DomainResource | **recordTarget[pat]** | |
| | | | | recordTarget[pat]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | recordTarget[pat]/templateId/**@root="1.2.36.1.2001.1001.102.101.100004"** | |
| | | | | recordTarget[pat]/templateId/**@extension="1.0"** | |
| | | | | recordTarget[pat]/patientRole/**id** | See <id> for available attributes. |
| | | | | recordTarget[pat]/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[pat]/patientRole/patient/**birthplace** | |
| | | | | recordTarget[pat]/patientRole/patient/birthplace/**place** | |
| | | | | recordTarget[pat]/patientRole/patient/birthplace/place/**addr** | Recommended mappings for the complex data type to CDA (R2): Address. |
| Patient > **indigenous-status** | National Health Data Dictionary (NHDD) based indigenous status for a patient. | 0..1 | Coding | recordTarget[pat]/patientRole/patient/**ethnicGroupCode** | See <code> for available attributes.<br><br>Australian Indigenous Status (required) |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA Header Data Elements** | | | | Context: /ClinicalDocument/component/structuredBody/component[admin_obs]/section/ See Administrative Observations. | |
| Patient > **closing-the-gap-registration** | Closing the Gap registration indicator for an Australian patient. | 0..1 | boolean | **entry[close_gap]** | |
| | | | | entry[close_gap]/**observation** | |
| | | | | entry[close_gap]/observation/**id** | Optional CDA element.<br>See <id> for available attributes. |
| | | | | 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"** | |
| | | | | entry[close_gap]/observation/code/**@codeSystemName** | Optional CDA element.<br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | entry[close_gap]/observation/code/**@displayName** | Optional CDA element.<br>displayName **SHOULD** be "Closing the Gap Copayment Eligibility Indicator". |
| | | | | entry[close_gap]/observation/**value** | The value is 'true' if eligible for Closing the Gap co-payment.<br>//value/@xsi:type **SHALL** be "BL". |
| Patient > **patient-mothersMaidenName** | Mother's maiden (unmarried) name, commonly collected to help verify patient identity. | 0..1 | string | entry[mothers_name] | |
| | | | | entry[mothers_name]/**observation** | |
| | | | | entry[mothers_name]/observation/**id** | Optional CDA element.<br>See <id> for available attributes. |
| | | | | 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"** | |
| | | | | entry[mothers_name]/observation/code/**@codeSystemName** | Optional CDA element.<br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | entry[mothers_name]/observation/code/**@displayName** | Optional CDA element.<br>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 > **active** | Whether this patient record is in active use. | 0..1 | boolean | n/a | This logical element has no mapping to CDA. |
| Patient > **name** | A name associated with the individual. | 0..* | HumanName | recordTarget[pat]/patientRole/patient/**name** | Recommended mappings for the complex data type to CDA (R2): HumanName. |

| Element | Element description | Card | Element type | CDA schema element | 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[pat]/patientRole/**telecom** | Recommended mappings for the complex data type to CDA (R2): ContactPoint. |
| Patient > **gender** | Administrative Gender - the gender that the patient is considered to have for administration and record keeping purposes. | 0..1 | code | recordTarget[pat]/patientRole/patient/**administrativeGenderCode** | See <code> for available attributes.<br><br>AdministrativeGender (required) |
| Patient > **birthDate** | The date of birth for the individual. | 0..1 | date | recordTarget[pat]/patientRole/patient/**birthTime** | See <time> for available attributes. |
| **CDA Header Data Elements** | | | | Context: /ClinicalDocument/component/structuredBody/component[admin_obs]/section/ See Administrative Observations. | |
| Patient > birthDate > **date-accuracy-indicator** | General date accuracy indicator coding. | 0..1 | Coding | entry[dob_acc] | |
| | | | | entry[dob_acc]/**observation** | |
| | | | | entry[dob_acc]/observation/**@classCode="OBS"** | |
| | | | | entry[dob_acc]/observation/**@moodCode="EVN"** | |
| | | | | entry[dob_acc]/observation/**id** | Optional CDA element.<br><br>See <id> for available attributes. |
| | | | | 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"** | |
| | | | | entry[dob_acc]/observation/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | entry[dob_acc]/observation/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Date of Birth Accuracy Indicator". |
| | | | | entry[dob_acc]/observation/**value** | //value/@xsi:type **SHALL** be "CS".<br><br>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** | Indicates if the individual is deceased or not. Deceased date accuracy indicator is optional. | 0..1 | boolean | recordTarget[pat]/patientRole/patient/**ext:deceasedInd** | Only one of patientRole/patient/ext:deceasedInd or patientRole/patient/ext:deceasedTime **SHOULD** be instantiated. |
| | | | dateTime | recordTarget[pat]/patientRole/patient/**ext:deceasedTime** | |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA Header Data Elements** | | | | Context: /ClinicalDocument/component/structuredBody/component[admin_obs]/section/ See Administrative Observations | |
| Patient > deceased > **date-accuracy-indicator** | General date accuracy indicator coding. | 0..1 | Coding | entry[dod_acc] | |
| | | | | entry[dod_acc]/**observation** | |
| | | | | entry[dod_acc]/observation/**@classCode="OBS"** | |
| | | | | entry[dod_acc]/observation/**@moodCode="EVN"** | |
| | | | | entry[dod_acc]/observation/**id** | Optional CDA element.<br><br>See <id> for available attributes. |
| | | | | 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"** | |
| | | | | entry[dod_acc]/observation/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | entry[dod_acc]/observation/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Date of Death Accuracy Indicator". |
| | | | | entry[dod_acc]/observation/**value** | //value/@xsi:type **SHALL** be "CS".<br><br>Date Accuracy Indicator (required) |
| **CDA Header Data Elements** | | | | Context: /ClinicalDocument/ | |
| Patient > **address** | Addresses for the individual. | 0..* | Address | recordTarget[pat]/patientRole/**addr** | Recommended mappings for the complex data type to CDA (R2): Address. |
| Patient > **maritalStatus** | This field contains a patient's most recent marital (civil) status. | 0..1 | CodeableConcept | recordTarget[pat]/patientRole/patient/**maritalStatusCode** | See <code> for available attributes.<br><br>Marital Status Codes (extensible) |
| Patient > **multipleBirth** | Indicates whether the patient is part of a multiple (bool) or indicates the actual birth order (integer). | 0..1 | boolean<br><br>integer | recordTarget[pat]/patientRole/patient/**ext:multipleBirthInd**<br><br>recordTarget[pat]/patientRole/patient/**ext:multipleBirthOrderNumber** | Only one of patientRole/patient/ext:multipleBirthInd or patientRole/patient/ext:multipleBirthOrderNumber **SHOULD** be instantiated. |
| Patient > ~~photo~~ | Image of the patient. | 0..0 | Attachment | n/a | This logical element has no mapping to CDA. |
| Patient > **contact** | A contact party (e.g. guardian, partner, friend) for the patient. | 0..* | BackboneElement | **participant[pat_contact]** | participant[pat_contact] **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[pat]/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[pat]/patientRole/patient/languageCommunication/**languageCode** | See <code> for available attributes.<br><br>Common Languages in Australia (extensible) |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| 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[pat]/patientRole/patient/languageCommunication/**preferenceInd** | |
| Patient > **generalPractitioner** | Patient's nominated care provider. | 0..* | Reference(<br><br>Organization as Base Organization<br>Practitioner as Base Practitioner) | **participant** | providerOrganization **SHALL** conform to the template defined in participant (generalPractitioner Base Organization) or participant (generalPractitioner Base Practitioner). |
| Patient > **managingOrganization** | Organization that is the custodian of the patient record. | 0..1 | Reference(Organization as Base Organization) | recordTarget[pat]/patientRole/**providerOrganization[manag_org]** | providerOrganization **SHALL** conform to the template defined in providerOrganization (Base Organization). |

# 7.2 participant (Patient contact)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | 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 elements | BackboneElement | **participant[pat_contact]** | contact **SHALL** have at least name, or telecom, or address, or organization instantiated. |
| | | | | participant[pat_contact]/**@typeCode="IND"** | |
| | | | | participant[pat_contact]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | participant[pat_contact]/templateId/**@root="1.2.36.1.2001.1001.102.101.100056"** | |
| | | | | participant[pat_contact]/templateId/**@extension="1.0"** | |
| | | | | participant[pat_contact]/**associatedEntity** | |
| | | | | participant[pat_contact]/associatedEntity/**@typeCode="CON"** | |
| | | | | participant[pat_contact]/associatedEntity/**id** | Patient > contact is represented in CDA by a participant. |
| Patient > contact > **relationship** | The nature of the relationship between the patient and the contact person. | 0..1 | CodeableConcept | participant[pat_contact]/associatedEntity/associatedPerson/**ext:personalRelationship** | ContactEntityType (extensible)<br><br>See <Personal Relationship> for available attributes. |
| Patient > contact > **name** | A name associated with the contact person. | 0..1 | HumanName | participant[pat_contact]/associatedEntity/associatedPerson/**name** | Recommended mappings for the complex data type to CDA (R2): HumanName. |
| Patient > contact > **telecom** | A contact detail for the person, e.g. a telephone number or an email address. | 0..* | ContactPoint | participant[pat_contact]/associatedEntity/**telecom** | Recommended mappings for the complex data type to CDA (R2): ContactPoint. |
| Patient > contact > **address** | Address for the contact person. | 0..1 | Address | participant[pat_contact]/associatedEntity/**addr** | Recommended mappings for the complex data type to CDA (R2): 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/<br>associatedPerson/**ext:administrativeGenderCode** | See <code> for available attributes.<br><br>AdministrativeGender (required) |
| Patient > contact > **organization** | Organization on behalf of which the contact is acting or for which the contact is working. | 0..1 | Reference(Organization as Base Organization) | participant[pat_contact]/associatedEntity/**scopingOrganization** | contact > organization template is not currently defined. |
| | | | | participant[pat_contact]/associatedEntity/scopingOrganization/**typeCode="ORG"** | |
| 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. |

# 7.3 participant (generalPractitioner Base Organization)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | 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 elements | DomainResource | **participant[gen_prac_org]** | The organization **SHALL** at least have an identifier (participant[gen_prac_org]/associatedEntity/scopingOrganization/ext:asEntityIdentifier) or a name (participant[gen_prac_org]/associatedEntity/scopingOrganization/name). |
| | | | | participant[gen_prac_org]/**@typeCode="PART"** | |
| | | | | participant[gen_prac_org]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | participant[gen_prac_org]/templateId/**@root="1.2.36.1.2001.1001.102.101.100036"** | |
| | | | | participant[gen_prac_org]/templateId/**@extension="1.0"** | |
| | | | | participant[gen_prac_org]/**functionCode/@code="PCP"** | |
| | | | | participant[gen_prac_org]/**associatedEntity** | |
| | | | | participant[gen_prac_org]/associatedEntity/**@classCode="PROV"** | |
| | | | | participant[gen_prac_org]/associatedEntity/**id** | Optional CDA element.<br><br>See <id> for available attributes. |
| Organization > **identifier** | Identifier for the organization that is used to identify the organization across multiple disparate systems. | 0..* | Identifier | participant[gen_prac_org]/associatedEntity/scopingOrganization/**ext:asEntityIdentifier** | See <Entity Identifier> for available attributes.<br><br>Recommended mappings for the complex data type to CDA (R2): 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..1 | CodeableConcept | participant[gen_prac_org]/associatedEntity/**code** | See <code> for available attributes.<br><br>OrganizationType (example) |
| Organization > **name** | A name associated with the organization. | 0..1 | string | participant[gen_prac_org]/associatedEntity/scopingOrganization/**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_org]/associatedEntity/scopingOrganization/**name** | In CDA name and alias are represented by //scopingOrganization/name. |
| Organization > **telecom** | A contact detail for the organization. | 0..* | ContactPoint | participant[gen_prac_org]/associatedEntity/**telecom** | Recommended mappings for the complex data type to CDA (R2): ContactPoint. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Organization > **address** | An address for the organization. | 0..* | Address | participant[gen_prac_org]/associatedEntity/**addr** | addr/@use is Organization Address Use HL7 V3 (required).<br><br>Recommended mappings for the complex data type to CDA (R2): Address. |
| Organization > **partOf** | The organization of which this organization forms a part. | 0..1 | Reference(Organization as Base Organization) | participant[gen_prac_org]/**asOrganizationPartOf**<br>participant[gen_prac_org]/asOrganizationPartOf/**wholeOrganization** | The organization **SHALL** have at least a name (//wholeOrganization/name) or an identifier (//wholeOrganization/ext:asEntityIdentifier).<br><br>Organization > partOf template is not currently defined. |
| **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). |

# 7.4 participant (generalPractitioner Base Practitioner)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | 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 elements | DomainResource | **participant[gen_prac_prac]** | The practitioner **SHALL** at least have an identifier (participant[gen_prac_prac]/associatedEntity/associatedPerson/ext:asEntityIdentifier) or a name (participant[gen_prac_prac]/associatedEntity/associatedPerson/name). |
| | | | | participant[gen_prac_prac]/**@typeCode="PART"** | |
| | | | | participant[gen_prac_prac]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | participant[gen_prac_prac]/templateId/**@root="1.2.36.1.2001.1001.102.101.100037"** | |
| | | | | participant[gen_prac_prac]/templateId/**@extension="1.0"** | |
| | | | | participant[gen_prac_prac]/**functionCode/@code="PCP"** | |
| | | | | participant[gen_prac_prac]/**associatedEntity** | |
| | | | | participant[gen_prac_org]/associatedEntity/**@classCode="PROV"** | |
| | | | | participant[gen_prac_prac]/associatedEntity/**id** | Optional CDA element.<br><br>See <id> for available attributes. |
| | | | | participant[gen_prac_prac]/associatedEntity/**code** | Optional CDA element.<br><br>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_prac]/associatedEntity/associatedPerson/**ext:asEntityIdentifier** | See <Entity Identifier> for available attributes.<br><br>Recommended mappings for the complex data type to CDA (R2): Identifier. |
| Practitioner > **active** | Whether this practitioner's record is in active use. | 0..1 | boolean | n/a | This logical element has no mapping to CDA. |
| Practitioner > **name** | The name(s) associated with the practitioner. | 0..* | HumanName | participant[gen_prac_prac]/associatedEntity/associatedPerson/**name** | Recommended mappings for the complex data type to CDA (R2): HumanName. |

| Element | Element description | Card | Element type | CDA schema element | 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_prac]/associatedEntity/**telecom** | Recommended mappings for the complex data type to CDA (R2): 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_prac]/associatedEntity/**addr** | Recommended mappings for the complex data type to CDA (R2): Address. |
| Practitioner > **gender** | Administrative Gender - the gender that the person is considered to have for administration and record keeping purposes. | 0..1 | code | participant[gen_prac_prac]/associatedEntity/associatedPerson/**ext:administrativeGenderCode** | See <code> for available attributes.<br><br>AdministrativeGender (required) |
| Practitioner > **birthDate** | The date of birth for the practitioner. | 0..1 | date | participant[gen_prac_prac]/associatedEntity/associatedPerson/**ext:birthTime** | |
| Practitioner > ~~photo~~ | Image of the person. | 0..0 | Attachment | n/a | This logical element has no mapping to CDA. |
| Practitioner > **qualification** | Qualifications obtained by training and certification. | 0..* | BackboneElement | See: instantiation choices | It is possible that the qualification may be able to be captured as a complex structure or as a text list.<br><br>**instantiation choices:**<br><br>If the qualification or list of qualifications is the result of capturing a text field then this element is expected to be as //ext:Qualifications/@classCode="QUAL". See <Qualification> for available attributes.<br><br>If more information can be captured than a narrative list then this logical element is expected to be instantiated as ext:coverage2[prac_qual] and **SHALL** conform to the template defined in ext:coverage (Practitioner qualification) . |
| Practitioner > **communication** | A language the practitioner is able to use in patient communication. | 0..* | CodeableConcept | n/a | This logical element is not currently mapped into CDA.<br><br>This may be supported in future by an entry in Administrative Observations or by the addition of an extension to add the languageCommunication element to the Person class. |

# 7.5 author (PractitionerRole with Practitioner with Mandatory Identifier)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Conformance level comes from linking elements | | | | Context: Comes from linking elements | |
| **PractitionerRole** | A practitioner, at a location, performing a role. | Cardinality comes from linking elements | DomainResource | **author[prac_rol]** | |
| | | | | author[prac_rol]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | author[prac_rol]/templateId/**@root="1.2.36.1.2001.1001.102.101.100006"** | |
| | | | | author[prac_rol]/templateId/**@extension="1.0"** | |
| | | | | author[prac_rol]/**assignedAuthor** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | author[prac_rol]/assignedAuthor/**id** | See <id> for available attributes. |
| PractitionerRole > **identifier** | business identifiers for practitioner in a role | 0..* | Identifier | author[prac_rol]/assignedAuthor/assignedPerson/**ext:asEntityIdentifier** | In CDA the identifier for both PractitionerRole and Practitioner for an author participation are expected to be included in //assignedPerson/ext:asEntityIdentifier.<br><br>Cardinality of this element **SHALL** be interpreted as 1..*.<br><br>See <Entity Identifier> for available attributes.<br><br>Recommended mappings for the complex data type to CDA (R2): Identifier. |
| PractitionerRole > **active** | Whether this practitioner's record is in active use. | 0..1 | boolean | n/a | This logical element has no mapping to CDA. |
| Practitioner > **period** | The period during which the person is authorized to act as a practitioner in these role(s) for the organization. | 0..1 | Period | n/a | This logical element has no mapping to CDA. |
| PractitionerRole > **Practitioner** | Practitioner that is able to provide the defined services for the organation. | 1..1 | DomainResource | author[prac_rol]/assignedAuthor/**assignedPerson** | assignedPerson **SHALL** conform to the template defined in assignedPerson (Practitioner with mandatory identifier). |
| PractitionerRole > **organization** | The organization where the Practitioner performs the roles associated. | 0..1 | Reference(Organization as Base Organization) | author[prac_rol]/assignedAuthor/representedOrganization | representedOrganization **SHALL** conform to the template defined in representedOrganization (Base Organization). |
| PractitionerRole > **code** | Roles which this practitioner is authorized to perform for the organization. | 0..* | code | code | See <code> for available attributes.<br><br>Australian and New Zealand Standard Classification of Occupations (preferred) or Practitioner Role (preferred)[1] |
| PractitionerRole > **specialty** | Specific specialty of the practitioner. | 0..* | code | n/a | specialty is not currently mapped. |
| PractitionerRole > **location** | Single location of provision of services for this role. This is aligned with the use of an associated location specific Medicare Provider Number. | 0..1 | Reference(Location) | n/a | location is not currently mapped. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| PractitionerRole > **healthcareService** | The list of healthcare services that this worker provides for this role's Organization/Location(s). | 0..* | Reference(HealthcareService) | n/a | healthcareService is not currently mapped. |
| PractitionerRole > **telecom** | Contact details that are specific to the role/location/service. | 0..* | ContactPoint | **telecom** | In CDA the telecom for both PractitionerRole and Practitioner for an author participation are expected to be included in //assignedAuthor/telecom.<br><br>Recommended mappings for the complex data type to CDA (R2): ContactPoint. |
| PractitionerRole > **availableTime** | A collection of times that the Service Site is available. | 0..* | BackboneElement | n/a | availableTime is not currently mapped. |
| PractitionerRole > **notAvailable** | The HealthcareService is not available during this period of time due to the provided reason. | 0..* | string | n/a | notAvailable is not currently mapped. |
| 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 | CodeableConcept | n/a | availabilityExceptions is not currently mapped. |

[1]Note: The source representation of this terminology binding on code in PractitionerRole with Practitioner with Mandatory Identifier [DH2019g] is as an optional slice on the coding part of the code element. In the representation of the model presented in this specification it is normalised as a set of preferred bindings.

# 7.6 custodian (Organization with Mandatory Identifier)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | 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 elements | DomainResource | **custodian[org]** | |
| | | | | custodian[org]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | custodian[org]/templateId/**@root="1.2.36.1.2001.1001.102.101.100002"** | |
| | | | | custodian[org]/templateId/**@extension="1.0"** | |
| | | | | custodian[org]/**assignedCustodian** | |
| | | | | custodian[org]/assignedCustodian/**representedCustodianOrganization** | |
| | | | | custodian[org]/assignedCustodian/representedCustodianOrganization/**id** | Optional CDA element.<br><br>See <id> for available attributes. |
| Organization > **identifier** | Identifier for the organization that is used to identify the organization across multiple disparate systems. | 1..* | Identifier | custodian[org]/assignedCustodian/ representedCustodianOrganization/**ext:asEntityIdentifier** | See <Entity Identifier> for available attributes.<br><br>Recommended mappings for the complex data type to CDA (R2): 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..1 | CodeableConcept | n/a | This logical element has no mapping to CDA. |
| Organization > **name** | A name associated with the organization. | 0..1 | string | custodian[org]/assignedCustodian/representedCustodianOrganization/**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 | n/a | This logical element has no mapping to CDA. |
| Organization > **telecom** | A contact detail for the organization. | 0..* | ContactPoint | custodian[org]/assignedCustodian/representedCustodianOrganization/**telecom** | In CDA the maximum occurrences of representedCustodianOrganization/telecom is 1. Although the model indicates that address is 0..*, in a CDA implementation this is limited to 0..1.<br><br>Recommended mappings for the complex data type to CDA (R2): ContactPoint. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Organization > **address** | An address for the organization. | 0..* | Address | custodian[org]/assignedCustodian/representedCustodianOrganization/**addr** | addr/@use is Organization Address Use HL7 V3 (required).<br><br>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.<br><br>Recommended mappings for the complex data type to CDA (R2): Address. |
| Organization > **partOf** | The organization of which this organization forms a part. | 0..1 | Reference(Organization as Base Organization) | n/a | This logical element has no mapping to CDA. |
| **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). |

# 7.7 informant (Base Patient)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA Header Data Elements** | | | | Context: Comes from linking element | |
| **Patient** | Demographics and other administrative information about an individual receiving care or other health-related services. | Cardinality comes from linking elements | DomainResource | **informant[pat]** | |
| | | | | informant[pat]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | informant[pat]/templateId/**@root="1.2.36.1.2001.1001.102.101.100051"** | |
| | | | | informant[pat]/templateId/**@extension="1.0"** | |
| | | | | informant[pat]/**assignedEntity** | |
| | | | | informant[pat]/assignedEntity/**id** | This **SHALL** hold the same value as /ClinicalDocument/recordTarget/patientRole/id. |
| | | | | informant[pat]/assignedEntity/**code** | Optional CDA element. |
| | | | | informant[pat]/assignedEntity/code/**@code="SELF"** | |
| | | | | informant[pat]/assignedEntity/code/**@codeSystem="2.16.840.1.113883.5.110"** | |
| | | | | informant[pat]/assignedEntity/**assignedPerson** | |
| Patient > **birthPlace** | The registered place of birth of the patient. A sytem may use the address.text if they don't store the birthPlace address in discrete elements. | 0..1 | Address | n/a | Not mapped directly for this participant; this is implicit in //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 //patient/ethnicGroupCode. |
| Patient > **closing-the-gap-registration** | Closing the Gap registration indicator for an Australian patient. | 0..1 | boolean | n/a | closing-the-gap-registration is not currently mapped. |
| Patient > **patient-mothersMaidenName** | 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. | 0..* | Identifier | informant[pat]/assignedEntity/assignedPerson/**ext:asEntityIdentifier** | See <Entity Identifier> for available attributes.<br><br>Recommended mappings for the complex data type to CDA (R2): Identifier. |
| Patient > **active** | Whether this patient record is in active use. | 0..1 | boolean | n/a | This logical element has no mapping to CDA. |
| Patient > **name** | A name associated with the individual. | 0..* | HumanName | informant[pat]/assignedEntity/assignedPerson/**name** | Recommended mappings for the complex data type to CDA (R2): HumanName. |
| Patient > **telecom** | A contact detail (e.g. a telephone number or an email address) by which the individual may be contacted. | 0..* | ContactPoint | informant[pat]/assignedEntity/**telecom** | Recommended mappings for the complex data type to CDA (R2): ContactPoint. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Patient > **gender** | Administrative Gender - the gender that the patient is considered to have for administration and record keeping purposes. | 0..1 | code | informant[pat]/assignedEntity/assignedPerson/**ext:administrativeGenderCode** | See <code> for available attributes.<br><br>AdministrativeGender (required) |
| Patient > **birthDate** | The date of birth for the individual. | 0..1 | date | n/a | Not mapped directly for this participant; this is implicit in //patient/birthTime. |
| Patient > **deceased** | Indicates if the individual is deceased or not. Deceased date accuracy indicator is optional. | 0..1 | boolean<br><br>dateTime | n/a | Not mapped directly for this participant; this is implicit in //patient/ext:deceasedTime or //patient/ext:deceasedInd. |
| Patient > **address** | Addresses for the individual. | 0..* | Address | informant[pat]/assignedEntity/**addr** | Recommended mappings for the complex data type to CDA (R2): 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 //patient/ext:deceasedTime or //patient/maritalStatusCode. |
| Patient > **multipleBirth** | Indicates whether the patient is part of a multiple (bool) or indicates the actual birth order (integer). | 0..1 | boolean<br><br>integer | n/a | Not mapped directly for this participant; this is implicit in //patient/ext:multipleBirthInd or //patient/multipleBirthOrderNumber. |
| Patient > ~~photo~~ | Image of the patient. | 0..0 | Attachment | n/a | This logical element has no mapping to CDA. |
| 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 //patient/languageCommunication. |
| Patient > **generalPractitioner** | Patient's nominated care provider. | 0..* | Reference(<br><br>Organization as Base Organization<br>Practitioner as Base Practitioner) | **n/a** | This logical element has no mapping to CDA. |
| Patient > **managingOrganization** | Organization that is the custodian of the patient record. | 0..1 | Reference(Organization as Base Organization) | n/a | This logical element has no mapping to CDA. |

# 7.8 informant (Base RelatedPerson)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | 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 | DomainResource | **informant[rel_per]** | The related person **SHALL** have at least a name (informant[rel_per]]/relatedEntity/relatedPerson/name), or an identifier(informant[rel_per]]/relatedEntity/relatedPerson/ext:asEntityIdentifier), or a relationship instantiated (informant[rel_per]]/relatedEntity/relatedPerson/ext:personalRelationship). |
| | | | | informant[rel_per]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | informant[rel_per]/templateId/**@root="1.2.36.1.2001.1001.102.101.100052"** | |
| | | | | informant[rel_per]/templateId/**@extension="1.0"** | |
| | | | | informant[rel_per]/**relatedEntity** | |
| | | | | informant[rel_per]/relatedEntity/**@classCode="PRS"** | |
| | | | | informant[rel_per]/relatedEntity/**code** | Optional CDA element. |
| | | | | informant[rel_per]/relatedEntity/**relatedPerson** | |
| RelatedPerson > **identifier** | Identifier for a person within a particular scope. | 1..* | Identifier | informant[rel_per]/relatedEntity/relatedPerson/**ext:asEntityIdentifier** | See <Entity Identifier> for available attributes.<br><br>Recommended mappings for the complex data type to CDA (R2): Identifier. |
| RelatedPerson > **active** | Whether this related person record is in active use. | 0..1 | boolean | n/a | This logical element has no mapping to CDA. |
| RelatedPerson > **patient** | The patient this person is related to. | 1..1 | Reference(Patient as Base Patient) | n/a | Not mapped directly for this participant; this is implicit in //patient. |
| RelatedPerson > **relationship** | The nature of the relationship between a patient and the related person. | 0..1 | string | informant[rel_per]/relatedEntity/relatedPerson/**ext:personalRelationship** | Related Person Relationship Type (extensible)<br><br>See <Personal Relationship> for available attributes. |
| RelatedPerson > **name** | A name associated with the person. | 0..* | HumanName | informant[rel_per]/relatedEntity/relatedPerson/**name** | Recommended mappings for the complex data type to CDA (R2): HumanName. |
| RelatedPerson > **telecom** | A contact detail for the person, e.g. a telephone number or an email address. | 0..* | informant[rel_per]/relatedEntity/relatedPerson/**telecom** | ContactPoint | |
| RelatedPerson > **gender** | Administrative Gender - the gender that the person is considered to have for administration and record keeping purposes. | 0..1 | code | informant[rel_per]/relatedEntity/relatedPerson/**ext:administrativeGenderCode** | See <code> for available attributes.<br><br>AdministrativeGender (required) |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| RelatedPerson > **birthDate** | The date on which the related person was born. | 0..1 | date | informant[rel_per]/relatedEntity/relatedPerson/**ext:birthTime** | See <time> for available attributes. |
| RelatedPerson > **address** | Address where the related person can be contacted or visited. | 0..* | Address | informant[rel_per]/relatedEntity/**addr** | Recommended mappings for the complex data type to CDA (R2): Address. |
| RelatedPerson > ~~photo~~ | Image of the person. | 0..0 | Attachment | n/a | This logical element has no mapping to CDA. |
| 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 | informant[rel_per]/relatedEntity/relatedPerson/ ext:personalRelationship[related]/ext:effectiveTime | See <time> for available attributes. |

# 7.9 informant (Base Practitioner)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | 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 elements | DomainResource | **informant[prac]** | The practitioner **SHALL** at least have an identifier (informant[prac]/assignedEntity/assignedPerson/ext:asEntityIdentifier) or a name (informant[prac]/assignedEntity/assignedPerson/name). |
| | | | | informant[prac]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | informant[prac]/templateId/**@root="1.2.36.1.2001.1001.102.101.100053"** | |
| | | | | informant[prac]/templateId/**@extension="1.0"** | |
| | | | | informant[prac]/**assignedEntity** | |
| | | | | informant[prac]/assignedEntity/**id** | See <id> for available attributes. |
| | | | | informant[prac]/assignedEntity/**code** | Optional CDA element.<br><br>See <code> for available attributes.<br><br>Australian and New Zealand Standard Classification of Occupations (preferred) |
| | | | | informant[prac]/assignedEntity/**assignedPerson** | |
| Practitioner > **identifier** | An identifier that applies to this person in this role. | 0..* | Identifier | informant[prac]/assignedEntity/assignedPerson/**ext:asEntityIdentifier** | See <Entity Identifier> for available attributes.<br><br>Recommended mappings for the complex data type to CDA (R2): Identifier. |
| Practitioner > **active** | Whether this practitioner's record is in active use. | 0..1 | boolean | n/a | This logical element has no mapping to CDA. |
| Practitioner > **name** | The name(s) associated with the practitioner. | 0..* | HumanName | informant[prac]/assignedEntity/assignedPerson/**name** | Recommended mappings for the complex data type to CDA (R2): HumanName. |
| Practitioner > **telecom** | A contact detail for the practitioner, e.g. a telephone number or an email address. | 0..* | ContactPoint | informant[prac]/assignedEntity/**telecom** | Recommended mappings for the complex data type to CDA (R2): 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 | informant[prac]/assignedEntity/**addr** | Recommended mappings for the complex data type to CDA (R2): Address. |
| Practitioner > **gender** | Administrative Gender - the gender that the person is considered to have for administration and record keeping purposes. | 0..1 | code | informant[prac]/assignedEntity/assignedPerson/**ext:administrativeGenderCode** | See <code> for available attributes.<br><br>AdministrativeGender (required) |
| Practitioner > **birthDate** | The date of birth for the practitioner. | 0..1 | date | informant[prac]/assignedEntity/assignedPerson/**ext:birthTime** | See <time> for available attributes. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Practitioner > ~~photo~~ | Image of the person. | 0..0 | Attachment | n/a | This logical element has no mapping to CDA. |
| Practitioner > **qualification** | Qualifications obtained by training and certification. | 0..* | BackboneElement | See: instantiation choices | It is possible that the qualification may be able to be captured as a complex structure or as a text list.<br><br>**instantiation choices:**<br><br>If the qualification or list of qualifications is the result of capturing a text field then this element is expected to be as //ext:Qualifications/@classCode="QUAL". See <Qualification> for available attributes.<br><br>If more information can be captured than a narrative list then this logical element is expected to be instantiated as ext:coverage2[prac_qual] and **SHALL** conform to the template defined in ext:coverage (Practitioner qualification) . |
| Practitioner > **communication** | A language the practitioner is able to use in patient communication. | 0..* | CodeableConcept | n/a | This logical element is not currently mapped into CDA.<br><br>This may be supported in future by an entry in Administrative Observations or by the addition of an extension to add the languageCommunication element to the Person class. |

# 8 Entity CDA templates

This chapter contains mapping from the Individual (e.g. Patient with Mandatory Identifier) and Entity (e.g. Organization with Mandatory Identifier) models to CDA entity classes, expressed as a series of CDA templates that describe how each CDA entity is composed.

CDA templates are expected to be reused from one document type (or Composition model) to another. Each CDA template is presented under a heading in the format of "CDA schema element" ("model name") where "CDA schema element" is the root element for a CDA template and "model name" is the name of a model that constrains an element in the Event Summary Hierarchy.

## 8.1 providerOrganization (Base Organization)

### CDA mapping

| Element | Element description | Card | Element type | CDA schema element | 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 elements | DomainResource | **providerOrganization[manag_org]** | The organization **SHALL** at least have an identifier (providerOrganization[manag_org]/ext:asEntityIdentifier) or a name (providerOrganization[manag_org]/name). |
| | | | | providerOrganization[manag_org]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | providerOrganization[manag_org]/templateId/**@root="1.2.36.1.2001.1001.102.101.100034"** | |
| | | | | providerOrganization[manag_org]/templateId/**@extension="1.0"** | |
| | | | | providerOrganization[manag_org]/**id** | Optional CDA element.<br><br>See <id> for available attributes. |
| Organization > **identifier** | Identifier for the organization that is used to identify the organization across multiple disparate systems. | 0..* | Identifier | providerOrganization[manag_org]/**ext:asEntityIdentifier** | See <Entity Identifier> for available attributes.<br><br>Recommended mappings for the complex data type to CDA (R2): 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..1 | CodeableConcept | providerOrganization[manag_org]/**standardIndustryClassCode** | See <code> for available attributes.<br><br>OrganizationType (example) |
| Organization > **name** | A name associated with the organization. | 0..1 | string | providerOrganization[manag_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 | providerOrganization[manag_org]/**name** | In CDA name and alias are represented by //representedOrganization/name. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Organization > **telecom** | A contact detail for the organization. | 0..* | ContactPoint | providerOrganization[manag_org]/**telecom** | Recommended mappings for the complex data type to CDA (R2): ContactPoint. |
| Organization > **address** | An address for the organization. | 0..* | Address | providerOrganization[manag_org]/**addr** | addr/@use is Organization Address Use HL7 V3 (required).<br><br>Recommended mappings for the complex data type to CDA (R2): Address. |
| Organization > **partOf** | The organization of which this organization forms a part. | 0..1 | Reference(Organization as Base Organization) | providerOrganization[manag_org]/**asOrganizationPartOf**<br>providerOrganization[manag_org]/asOrganizationPartOf/**wholeOrganization** | The organization **SHALL** have at least a name (//wholeOrganization/name) or an identifier (//wholeOrganization/ext:asEntityIdentifier).<br><br>Organization > partOf template is not currently defined. |
| **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). |

# 8.2 participant (Organization contact)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA Header Data Elements** | | | | Context: /ClinicalDocument/ | |
| Organization > **contact** | Contact for the organization for a certain purpose. | Cardinality comes from linking elements | BackboneElement | **participant[org_contact]** | |
| | | | | participant[org_contact]/**@typeCode="IND"** | |
| | | | | participant[org_contact]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | participant[org_contact]/templateId/**@root="1.2.36.1.2001.1001.102.101.100035"** | |
| | | | | participant[org_contact]/templateId/**@extension="1.0"** | |
| | | | | participant[org_contact]/**associatedEntity** | |
| | | | | participant[org_contact]/associatedEntity/**@typeCode="CON"** | |
| | | | | participant[org_contact]/associatedEntity/**scopingOrganization** | |
| | | | | participant[org_contact]/associatedEntity/scopingOrganization/**typeCode="ORG"** | |
| | | | | participant[org_contact]/associatedEntity/scopingOrganization/**id** | Organization > contact is represented in CDA by a participant that is scoped by the Organization for which they are a contact.<br><br>This **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). |
| Organization > contact > **purpose** | Indicates a purpose for which the contact can be reached. | 0..1 | CodeableConcept | participant[org_contact]/associatedEntity/**code** | See <code> for available attributes.<br><br>ContactEntityType (extensible) |
| Organization > contact > **name** | A name associated with the contact. | 0..1 | HumanName | participant[org_contact]/associatedEntity/**associatedPerson** | |
| | | | | participant[org_contact]/associatedEntity/associatedPerson/**name** | Recommended mappings for the complex data type to CDA (R2): HumanName. |
| Organization > contact > **telecom** | A contact detail (e.g. a telephone number or an email address) by which the party may be contacted. | 0..* | ContactPoint | participant[org_contact]/associatedEntity/**telecom** | Recommended mappings for the complex data type to CDA (R2): ContactPoint. |
| Organization > contact > **address** | Visiting or postal addresses for the contact. | 0..1 | Address | participant[org_contact]/associatedEntity/**addr** | Recommended mappings for the complex data type to CDA (R2): Address. |

# 8.3 representedOrganization (Base Organization)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | 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 elements | DomainResource | **representedOrganization** | The organization **SHALL** have at least name (//representedOrganization/name) or an identifier (//representedOrganization/ext:asEntityIdentifier) instantiated. |
| | | | | representedOrganization/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | representedOrganization/templateId/**@root="1.2.36.1.2001.1001.102.101.100039"** | |
| | | | | representedOrganization/templateId/**@extension="1.0"** | |
| | | | | representedOrganization/**id** | See <id> for available attributes. |
| Organization > **identifier** | Identifier for the organization that is used to identify the organization across multiple disparate systems. | 0..* | Identifier | representedOrganization/**ext:asEntityIdentifier** | See <Entity Identifier> for available attributes.<br><br>Recommended mappings for the complex data type to CDA (R2): 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..1 | CodeableConcept | representedOrganization/**code** | See <code> for available attributes.<br><br>OrganizationType (example) |
| Organization > **name** | A name associated with the organization. | 0..1 | string | representedOrganization/**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** | In CDA name and alias are represented by //representedOrganization/name. |
| Organization > **telecom** | A contact detail for the organization. | 0..* | ContactPoint | representedOrganization/**telecom** | Recommended mappings for the complex data type to CDA (R2): ContactPoint. |
| Organization > **address** | An address for the organization. | 0..* | Address | representedOrganization/**addr** | addr/@use is Organization Address Use HL7 V3 (required).<br><br>Recommended mappings for the complex data type to CDA (R2): Address. |
| Organization > **partOf** | The organization of which this organization forms a part. | 0..1 | Reference(Organization as Organization Base) | representedOrganization/**asOrganizationPartOf** | The organization **SHALL** have at least a name (//wholeOrganization/name) or an identifier (//wholeOrganization/ext:asEntityIdentifier).<br><br>Organization > partOf template is not currently defined. |
| | | | | 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). |

# 8.4 assignedPerson (Practitioner with mandatory identifier)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | 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 elements | DomainResource | **assignedPerson[prac]** | |
| | | | | assignedPerson[prac]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | assignedPerson[prac]/templateId/**@root="1.2.36.1.2001.1001.102.101.100040"** | |
| | | | | assignedPerson[prac]/templateId/**@extension="1.0"** | |
| | | | | assignedPerson[prac]/**id** | See <id> for available attributes. |
| Practitioner > **identifier** | An identifier that applies to this person in this role. | 1..* | Identifier | assignedPerson[prac]/**ext:asEntityIdentifier** | See <Entity Identifier> for available attributes.<br><br>Recommended mappings for the complex data type to CDA (R2): Identifier. |
| Practitioner > **active** | Whether this practitioner's record is in active use. | 0..1 | boolean | n/a | This logical element has no mapping to CDA. |
| Practitioner > **name** | The name(s) associated with the practitioner. | 0..* | HumanName | assignedPerson[prac]/**name** | Recommended mappings for the complex data type to CDA (R2): HumanName. |
| Practitioner > **telecom** | A contact detail for the practitioner, e.g. a telephone number or an email address. | 0..* | ContactPoint | **telecom** | Recommended mappings for the complex data type to CDA (R2): 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 the complex data type to CDA (R2): Address. |
| Practitioner > **gender** | Administrative Gender - the gender that the person is considered to have for administration and record keeping purposes. | 0..1 | code | assignedPerson[prac]/**ext:administrativeGenderCode** | See <code> for available attributes.<br><br>AdministrativeGender (required) |
| Practitioner > **birthDate** | The date of birth for the practitioner. | 0..1 | date | assignedPerson[prac]/**ext:birthTime** | See <time> for available attributes. |
| Practitioner > **photo** | Image of the person. | 0..0 | Attachment | n/a | This logical element has no mapping to CDA. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Practitioner > **qualification** | Qualifications obtained by training and certification. | 0..* | BackboneElement | See: instantiation choices | It is possible that the qualification may be able to be captured as a complex structure or as a text list.<br><br>**instantiation choices:**<br><br>If the qualification or list of qualifications is the result of capturing a text field then this element is expected to be as //assignedPerson[prac]/ext:Qualifications/@classCode="QUAL". See <Qualification> for available attributes.<br><br>If more information can be captured than a narrative list then this logical element is expected to be instantiated as ext:coverage2[prac_qual] and **SHALL** conform to the template defined in ext:coverage (Practitioner qualification) . |
| Practitioner > **communication** | A language the practitioner is able to use in patient communication. | 0..* | CodeableConcept | n/a | This logical element is not currently mapped into CDA.<br><br>This may be supported in future by an entry in Administrative Observations or by the addition of an extension to add the languageCommunication element to the Person class. |

# 9 Section CDA templates

This chapter contains mapping from the section (e.g. Medications) models to CDA section classes, expressed as a series of CDA templates that describe how each CDA section is composed.

CDA templates are expected to be reused from one document type (or Composition model) to another. Each CDA template is presented under a heading in the format of "CDA schema element" ("model name") where "CDA schema element" is the root element for a CDA template and "model name" is the name of a model that constrains an element in the Event Summary Hierarchy.

## 9.1 section (Event Overview)

Where an authoring system wants to include a information that cannot be directly included the supported section entry the information may be included via a structure that is referenced from the supported section entry or by instantiating a child section to manage the additional information with a meaningful sub-section grouping

### CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA Body Level 3 Data Elements** | | | | Comes from linking elements | |
| **section (Event Overview)** | Summary information concerning the event. | 1..1 | BackboneElement | **section** | This section **SHALL** contain an encounter entry (//entry[enc]/encounter) that **SHALL** contain an encounter-description (//entry[enc]/encounter/text). |
| | | | | section/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | section/templateId/**@root="1.2.36.1.2001.1001.102.101.100059"** | |
| | | | | section/templateId/**@extension="1.0"** | |
| section (Event Overview) > **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 (Event Overview) > **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="101.16672"** | |
| | | | | section/code/**@codeSystem="1.2.36.1.2001.1001.101"** | |
| | | | | section/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | section/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Medical History". |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| section (Event Overview) > **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** | See CDA narratives. |
| section (Event Overview) > **entry** | A reference to the actual resource from which the narrative in the section is derived. | 0..* | Reference(Encounter as Summary of an Encounter for an Event) | section/**entry[enc]** | |
| | | | | section/entry[enc]/**encounter** | encounter **SHALL** conform to the template defined in encounter (Summary of an Encounter for an Event). |

# 9.2 section (Allergies)

For each section included in the composition it is important to differentiate between affirmatively stating a patient does not have a specific condition (e.g. no latex allergy) versus not including findings in the record (e.g. not applicable or unknown):

- Where a sending system does not have any clinical data to provide in that section it is expected that emptyReason is used
- Where a sending system can state that a patient does not have an allergy or category of allergies it is expected that an allergy or intolerance observation is sent with the appropriate negation code (e.g. 716186003 |No known allergy|) is sent as the code

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA Body Level 3 Data Elements** | | | | Context: Comes from linking elements | |
| **section (Allergies)** | Information about allergies and intolerances of the patient. This includes statements that a patient does not have an allergy or category of allergies. | 1..1 | BackboneElement | **section** | This section **SHALL** contain at least one entry (section/entry[adv]) or an emptyReason (section/@nullFlavor) but **SHALL NOT** contain both. |
| | | | | section/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | section/templateId/**@root="1.2.36.1.2001.1001.102.101.100069"** | |
| | | | | section/templateId/**@extension="1.0"** | |
| section (Allergies) > **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 (Allergies) > **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"** | |
| | | | | section/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "LOINC". |
| | | | | section/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Allergies &or adverse reactions". |
| section (Allergies) > **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** | See CDA narratives. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| section (Allergies) > **entry** | A reference to the actual resource from which the narrative in the section is derived. | 0..* | Reference(AllergyIntolerance as Summary Statement of Allergy or Intolerance) | section/**entry[adv]** | |
| | | | | section/entry[adv]/**observation** | observation **SHALL** conform to the template defined in observation (Summary Statement of Allergy or Intolerance). |
| section (Allergies) > **emptyReason** | If the section is empty, why the list is empty. An empty section typically has some text explaining the empty reason. | 0..1 | CodeableConcept | section/**@nullFlavor** | Health Summary Empty Reason HL7 v3 NullFlavor (required)<br><br>The nullFlavor attribute is used to represent the reason a section is empty of clinical content. |

# 9.3 section (Medications)

For each section included in the composition it is important to differentiate between affirmatively stating a patient has no relevant findings (e.g. no current medications) versus not including findings in the record (e.g. not applicable or unknown):

- Where a sending system does not have any clinical data to provide in that section it is expected that emptyReason is used
- Where a sending system can state that a patient is known not to have current medications it is expected an observation of assertion of no relevant finding is sent with the appropriate code (e.g. 1234391000168107 |No known current medications|)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA Body Level 3 Data Elements** | | | | Comes from linking elements | |
| **section (Medications)** | Information about medicines that are relevant to the encounter. The medicines included do not constitute a full medications list, but are those medicines that have specifically changed as a result of the encounter, or those medicines directly relevant to the encounter. | 1..1 | BackboneElement | **section** | This section **SHALL** contain an entry (section/entry[meds]) or an emptyReason (section/@nullFlavor) but **SHALL NOT** contain both.<br><br>This section **SHALL** contain at most one entry (section/entry[meds]) that conforms to observation (Assertion of No Relevant Finding); that entry **SHALL** assert that there are no known current medications (//entry[meds]/observation/value/@code="1234391000168107"). |
| | | | | section/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | section/templateId/**@root="1.2.36.1.2001.1001.102.101.100061"** | |
| | | | | section/templateId/**@extension="1.0"** | |
| section (Medications) > **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 (Medications) > **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="10160-0"** | |
| | | | | section/code/**@codeSystem="2.16.840.1.113883.6.1"** | |
| | | | | section/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "LOINC". |
| | | | | section/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "History of Medication use Narrative". |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| section (Medications) > **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** | See CDA narratives. |
| section (Medications) > **entry** | A reference to the actual resource from which the narrative in the section is derived. | 0..1 | Reference(List as List of Medicine Changes from an Event \| Observation as Assertion of No Relevant Finding) | section/**entry[meds]**<br>See: instantiation choices | **instantiation choices:**<br>If entry is a List then it is expected to be instantiated as //section/entry[meds]/act. act **SHALL** conform to the template defined in act (List of Medicine Changes from an Event).<br>If entry is an Observation then it is expected to be instantiated as //section/entry[meds]/observation. observation **SHALL** conform to the template defined in observation (Assertion of No Relevant Finding). |
| section (Medications) > **emptyReason** | If the section is empty, why the list is empty. An empty section typically has some text explaining the empty reason. | 0..1 | CodeableConcept | section/**@nullFlavor** | Health Summary Empty Reason HL7 v3 NullFlavor (required)<br>The nullFlavor attribute is used to represent the reason a section is empty of clinical content. |

# 9.4 section (Medical History)

For each section included in the composition it is important to differentiate between affirmatively stating a patient has no relevant findings (e.g. no relevant medical history) versus a finding that a patient does not have a specific condition versus not including findings in the record (e.g. not applicable or unknown):

- Where a sending system does not have any clinical data to provide in that section it is expected that emptyReason is used
- Where a sending system can state that a patient has no relevant history of findings it is expected an observation of assertion of no relevant finding is sent with the appropriate code (1224831000168103 |No relevant medical history|)
- Where a sending system cannot classify a coded entry as a procedure or a condition it is expected that the code is sent as a code in Condition
- Where a sending system cannot make classification as it has free text entry only, it is expected that the entry is sent as a free text in Condition
- Where a sending system can state that a patient does not have a specific condition or clinical finding it is expected that the appropriate negation code (e.g. 162023004 |No problem swallowing|) is sent as the code in Condition

# CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA Body Level 3 Data Elements** | | | | Comes from linking elements | |
| **section (Medical History)** | Information about the problems, diagnoses and medical or surgical procedures of a patient. This can include statements that a patient does not have a particular condition. | 1..1 | BackboneElement | **section** | This section **SHALL** contain at least one entry (section/entry[med_hist]) or an emptyReason (section/@nullFlavor) but **SHALL NOT** contain both.<br><br>This section **SHALL NOT** contain both entries (section/entry[med_hist]) that conform to observation (Summary Statement of Condition) or procedure (Summary Statement of Known Procedure), and that conform to observation (Assertion of No Relevant Finding).<br><br>This section **SHALL** contain at most one entry (section/entry[med_hist]) that conforms to observation (Assertion of No Relevant Finding); that entry **SHALL** assert that there is no relevant medical history (//entry[med_hist]/observation/value/@code="1224831000168103"). |
| | | | | section/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | section/templateId/**@root="1.2.36.1.2001.1001.102.101.100041"** | |
| | | | | section/templateId/**@extension="1.0"** | |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| section (Medical History) > **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="Medical History"** | |
| section (Medical History) > **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="101.16117"** | |
| | | | | section/code/**@codeSystem="1.2.36.1.2001.1001.101"** | |
| | | | | section/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | section/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Medical History". |
| section (Medical History) > **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** | See CDA narratives. |
| section (Medical History) > **entry** | A reference to the actual resource from which the narrative in the section is derived. | 0..* | Reference(Condition as Summary Statement of Condition \| Procedure as Summary Statement of Known Procedure \| Observation as Assertion of No Relevant Finding) | section/**entry[med_hist]**<br><br>See: instantiation choices | **instantiation choices:**<br><br>If entry is a Condition then it is expected to be instantiated as //section/entry[med_hist]/observation. observation **SHALL** conform to the template defined in observation (Summary Statement of Condition).<br><br>If entry is a Procedure then it is expected to be instantiated as //section/entry[med_hist]/procedure. procedure **SHALL** conform to the template defined in procedure (Summary Statement of Known Procedure).<br><br>If entry is an Observation then it is expected to be instantiated as //section/entry[med_hist]/observation. observation **SHALL** conform to the template defined in observation (Assertion of No Relevant Finding). |
| section (Medical History) > **emptyReason** | If the section is empty, why the list is empty. An empty section typically has some text explaining the empty reason. | 0..1 | CodeableConcept | section/**@nullFlavor** | Health Summary Empty Reason HL7 v3 NullFlavor (required)<br><br>The nullFlavor attribute is used to represent the reason a section is empty of clinical content. |

# 9.5 section (Immunisations)

For each section included in the composition it is important to differentiate between affirmatively stating a patient has no relevant findings (e.g. no history of immunisation) versus not including findings in the record (e.g. not applicable or unknown):

- Where a sending system does not have any clinical data to provide in that section it is expected that emptyReason is used
- Where a sending system can state that a patient has no relevant history of findings it is expected an observation of assertion of no relevant finding is sent with the appropriate code (e.g. 1226591000168105 |No vaccine administered during encounter|).

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA Body Level 3 Data Elements** | | | | Comes from linking elements | |
| **section (Immunisations)** | Information about vaccinations administered or reported to be administered during this encounter. This may include statements that a patient has not had a particular vaccine administered. | 1..1 | BackboneElement | **section** | This section **SHALL** contain at least one entry (section/entry[imm]) or an emptyReason (section/@nullFlavor) but **SHALL NOT** contain both.<br><br>This section **SHALL NOT** contain both entries (section/entry[imm]) that conform to substanceAdministration (Summary Statement of Vaccine) and that conform to observation (Assertion of No Relevant Finding).<br><br>This section **SHALL** contain at most one entry (section/entry[imm]) that conforms to observation (Assertion of No Relevant Finding); that entry **SHALL** assert no history of vaccination (//entry[imm]/observation/value/@code="1234401000168109") or no vaccine administered during encounter (//entry[imm]/observation/value/@code="1226591000168105") . |
| | | | | section/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | section/templateId/**@root="1.2.36.1.2001.1001.102.101.100058"** | |
| | | | | section/templateId/**@extension="1.0"** | |
| section (Immunisations) > **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** | |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| section (Immunisations) > **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="11369-6"** | |
| | | | | section/code/**@codeSystem="2.16.840.1.113883.6.1"** | |
| | | | | section/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "LOINC". |
| | | | | section/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Immunization". |
| section (Immunisations) > **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** | See CDA narratives. |
| section (Immunisations) > **entry** | A reference to the actual resource from which the narrative in the section is derived. | 0..* | Reference(Immunization as Summary Statement of Vaccine \| Observation as Assertion of No Relevant Finding) | section/**entry[imm]**<br><br>See: instantiation choices | **instantiation choices:**<br><br>If entry is an Immunization then it is expected to be instantiated as //section/entry[imm]/substanceAdministration. substanceAdministration **SHALL** conform to the template defined in substanceAdministration (Summary Statement of Vaccine).<br><br>If entry is an Observation then it is expected to be instantiated as //section/entry[imm]/observation. observation **SHALL** conform to the template defined in observation (Assertion of No Relevant Finding). |
| section (Immunisations) > **emptyReason** | If the section is empty, why the list is empty. An empty section typically has some text explaining the empty reason. | 0..1 | CodeableConcept | section/**@nullFlavor** | Health Summary Empty Reason HL7 v3 NullFlavor (required)<br><br>The nullFlavor attribute is used to represent the reason a section is empty of clinical content. |

# 9.6 section (Diagnostic Investigations)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA Body Level 3 Data Elements** | | | | Comes from linking elements | |
| **section (Diagnostic Investigations)** | Information about diagnostic tests or procedures performed on or requested for an individual during this encounter, that are considered relevant to the individual's ongoing care. This does not include a full list of diagnostic tests and procedures performed on or request for the individual but only those that are relevant to the encounter. | 1..1 | BackboneElement | **section** | Editorial Note: The design of this section is incomplete. The intended structure of section.entry and section.emptyReason is not yet available. |
| | | | | section/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | section/templateId/**@root="1.2.36.1.2001.1001.102.101.100060"** | |
| | | | | section/templateId/**@extension="1.0"** | |
| section (Diagnostic Investigations) > **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 (Diagnostic Investigations) > **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="30954-2"** | |
| | | | | section/code/**@codeSystem="2.16.840.1.113883.6.1"** | |
| | | | | section/code/**@codeSystemName** | Optional CDA element.<br>codeSystemName **SHOULD** be "LOINC". |
| | | | | section/code/**@displayName** | Optional CDA element.<br>displayName **SHOULD** be "Medical History". |
| section (Diagnostic Investigations) > **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** | See CDA narratives. |

# 10 Act CDA templates

This chapter contains mapping from the Composition (Event Summary) model and entry (e.g. Summary Statement of Allergy or Intolerance) models to CDA act classes, expressed as a series of CDA templates that describe how each CDA act is composed.

CDA templates are expected to be reused from one document type (or Composition model) to another. Each CDA template is presented under a heading in the format of "CDA schema element" ("model name") where "CDA schema element" is the root element for a CDA template and "model name" is the name of a model that constrains an element in the Event Summary Hierarchy.

## 10.1 encompassingEncounter (Summary of an Encounter for an Event)

For each Summary of an Encounter for an Event included:

### CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA Header Data Elements** | | | | Context: /ClinicalDocument/ | |
| **Encounter** | An interaction between a patient and healthcare provider(s) for the purpose of providing healthcare service(s) or assessing the health status of a patient. | 1..1 | DomainResource | **encompassingEncounter** | |
| | | | | encompassingEncounter/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | encompassingEncounter/templateId/**@root="1.2.36.1.2001.1001.102.101.100064"** | |
| | | | | encompassingEncounter/templateId/**@extension="1.0"** | |
| | | | | encompassingEncounter/**id** | See <id> for available attributes.<br><br>This **SHALL** hold the same value as //encounter/id. |
| Encounter > **encounter-description** | Description, overview or summary of a clinical event and its reasons. | 0..1 | string | n/a | Not mapped directly for this model; this is implicit in //encounter/text. |
| Encounter > **status** | planned \| arrived \| triaged \| in-progress \| onleave \| finished \| cancelled +. | 1..1 | code | n/a | Not mapped directly for this model; this is implicit in //encounter/statusCode. |
| Encounter > **class** | inpatient \| outpatient \| ambulatory \| emergency +. | 0..1 | code | encompassingEncounter/**code** | See <code> for available attributes.<br><br>ActEncounterCode (required) |
| Encounter > **type** | Specific type of encounter (e.g. e-mail consultation, surgical day-care, skilled nursing, rehabilitation). | 0..* | CodeableConcept | n/a | This logical element has no mapping to CDA. |
| Encounter > **subject** | The patient ro group present at the encounter. | 0..1 | Reference(Patient as Patient with Mandatory Identifier) | n/a | Not mapped directly for this model; this is implicit in //ClinicalDocument/recordTarget/patientRole. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Encounter > **period** | The start and end time of the encounter. | 1..1 | Period | encompassingEncounter/**effectiveTime** | See <time> for available attributes.<br><br>This **SHALL** hold the same value as //encounter/effectiveTime. |
| Encounter > **reason** | Reason the encounter takes place, expressed as a code. For admissions, this can be used for a coded admission diagnosis. | 0..* | CodeableConcept | n/a | Not mapped directly for this model; this is implicit in //encounter/entryRelationship[reason]/observation/value. |

# 10.2 encounter (Summary of an Encounter for an Event)

For each Summary of an Encounter for an Event included:

- It is expected that this encounter provides further information from the same encounter that is captured in ClinicalDocument/componentOf/encompassingEncounter; and as such it is expected that encounter/code holds the same value as encompassingEncounter/code
- It is expected that status is 'completed'
- It is expected that encounter-description may capture text about the encounter that is not captured in other fields and include a summary of the issues or problems, management strategies, outcomes or progress, possible prognosis, and the patient's understanding of the healthcare event
- The following elements are not expected to be provided but are encouraged if the sending system has this capability:
  - class
  - type
  - reason
- If provided, type is expected to support categorisation of event summaries by the type of encounter.

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Conformance level comes from linking elements | | | | Context: Comes from linking elements | |
| **Encounter** | An interaction between a patient and healthcare provider(s) for the purpose of providing healthcare service(s) or assessing the health status of a patient. | 1..1 | DomainResource | **encounter** | |
| | | | | encounter/**@classCode="ENC"** | |
| | | | | encounter/**@moodCode="EVN"** | |
| | | | | encounter/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | encounter/templateId/**@root="1.2.36.1.2001.1001.102.101.100062"** | |
| | | | | encounter/templateId/**@extension="1.0"** | |
| | | | | encounter/**id** | See <id> for available attributes. |
| Encounter > **encounter-description** | Description, overview or summary of a clinical event and its reasons. | 0..1 | string | encounter/**text** | |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Encounter > **status** | planned \| arrived \| triaged \| in-progress \| onleave \| finished \| cancelled +. | 1..1 | code | encounter/**statusCode** | This CDA schema element is of type CodedSimpleValue (CS).<br><br>Encounter Act Status HL7 V3 (required) |
| Encounter > **class** | inpatient \| outpatient \| ambulatory \| emergency +. | 0..1 | CodeableConcept | encounter/**code** | See <code> for available attributes.<br><br>EncounterType (required) |
| Encounter > **type** | Specific type of encounter (e.g. e-mail consultation, surgical day-care, skilled nursing, rehabilitation). | 0..* | code | encounter/**entryRelationship[type]** | |
| | | | | encounter/entryRelationship[type]/**@typeCode="COMP"** | Optional CDA element. |
| | | | | encounter/entryRelationship[type]/**observation** | |
| | | | | encounter/entryRelationship[type]/observation/**@classCode="OBS"** | |
| | | | | encounter/entryRelationship[type]/observation/**@moodCode="EVN"** | |
| | | | | encounter/entryRelationship[type]/observation/**code** | |
| | | | | encounter/entryRelationship[type]/observation/code/**@code="???"** | TBD - to fix a code here for encounter type; prolly NCTIS since this not a widely understood element. |
| | | | | encounter/entryRelationship[type]/observation/code/**@codeSystem="???"** | |
| | | | | encounter/entryRelationship[type]/observation/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "???". |
| | | | | encounter/entryRelationship[type]/observation/code/**@displayName** | displayName **SHOULD** be "???". |
| | | | | encounter/entryRelationship[type]/observation/**value** | See <code> for available attributes.<br><br>//value/@xsi:type **SHALL** be "CD".<br><br>EncounterType (example) |
| Encounter > **subject** | The patient ro group present at the encounter. | 0..1 | Reference(Patient as Patient with Mandatory Identifier) | n/a | Not mapped directly for this model; this is implicit in //ClinicalDocument/recordTarget/patientRole. |
| Encounter > **period** | The start and end time of the encounter. | 1..1 | Period | encounter/**effectiveTime** | See <time> for available attributes. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Encounter > **reason** | Reason the encounter takes place, expressed as a code. For admissions, this can be used for a coded admission diagnosis. | 0..* | CodeableConcept | encounter/**entryRelationship[reason]** | |
| | | | | encounter/entryRelationship[reason]/**@typeCode="RSON"** | |
| | | | | encounter/entryRelationship[reason]/**observation** | |
| | | | | encounter/entryRelationship[reason]/observation/**@classCode="OBS"** | |
| | | | | encounter/entryRelationship[reason]/observation/**@moodCode="EVN"** | |
| | | | | encounter/entryRelationship[reason]/observation/**code** | |
| | | | | encounter/entryRelationship[reason]/observation/code/**@code="103.10141"** | |
| | | | | encounter/entryRelationship[reason]/observation/code/**@codeSystem= "1.2.36.1.2001.1001.101** | |
| | | | | encounter/entryRelationship[reason]/observation/code/**@displayName** | Optional CDA element.<br>displayName **SHOULD** be "Clinical Indication". |
| | | | | encounter/entryRelationship[reason]/observation/code/**@codeSystemName** | Optional CDA element.<br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | encounter/entryRelationship[reason]/observation/**statusCode/@code="completed"** | |
| | | | | encounter/entryRelationship[reason]/observation/**value** | See <code> for available attributes.<br>//value/@xsi:type **SHALL** be "CD".<br>Encounter Reason Codes (preferred) |

# 10.3 observation (Summary Statement of Allergy or Intolerance)

For each Summary Statement of Allergy or Intolerance included:

- It is expected that verificationStatus will be ‘unconfirmed’ (where a sending system does not clearly have this element this should be the value sent), but may be ‘confirmed’
- It is expected that clinicalStatus will be ‘active’
- Where an authoring system only has substance or agent available and not a statement of allergy or intolerance that substance should be recorded in the code and optionally in reaction substance
- A ‘refuted’ allergy or intolerance should be represented with an appropriate negation code and a verificationStatus of ‘unconfirmed’ or ‘confirmed’ depending on the level of certainty
- Where a system intends to send type but has no reaction information (i.e. manifestation), the type is expected to form part of the section narrative and may also be present in the text element of allergy or intolerance observation

# CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Conformance level comes from linking elements | | | | Context: Comes from linking elements | |
| **AllergyIntolerance** | Risk of harmful or undesirable, physiological response which is unique to an individual and associated with exposure to a substance. | 1..1 | DomainResource | **observation** | One of recorder or recorder-related-person **MAY** be present; both **SHALL NOT** be present.<br><br>clinicalStatus (entryRelationship[clin_status]/observation) **SHALL** be instantiated if the value (value/@code) is not "entered-in-error". |
| | | | | observation/**@classCode="OBS"** | |
| | | | | observation/**@moodCode="EVN"** | |
| | | | | observation/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | observation/templateId/**@root="1.2.36.1.2001.1001.102.101.100014"** | |
| | | | | observation/templateId/**@extension="1.0"** | |
| | | | | observation/**code** | |
| | | | | observation/code/**@code="102.15517"** | |
| | | | | observation/code/**@codeSystem="1.2.36.1.2001.1001.101"** | |
| | | | | observation/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | observation/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Adverse Reaction". |
| AllergyIntolerance > **recorder-related-person** | Reference to related person that recorded the record and takes responsibility for its content. | 0..1 | Reference(RelatedPerson as Base RelatedPerson) | **n/a** | Not mapped directly for this model; this is implicit in //ClinicalDocument/author. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| AllergyIntolerance > **clinical-Status** | The clinical status of the allergy or intolerance. | 0..1 | code | observation/**entryRelationship[clin_status]** | |
| | | | | observation/entryRelationship[clin_status]/**@typeCode="COMP"** | Optional CDA element. |
| | | | | observation/entryRelationship[clin_status]/**observation** | |
| | | | | observation/entryRelationship[clin_status]/observation/**@classCode="OBS"** | |
| | | | | observation/entryRelationship[clin_status]/observation/**@moodCode="EVN"** | |
| | | | | observation/entryRelationship[clin_status]/observation/**code** | |
| | | | | observation/entryRelationship[clin_status]/observation/code/**@code="103.32013"** | |
| | | | | observation/entryRelationship[clin_status]/observation/code/**@codeSystem= "1.2.36.1.2001.1001.101"** | |
| | | | | observation/entryRelationship[clin_status]/observation/code/**@codeSystemName** | Optional CDA element.<br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | observation/entryRelationship[clin_status]/observation/code/**@displayName** | Optional CDA element.<br>displayName **SHOULD** be "Clinical Status". |
| | | | | observation/entryRelationship[clin_status]/observation/**value** | See <code> for available attributes.<br>//value/@xsi:type **SHALL** be "CD".<br>AllergyIntolerance Clinical Status (required) |
| AllergyIntolerance > **verification-Status** | Assertion about certainty associated with the propensity, or potential risk, of a reaction to the identified substance (including pharmaceutical product). | 1..1 | code | observation/**entryRelationship[ver_status]** | |
| | | | | observation/entryRelationship[ver_status]/**@typeCode="COMP"** | Optional CDA element. |
| | | | | observation/entryRelationship[ver_status]/**observation** | |
| | | | | observation/entryRelationship[ver_status]/observation/**@classCode="OBS"** | |
| | | | | observation/entryRelationship[ver_status]/observation/**@moodCode="EVN"** | |
| | | | | observation/entryRelationship[ver_status]/observation/**code** | |
| | | | | observation/entryRelationship[ver_status]/observation/code/**@code="103.32012"** | |
| | | | | observation/entryRelationship[ver_status]/observation/code/**@codeSystem= "1.2.36.1.2001.1001.101"** | |
| | | | | observation/entryRelationship[ver_status]/observation/code/**@codeSystemName** | Optional CDA element.<br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | observation/entryRelationship[ver_status]/observation/code/**@displayName** | Optional CDA element.<br>displayName **SHOULD** be "Verification Status". |
| | | | | observation/entryRelationship[ver_status]/observation/**value** | See <code> for available attributes.<br>//value/@xsi:type **SHALL** be "CD".<br>AllergyIntolerance Verification Status (required) |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| AllergyIntolerance > **type** | Identification of the underlying physiological mechanism for the reaction risk. | 0..1 | code | observation/entryRelationship[react]/observation/**value** | The logical cardinality of this element is 0..1. The cardinality **SHALL** be interpreted as 0..1 for each instance of reaction (//entryRelationship[react]/observation).<br><br>See <code> for available attributes.<br><br>//value/@xsi:type **SHALL** be "CD".<br><br>Idiosyncratic Adverse Reaction Type (required) |
| AllergyIntolerance > **code** | Code for an allergy or intolerance statement (either a positive or a negated/excluded statement). This may be a code for a substance or pharmaceutical product that is considered to be responsible for the adverse reaction risk (e.g., 'Latex'), an allergy or intolerance condition (e.g., 'Latex allergy'), or a negated/excluded code for a specific substance or class (e.g., 'No latex allergy') or a general or categorical negated statement (e.g., 'No known allergy', 'No known drug allergies'). | 1..1 | CodeableConcept | observation/**value** | See <code> for available attributes.<br><br>//value/@xsi:type **SHALL** be "CD".<br><br>Indicator of Hypersensitivity or Intolerance to Substance (preferred)[1] |
| AllergyIntolerance > **onset[x]** | Estimated or actual date, date-time, or age when allergy or intolerance was identified. | 0..1 | dateTime \| Age \| Period \| Range | See: instantiation choices | See <time> for available attributes.<br><br>**instantiation choices:**<br><br>If onset[x] is a dateTime then it is expected to be instantiated as //observation/effectiveTime/low/@value.<br><br>If onset[x] is an Age then it is expected to be instantiated as //observation/entryRelationship[onset]/observation/value. //value/@xsi:type **SHALL** be "PQ". The code for //observation/entryRelationship[onset]/observation/code **SHALL** be code/@code="445518008" and code/@codeSystem="2.16.840.1.113883.6.96".<br><br>If onset[x] is a Period then it is expected to be instantiated as //observation/effectiveTime/low/@value.<br><br>If onset[x] is a Range then it is expected to be instantiated as //observation/effectiveTime/low/@value. |
| AllergyIntolerance > **recorder** | Individual who recorded the record and takes responsibility for its content. | 0..1 | Reference(Patient as Base Patient \| Practitioner as Base Practitioner) | **n/a** | Not mapped directly for this model; this is implicit in //ClinicalDocument/author. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| AllergyIntolerance > **note** | Additional narrative about the propensity for the Adverse Reaction, not captured in other fields. | 0..* | Annotation | observation/**entryRelationship[note]** | |
| | | | | observation/entryRelationship[note]/**@typeCode="COMP"** | Optional CDA element. |
| | | | | observation/entryRelationship[note]/**act** | |
| | | | | observation/entryRelationship[note]/act/**@classCode="ACT"** | |
| | | | | observation/entryRelationship[note]/act/**@moodCode="EVN"** | |
| | | | | observation/entryRelationship[note]/act/**code** | |
| | | | | observation/entryRelationship[note]/act/code/**@code="103.16044"** | |
| | | | | observation/entryRelationship[note]/act/code/**@codeSystem= "1.2.36.1.2001.1001.101** | |
| | | | | observation/entryRelationship[note]/act/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Additional Comments". |
| | | | | observation/entryRelationship[note]/act/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | observation/entryRelationship[note]/act/**author** | Optional CDA element.<br><br>If this element is not instantiated the data is considered to be included via induction in //ClinicalDocument/author. |
| | | | | observation/entryRelationship[note]/act/**time** | Optional CDA element.<br><br>See <time> for available attributes.<br><br>If this element is not instantiated the data is considered to be included via induction in //ClinicalDocument/author. |
| | | | | observation/entryRelationship[note]/act/**text** | //text/@xsi:type **SHALL** be "ST". |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| AllergyIntolerance > **reaction** | Details about each adverse reaction event linked to exposure to the identified substance. | 0..* | BackboneElement | observation/**entryRelationship[react]** | |
| | | | | observation/entryRelationship[react]/**@typeCode="COMP"** | Optional CDA element. |
| | | | | observation/entryRelationship[react]/**observation** | |
| | | | | observation/entryRelationship[react]/observation/**@classCode="OBS"** | |
| | | | | observation/entryRelationship[react]/observation/**@moodCode="EVN"** | |
| | | | | observation/entryRelationship[react]/observation/**code** | |
| | | | | observation/entryRelationship[react]/observation/code/**@code="102.16474"** | |
| | | | | observation/entryRelationship[react]/observation/code/**@codeSystem= "1.2.36.1.2001.1001.101"** | |
| | | | | observation/entryRelationship[react]/observation/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | observation/entryRelationship[react]/observation/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Reaction Event". |
| AllergyIntolerance > reaction > **substance** | Identification of the specific substance (or pharmaceutical product) considered to be responsible for the Adverse Reaction event. Note: the substance for a specific reaction may be different from the substance identified as the cause of the risk, but it must be consistent with it. For instance, it may be a more specific substance (e.g. a brand medication) or a composite product that includes the identified substance. It must be clinically safe to only process the 'code' and ignore the 'reaction.substance'. | 0..1 | CodeableConcept | observation/entryRelationship[react]/observation/**participant[agent]** | |
| | | | | observation/entryRelationship[react]/observation/participant[agent]/**@typeCode= "CAGNT"** | |
| | | | | observation/entryRelationship[react]/observation/participant[agent]/**participantRole** | |
| | | | | observation/entryRelationship[react]/observation/participant[agent]/ participantRole/**playingEntity** | |
| | | | | observation/entryRelationship[react]/observation/participant[agent]/participantRole/ playingEntity/**code** | See <code> for available attributes.<br><br>Adverse Reaction Agent (preferred)[2] |
| AllergyIntolerance > reaction > **manifestation** | Clinical symptoms and/or signs that are observed or associated with the adverse reaction event. | 1..* | CodeableConcept | observation/entryRelationship[react]/observation/**entryRelationship[mfst]** | |
| | | | | observation/entryRelationship[react]/observation/ entryRelationship[mfst]/**@typeCode="MFST"** | |
| | | | | observation/entryRelationship[react]/observation/ entryRelationship[mfst]/**@inversionInd="true"** | |
| | | | | observation/entryRelationship[react]/observation/ entryRelationship[mfst]/**observation** | |
| | | | | observation/entryRelationship[react]/observation/entryRelationship[mfst]/ observation/**@classCode="OBS"** | |
| | | | | observation/entryRelationship[react]/observation/entryRelationship[mfst]/ observation/**@moodCode="EVN"** | |
| | | | | observation/entryRelationship[react]/observation/entryRelationship[mfst]/ observation/**code** | See <code> for available attributes.<br><br>Clinical Finding (preferred)[3] |

[1]Note: The source representation of the terminology binding on code in Summary Statement of Allergy or Intolerance [DH2019g] 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 preferred binding.

[2]Note: The source representation of the terminology binding on substance in Summary Statement of Allergy or Intolerance [DH2019g] is as an optional slice on the coding part of the substance element. In the representation of the model presented in this specification it is normalised as a preferred binding.

[3]Note: The source representation of the terminology binding on manifestation in Summary Statement of Allergy or Intolerance [DH2019g] is as an optional slice on the coding part of the manifestation element. In the representation of the model presented in this specification it is normalised as a preferred binding.

# 10.4 act (List of Medicine Changes from an Event)

For each List of Medicine Changes from an Event included:

- It is expected that this list was produced during production of the event summary; and as such it is expected that list date holds the same value as Composition date
- All medicine items relevant to an event should be included in the list
- An existing unchanged medicine item should be represented with the flag of 'nochange' and no change-description
- A recommendation to make a change including cessation, prescription, or dose change should be represented with a recommendation flag, e.g. 'prescription-recommended' or 'review-recommended', and the change-description should describe the proposed change and reason for recommendation
- A medicine item introduced during this event should be represented with the flag of 'new' or 'prescribed' as appropriate, and a change-description supplied that provides the reason for introduction of the medicine item
- A change to a medicine item during this event should be represented with the flag of 'amended' and a change-description supplied that describes the change e.g. dose, form, route, frequency
- A medicine item ceased during this event should be represented with the flag of 'ceased', 'suspended', or 'cancelled' as appropriate, and a change-description supplied that provides the reason for ceasing the medicine item; if a medicine item is no longer actively taken as the prescribed course has been completed this should have the flag 'ceased'

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Conformance level comes from linking elements | | | | Context: Comes from linking elements | |
| **List** | A set of information summarized from a list of other resources. | 1..1 | DomainResource | **act** | |
| | | | | 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="1.2.36.1.2001.1001.102.101.100063"** | |
| | | | | act/templateId/**@extension="1.0"** | |
| List > **status** | Indicates the current state of this list. | 1..1 | code | act/**statusCode** | |
| | | | | act/statusCode/**@code="active"** | |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| List > **code** | This code defines the purpose of the list - why it was created. | 1.1 | CodeableConcept | act/**code** | See <code> for available attributes. |
| | | | | act/code/**@code="10160-0"** | |
| | | | | act/code/**@codeSystem="2.16.840.1.113883.6.1"** | |
| | | | | act/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "LOINC". |
| | | | | act/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "History of Medication use Narrative". |
| List > **subject** | The common subject (or patient) of the resources that are in the list, if there is one. | 1..1 | Reference(Patient as Patient with Mandatory Identifier) | n/a | Not mapped directly for this model; this is implicit in //ClinicalDocument/recordTarget/patientRole. |
| List > **date** | The date that the list was prepared. | 0..1 | dateTime | act/**effectiveTime** | See <time> for available attributes. |
| List > **source** | The entity responsible for deciding what the contents of the list were. Where the list was created by a human, this is the same as the author of the list. | 1..1 | Reference(Practitioner as Practitioner with Mandatory Identifier) | n/a | Not mapped directly for this model; this is implicit in //ClinicalDocument/author. |
| List > **entry** | Entries in this list. | 1..* | BackboneElement | act/**entryRelationship[item]** | |
| | | | | act/entryRelationship[item]/**typeCode="COMP"** | |
| List > entry > **change-description** | Description of a change including the reason for change. | 0..1 | string | act/entryRelationship[flag]/observation/**text** | |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| List > entry > **flag** | The flag allows the system constructing the list to indicate the role and significance of the item in the list. | 1..1 | CodeableConcept | //**entryRelationship[flag]** | The logical element flag **SHALL** (i.e. //entryRelationship[flag] be instantiated as a direct child of the logical element item (i.e. //act/entryRelationship[item]).<br><br>For example //act/entryRelationship[item]/substanceAdministration/entryRelationship[flag]. |
| | | | | //entryRelationship[flag]/**@typeCode="SUBJ"** | |
| | | | | //entryRelationship[flag]/**@inversionInd="true"** | |
| | | | | //entryRelationship[flag]/**observation** | |
| | | | | //entryRelationship[flag]/observation/**code** | |
| | | | | //entryRelationship[flag]/observation/code/**@code="288533004"** | |
| | | | | //entryRelationship[flag]/observation/code/**@codeSystem="2.16.840.1.113883.6.96"** | |
| | | | | //entryRelationship[flag]/observation/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Change values". |
| | | | | //entryRelationship[flag]/observation/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "SNOMED CT". |
| | | | | //entryRelationship[flag]/observation/**value** | value/@xsi:type **SHALL** be "CD".<br><br>Medicine Item Change from Event (required) |
| List > entry > **item** | A reference to the actual resource from which data was derived. | 1..1 | Reference(Any) | act/**entryRelationship[item]** | substanceAdministration **SHALL** conform to the template defined in substanceAdministration (Summary Statement of Known Medicine). |
| | | | | act/entryRelationship[item]/**substanceAdministration** | |

# 10.5 substanceAdministration (Summary Statement of Known Medicine)

For each Summary Statement of Known Medicine included:

- It is expected that substanceAdministration/@moodCode will be ‘EVN’
- MedicationStatement status should be consistent with the value of List flag:
  - A medicine item ceased during this event should be represented with a status of 'aborted' or 'cancelled' or 'completed'; including where a medicine item is no longer actively taken as the prescribed course has been completed
  - A medicine item introduced during this event should be represented with a status of 'new'
  - An existing unchanged medicine item should be represented with a status of 'active' or 'completed' depending if the patient is currently (active) taking the medicine item
  - An medicine item changed during this event should be represented with a status of 'active'
  - A recommendation to make a change may not directly result in a similar status unless it is a recommendation to introduce a medicine item. The status should represent the current state of the medicine item for the patient (active, completed, new) not the recommendation
- MedicationStatement taken should be consistent with the value of List flag:
  - A medicine item that has not yet been taken or has never been taken should be represented with taken 'n'
  - A medicine item the patient is currently taking or has taken should be represented with taken 'y'

# CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Conformance level comes from linking elements | | | | Context: Comes from linking elements | |
| **MedicationStatement** | A record of a medication that is being consumed by a patient. A MedicationStatement may indicate that the patient may be taking the medication now, or has taken the medication in the past or will be taking the medication in the future. The source of this information can be the patient, significant other (such as a family member or spouse), or a clinician. A common scenario where this information is captured is during the history taking process during a patient visit or stay. The medication information may come from sources such as the patient's memory, from a prescription bottle, or from a list of medications the patient, clinician or other party maintains The primary difference between a medication statement and a medication administration is that the medication administration has complete administration information and is based on actual administration information from the person who administered the medication. A medication statement is often, if not always, less specific. There is no required date/time when the medication was administered, in fact we only know that a source has reported the patient is taking this medication, where details such as time, quantity, or rate or even medication product may be incomplete or missing or less precise. As stated earlier, the medication statement information may come from the patient's memory, from a prescription bottle or from a list of medications the patient, clinician or other party maintains. Medication administration is more formal and is not missing detailed information. | 1..1 | DomainResource | **substanceAdministration** | |
| | | | | substanceAdministration/**@classCode="SBADM"** | |
| | | | | substanceAdministration/**@moodCode** | **SHALL NOT** be "RQO". |
| | | | | substanceAdministration/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | substanceAdministration/templateId/**@root="1.2.36.1.2001.1001.102.101.100015"** | |
| | | | | substanceAdministration/templateId/**@extension="1.0"** | |
| MedicationStatement > **status** | A code representing the patient or other source's judgment about the state of the medication used that this statement is about. Generally this will be active or completed. | 1..1 | code | substanceAdministration/**statusCode** | This CDA schema element is of type CodedSimpleValue (CS).<br><br>Medication Act Status HL7 V3 value set (required) |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| MedicationStatement > **category** | Indicates where type of medication statement and where the medication is expected to be consumed or administered. | 0..1 | CodeableConcept | substanceAdministration/**entryRelationship[category]** | |
| | | | | substanceAdministration/entryRelationship[category]/**@typeCode="COMP"** | Optional CDA element. |
| | | | | substanceAdministration/entryRelationship[category]/**observation** | |
| | | | | substanceAdministration/entryRelationship[category]/observation/**@classCode="OBS"** | |
| | | | | substanceAdministration/entryRelationship[category]/observation/**@moodCode="EVN"** | |
| | | | | substanceAdministration/entryRelationship[category]/observation/**code** | |
| | | | | substanceAdministration/entryRelationship[category]/observation/code/**@code="276339004"** | |
| | | | | substanceAdministration/entryRelationship[category]/observation/code/**@codeSystem="2.16.840.1.113883.6.96"** | |
| | | | | substanceAdministration/entryRelationship[category]/observation/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "SNOMED CT". |
| | | | | substanceAdministration/entryRelationship[category]/observation/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Environment". |
| | | | | substanceAdministration/entryRelationship[category]/observation/**value** | See <code> for available attributes.<br><br>//value/@xsi:type **SHALL** be "CD".<br><br>MedicationStatementCategory (preferred) |
| MedicationStatement > **medication[x]** | Identifies the medication being administered. This is either a link to a resource representing the details of the medication or a simple attribute carrying a code that identifies the medication from a known list of medications. | 1..1 | CodeableConcept | substanceAdministration/consumable/manufacturedProduct/manufacturedMaterial/**code** | See <code> for available attributes.<br><br>Australian Medication (example)<br><br>MIMS Terminology (example)<br><br>Australian Pharmaceutical Benefits Scheme Schedule Item (example)<br><br>GTIN for Medicines (example)[1] |
| MedicationStatement > **informationSource** | The person or organization that provided the information about the taking of this medication. Note: Use derivedFrom when a MedicationStatement is derived from other resources, e.g Claim or MedicationRequest. | 0..1 | Reference(RelatedPerson as Base RelatedPerson \| Patient as Base Patient \| Practitioner as Base Practitioner) | substanceAdministration/**informant** | informant **SHALL** conform to the template defined in informant (Base RelatedPerson) or informant (Base Patient) or informant (Base Practitioner).<br><br>If this element is not instantiated the data is considered to be included via induction in //ClinicalDocument/recordTarget. |
| MedicationStatement > **subject** | The person, animal or group who is/was taking the medication. | 1..1 | Reference(Patient as Patient with Mandatory Identifier) | **n/a** | Not mapped directly for this model; this is implicit in //ClinicalDocument/recordTarget/patientRole. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| MedicationStatement > **taken** | Indicator of the certainty of whether the medication was taken by the patient. | 1..1 | code | See: instantiation choices | This logical element may have a value of y \| n \| unk \| na as per MedicationStatementTaken (required)<br><br>**instantiation choices:**<br><br>When the logical assertion is 'y', there is no direct mapping into CDA as this is implicit in the instantiation of the substanceAdministration class.<br><br>When the logical assertion is 'n', this is instantiated as //substanceAdministration/@negationInd="true".<br><br>When the logical assertion is 'unk' or 'na', this is instantiated as //substanceAdministration/@nullFlavor="UNK" or //substanceAdministration/@nullFlavor="NA" respectively. |
| MedicationStatement > **reason-Code** | A reason for why the medication is being/was taken. | 0..* | CodeableConcept | substanceAdministration/**entryRelationship[reason]** | |
| | | | | substanceAdministration/entryRelationship[reason]/**@typeCode="RSON"** | |
| | | | | substanceAdministration/entryRelationship[reason]/**observation** | |
| | | | | substanceAdministration/entryRelationship[reason]/observation/**@classCode="OBS"** | |
| | | | | substanceAdministration/entryRelationship[reason]/observation/**@moodCode= "EVN"** | |
| | | | | substanceAdministration/entryRelationship[reason]/observation/**code** | |
| | | | | substanceAdministration/entryRelationship[reason]/observation/code/**@code= "103.10141"** | |
| | | | | substanceAdministration/entryRelationship[reason]/observation/code/**@codeSystem= "1.2.36.1.2001.1001.101** | |
| | | | | substanceAdministration/entryRelationship[reason]/observation/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Clinical Indication". |
| | | | | substanceAdministration/entryRelationship[reason]/observation/ code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | substanceAdministration/entryRelationship[reason]/observation/**value** | See <code> for available attributes.<br><br>//value/@xsi:type **SHALL** be "CD".<br><br>Medication Reason Taken (preferred)[2] |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| MedicationStatement > **note** | Provides extra information about the medication statement that is not conveyed by the other attributes. | 0..* | Annotation | substanceAdministration/**entryRelationship[note]** | |
| | | | | substanceAdministration/entryRelationship[note]/**@typeCode="COMP"** | Optional CDA element. |
| | | | | substanceAdministration/entryRelationship[note]/**act** | |
| | | | | substanceAdministration/entryRelationship[note]/act/**@classCode="ACT"** | |
| | | | | substanceAdministration/entryRelationship[note]/act/**@moodCode="EVN"** | |
| | | | | substanceAdministration/entryRelationship[note]/act/**code** | |
| | | | | substanceAdministration/entryRelationship[note]/act/code/**@code="103.16044"** | |
| | | | | substanceAdministration/entryRelationship[note]/act/code/**@codeSystem= "1.2.36.1.2001.1001.101** | |
| | | | | substanceAdministration/entryRelationship[note]/act/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Additional Comments". |
| | | | | substanceAdministration/entryRelationship[note]/act/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | substanceAdministration/entryRelationship[note]/act/**author** | Optional CDA element.<br><br>If this element is not instantiated the data is considered to be included via induction in //ClinicalDocument/author. |
| | | | | substanceAdministration/entryRelationship[note]/act/**time** | Optional CDA element.<br><br>See <time> for available attributes.<br><br>If this element is not instantiated the data is considered to be included via induction in //ClinicalDocument/author. |
| | | | | substanceAdministration/entryRelationship[note]/act/**text** | //text/@xsi:type **SHALL** be "ST". |
| MedicationStatement > **dosage** | Indicates how the medication is/was or should be taken by the patient. | 1..1 | Reference(Dosage as AU Base Dosage) | substanceAdministration/text | dosage **SHALL** at least include text or patient instructions instantiated as //substanceAdministration/text.<br><br>Recommended mappings for the complex data type to CDA (R2): Dosage. |

[1]Note: The source representation of the terminology binding on medication[x] in Summary Statement of Known Medicine [DH2019g] is as optional slices on the coding part of the medication[x] element. In the representation of the model presented in this specification it is normalised as example bindings.

[2]Note: The source representation of the terminology binding on reasonCode in Summary Statement of Known Medicine [DH2019g] is as an optional slice on the coding part of the reasonCode element. In the representation of the model presented in this specification it is normalised as a preferred binding.

# 10.6 observation (Assertion of No Relevant Finding)

For each Assertion of No Relevant Finding included:

- It is expected that status will be ‘final’

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Conformance level comes from linking elements | | | | Context: Context: Comes from linking elements | |
| **Observation** | Statement of clinical judgement that there are no items of specific interest after a reasonable investigation. | 1..1 | DomainResource | **observation** | |
| | | | | observation/**@classCode="OBS"** | |
| | | | | observation/**@moodCode="EVN"** | |
| | | | | observation/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | observation/templateId/**@root="1.2.36.1.2001.1001.102.101.100032"** | |
| | | | | observation/templateId/**@extension="1.0"** | |
| Observation > **status** | The status of the result value. | 1..1 | code | observation/**entryRelationship[status]** | |
| | | | | observation/entryRelationship[status]/**@typeCode="COMP"** | Optional CDA element. |
| | | | | observation/entryRelationship[status]/**observation** | |
| | | | | observation/entryRelationship[status]/observation/**@classCode="OBS"** | |
| | | | | observation/entryRelationship[status]/observation/**@moodCode="EVN"** | |
| | | | | observation/entryRelationship[status]/observation/**code** | |
| | | | | observation/entryRelationship[status]/observation/code/**@code="103.32010"** | |
| | | | | observation/entryRelationship[status]/observation/code/**@codeSystem= "1.2.36.1.2001.1001.101"** | |
| | | | | observation/entryRelationship[status]/observation/code/**@codeSystemName** | Optional CDA element.<br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | observation/entryRelationship[status]/observation/code/**@displayName** | Optional CDA element.<br>displayName **SHOULD** be "Observation Result Status". |
| | | | | observation/entryRelationship[status]/observation/**value** | See <code> for available attributes.<br>//value/@xsi:type **SHALL** be "CD".<br>ObservationStatus (required) |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Observation > **code** | Describes what was observed. Sometimes this is called the observation 'name'. | 1..1 | CodeableConcept | observation/**code** | See <code> for available attributes. |
| | | | | observation/code/**@code="ASSERTION"** | |
| | | | | observation/code/**@codeSystem="2.16.840.1.113883.5.4"** | |
| | | | | observation/code/**@codeSystemName** | codeSystemName **SHOULD** be "v3 Code System ActCode".<br><br>Optional CDA element. |
| | | | | observation/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Assertion". |
| Observation > **subject** | The patient, or group of patients, location, or device whose characteristics (direct or indirect) are described by the observation and into whose record the observation is placed. | 1..1 | Reference(Patient as Patient with Mandatory Identifier) | **n/a** | Not mapped directly for this model; this is implicit in //ClinicalDocument/recordTarget/patientRole. |
| Observation > **effective[x]** | The time or time-period the observed value is asserted as being true. For biological subjects - e.g. human patients - this is usually called the 'physiologically relevant time'. This is usually either the time of the procedure or of specimen collection, but very often the source of the date/time is not known, only the date/time itself. | 0..1 | dateTime \| Period | observation/**effectiveTime** | See <time> for available attributes. |
| Observation > **performer** | Who was responsible for asserting the observed value as 'true'. | 0..* | Reference(Practitioner as Base Practitioner \| Organization as \| RelatedPerson as Base RelatedPerson \| Patient as Base Patient) | **n/a** | Not mapped directly for this model; this is implicit in //ClinicalDocument/author/assignedAuthor. |
| Observation > **value[x]** | The information determined as a result of making the observation, if the information has a simple value. | 1..1 | CodeableConcept | observation/**value** | value/@xsi:type **SHALL** be "CD".<br><br>Assertion Of Absence value set (required) |
| Observation > **dataAbsentReason** | Provides a reason why the expected value in the element Observation.value[x] is missing. | 0..0 | CodeableConcept | observation/value/**@nullFlavor** | |

# 10.7 substanceAdministration (Summary Statement of Vaccine)

For each Summary Statement of Vaccine included:

- It is expected that status will be ‘completed’
- It is expected that primarySource will be ‘true’
- Where an authoring system does not have the dose status available as a distinct element it is expected that no data is sent.

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Conformance level comes from linking elements | | | | Context: Comes from linking elements | |
| **Immunization** | Describes the event of a patient being administered a vaccination or a record of a vaccination as reported by a patient, a clinician or another party and may include vaccine reaction information and what vaccination protocol was followed. | 1..1 | DomainResource | **substanceAdministration** | |
| | | | | substanceAdministration/**@classCode="SBADM"** | |
| | | | | substanceAdministration/**@moodCode="EVN"** | |
| | | | | substanceAdministration/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | substanceAdministration/templateId/**@root="1.2.36.1.2001.1001.102.101.100057"** | |
| | | | | substanceAdministration/templateId/**@extension="1.0"** | |
| Immunization > **status** | Indicates the current status of the vaccination event. | 1..1 | code | substanceAdministration/**statusCode** | This CDA schema element is of type CodedSimpleValue (CS).<br><br>Immunization Act Status HL7 V3 (required) |
| Immunization > **notGiven** | Indicates if the vaccination was or was not given. | 1..1 | boolean | n/a | When the logical assertion is 'false', there is no direct mapping into CDA as this is implicit in the instantiation of the substanceAdministration class<br><br>When the logical assertion is 'true', this is instantiated as //substanceAdministration/@negationInd="true". |
| Immunization > **vaccineCode** | Vaccine that was administered or was to be administered. | 1..1 | CodeableConcept | substanceAdministration/**consumable** | See <code> for available attributes.<br><br>Australian Medicines Terminology Vaccine (preferred)<br><br>Australian Immunisation Register Vaccine (preferred)[1] |
| | | | | substanceAdministration/consumable/**manufacturedProduct** | |
| | | | | substanceAdministration/consumable/manufacturedProduct/**manufacturedMaterial** | |
| | | | | substanceAdministration/consumable/manufacturedProduct/manufacturedMaterial/**code** | |
| Immunization > **patient** | The patient who either received or did not receive the immunization. | 1..1 | Reference(Patient as Patient with Mandatory Identifier) | **n/a** | Not mapped directly for this model; this is implicit in //ClinicalDocument/recordTarget/patientRole. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Immunization > **date** | Date vaccine administered or was to be administered. | 0..1 | dateTime | substanceAdministration/**effectiveTime** | See <time> for available attributes. |
| Immunization > **primarySource** | An indication that the content of the record is based on information from the person who administered the vaccine. This reflects the context under which the data was originally recorded. | 1..1 | boolean | substanceAdministration/**entryRelationship[prim_sour]** | |
| | | | | substanceAdministration/entryRelationship[prim_sour]/**typeCode="COMP"** | |
| | | | | substanceAdministration/entryRelationship[prim_sour]/**observation** | |
| | | | | substanceAdministration/entryRelationship[prim_sour]/observation/**@classCode="OBS"** | |
| | | | | substanceAdministration/entryRelationship[prim_sour]/observation/**@moodCode="EVN"** | |
| | | | | substanceAdministration/entryRelationship[prim_sour]/observation/**code** | |
| | | | | substanceAdministration/entryRelationship[prim_sour]/observation/code/**@code="103.17061"** | |
| | | | | substanceAdministration/entryRelationship[prim_sour]/observation/code/**@codeSystem="1.2.36.1.2001.1001.101"** | |
| | | | | substanceAdministration/entryRelationship[prim_sour]/observation/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Information from a Primary Source". |
| | | | | substanceAdministration/entryRelationship[prim_sour]/observation/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | substanceAdministration/entryRelationship[prim_sour]/observation/**value** | The value is 'true' if the source of the information is a primary source.<br><br>//value/@xsi:type **SHALL** be "BL". |
| Immunization > **vaccinationProtocol** | Contains information about the protocol(s) under which the vaccine was administered. | 0..* | BackboneElement | n/a | This logical element has no mapping to CDA. |
| Immunization > vaccinationProtocol > **doseSequence** | Nominal position in a series. | 0..1 | positiveInt | substanceAdministration/**entryRelationship[sply]/@typeCode="COMP"** | |
| | | | | substanceAdministration/entryRelationship[sply]/**sequenceNumber/@value** | |
| | | | | substanceAdministration/entryRelationship[sply]/**supply** | |
| | | | | substanceAdministration/entryRelationship[sply]/supply/**@classCode="SPLY"** | |
| | | | | substanceAdministration/entryRelationship[sply]/supply/**@moodCode="EVN"** | |
| | | | | substanceAdministration/entryRelationship[sply]/supply/**independentInd/@value="false"** | |
| Immunization > vaccinationProtocol > **doseStatus** | Indicates if the immunization event should 'count' against the protocol. | 1..1 | CodeableConcept | substanceAdministration/text | Optional CDA element.<br><br>This logical element, if available in the source system is expected to form part of //substanceAdministration/text. |

[1]Note: The source representation of this terminology binding on vaccineCode in Summary Statement of Vaccine [DH2019g] is as optional slices on the coding part of the vaccineCode element. In the representation of the model presented in this specification it is normalised as a set of preferred bindings.

[2]Note: The source representation of this terminology binding on vaccineCode in Summary Statement of Vaccine [DH2019g] is as optional slices on the coding part of the vaccineCode element. In the representation of the model presented in this specification it is normalised as a set of preferred bindings.

# 10.8 observation (Summary Statement of Condition)

For each Summary Statement of Condition included:

- It is expected that verificationStatus will be ‘confirmed’
- It is expected that clinicalStatus will be ‘active’
- A ‘refuted’ condition should be represented with an appropriate negation code and a verificationStatus of ‘unconfirmed’ or ‘confirmed’ depending on the level of certainty
- A ‘refuted’ condition should be represented with an appropriate negation code and a clinicalStatus of ‘inactive’

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Conformance level comes from linking elements | | | | Context: Comes from linking elements | |
| **Condition** | A clinical condition, problem, diagnosis, or other event, situation, issue, or clinical concept that has risen to a level of concern. | 1..1 | DomainResource | **observation** | clinicalStatus (entryRelationship[clin_status]/observation) **SHALL** be instantiated if verificationStatus (entryRelationship[ver_status]/observation) is present and the value (value/@code) is not "entered-in-error".<br><br>clinicalStatus **SHALL** be instantiated if abatement is present with the value of clinicalStatus (entryRelationship[clin_status]/observation/value/@code) as "inactive", "resolved", or "remission". |
| | | | | observation/**@classCode="OBS"** | |
| | | | | observation/**@moodCode="EVN"** | |
| | | | | observation/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | observation/templateId/**@root="1.2.36.1.2001.1001.102.101.100054"** | |
| | | | | observation/templateId/**@extension="1.0"** | |
| | | | | observation/**code** | |
| | | | | observation/code/**@code="282291009"** | |
| | | | | observation/code/**@codeSystem="2.16.840.1.113883.6.96"** | |
| | | | | observation/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "SNOMED CT". |
| | | | | observation/code/**@displayName** | displayName **SHOULD** be "Diagnosis interpretation". |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Condition > **recorder** | Reference to an individual who recorded the condition and takes responsibility for its content. | 0..1 | Reference(RelatedPerson as Base RelatedPerson \| Patient as Base Patient \| Practitioner as Base Practitioner) | **n/a** | Not mapped directly for this model; this is implicit in //ClinicalDocument/author. |
| Condition > **clinicalStatus** | The clinical status of the condition. | 0..1 | code | observation/**entryRelationship[clin_status]** | |
| | | | | observation/entryRelationship[clin_status]/**@typeCode="COMP"** | |
| | | | | observation/entryRelationship[clin_status]/**observation** | |
| | | | | observation/entryRelationship[clin_status]/observation/**@classCode="OBS"** | |
| | | | | observation/entryRelationship[clin_status]/observation/**@moodCode="EVN"** | |
| | | | | observation/entryRelationship[clin_status]/observation/**code** | |
| | | | | observation/entryRelationship[clin_status]/observation/code/**@code="103.32013"** | |
| | | | | observation/entryRelationship[clin_status]/observation/code/**@codeSystem= "1.2.36.1.2001.1001.101"** | |
| | | | | observation/entryRelationship[clin_status]/observation/code/**@codeSystemName** | Optional CDA element.<br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | observation/entryRelationship[clin_status]/observation/code/**@displayName** | Optional CDA element.<br>displayName **SHOULD** be "Clinical Status". |
| | | | | observation/entryRelationship[clin_status]/observation/**value** | See <code> for available attributes.<br>//value/@xsi:type **SHALL** be "CD".<br>Condition Clinical Status Codes (required) |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Condition > **verificationStatus** | The verification status to support the clinical status of the condition. | 0..1 | code | observation/**entryRelationship[ver_status]** | |
| | | | | observation/entryRelationship[ver_status]/**@typeCode="COMP"** | |
| | | | | observation/entryRelationship[ver_status]/**observation** | |
| | | | | observation/entryRelationship[ver_status]/observation/**@classCode="OBS"** | |
| | | | | observation/entryRelationship[ver_status]/observation/**@moodCode="EVN"** | |
| | | | | observation/entryRelationship[ver_status]/observation/**code** | |
| | | | | observation/entryRelationship[ver_status]/observation/code/**@code="103.32012"** | |
| | | | | observation/entryRelationship[ver_status]/observation/code/**@codeSystem= "1.2.36.1.2001.1001.101"** | |
| | | | | observation/entryRelationship[ver_status]/observation/code/**@codeSystemName** | Optional CDA element.<br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | observation/entryRelationship[ver_status]/observation/code/**@displayName** | Optional CDA element.<br>displayName **SHOULD** be "Verification Status". |
| | | | | observation/entryRelationship[ver_status]/observation/**value** | See <code> for available attributes.<br>//value/@xsi:type **SHALL** be "CD".<br>Condition Verification Status (required) |
| Condition > **code** | Identification of the condition, problem or diagnosis. | 1..1 | CodeableConcept | observation/**value** | See <code> for available attributes.<br>//value/@xsi:type **SHALL** be "CD".<br>Clinical Condition (preferred)[1] |
| Condition > **subject** | Indicates the patient or group who the condition record is associated with. | 1..1 | Reference(Patient as Patient with Mandatory Identifier) | **n/a** | Not mapped directly for this model; this is implicit in //ClinicalDocument/recordTarget/patientRole. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Condition > **onset[x]** | Estimated or actual date or date-time the condition began, in the opinion of the clinician. | 0..1 | dateTime \| Age \| Period \| Range | See: instantiation choices | See <time> for available attributes.<br><br>**instantiation choices:**<br><br>If onset[x] is a dateTime then it is expected to be instantiated as //observation/effectiveTime/low/@value.<br><br>If onset[x] is an Age then it is expected to be instantiated as //observation/entryRelationship[onset]/observation/value. //value/@xsi:type **SHALL** be "PQ". The code for //observation/entryRelationship[onset]/observation/code **SHALL** be code/@code="445518008" and code/@codeSystem="2.16.840.1.113883.6.96".<br><br>If onset[x] is a Period then it is expected to be instantiated as //observation/effectiveTime/low/@value.<br><br>If onset[x] is a Range then it is expected to be instantiated as //observation/effectiveTime/low/@value. |
| Condition > **abatement[x]** | The date or estimated date that the condition resolved or went into remission. This is called 'abatement' because of the many overloaded connotations associated with 'remission' or 'resolution' - Conditions are never really resolved, but they can abate. | 0..1 | dateTime \| Age \| boolean \| Period \| Range | See: instantiation choices | See <time> for available attributes.<br><br>**instantiation choices:**<br><br>If abatement[x] is a dateTime then it is expected to be instantiated as //observation/effectiveTime/high/@value.<br><br>If abatement[x] is an Age then it is expected to be instantiated as //observation/entryRelationship[abat]/observation/value. //value/@xsi:type **SHALL** be "PQ". The code for //observation/entryRelationship[abat]/observation/code **SHALL** be code/@code="1292971000168105" and code/@codeSystem="2.16.840.1.113883.6.96".<br><br>If abatement[x] is a Period then it is expected to be instantiated as //observation/effectiveTime/high/@value.<br><br>If abatement[x] is a Range then it is expected to be instantiated as //observation/effectiveTime/high/@value. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Condition > **note** | Additional information about the Condition. This is a general notes/comments entry for description of the Condition, its diagnosis and prognosis. | 0..* | Annotation | observation/**entryRelationship[note]** | |
| | | | | observation/entryRelationship[note]/**@typeCode="COMP"** | |
| | | | | observation/entryRelationship[note]/**act** | |
| | | | | observation/entryRelationship[note]/act/**@classCode="ACT"** | |
| | | | | observation/entryRelationship[note]/act/**@moodCode="EVN"** | |
| | | | | observation/entryRelationship[note]/act/**code** | |
| | | | | observation/entryRelationship[note]/act/code/**@code="103.16044"** | |
| | | | | observation/entryRelationship[note]/act/code/**@codeSystem= "1.2.36.1.2001.1001.101"** | |
| | | | | observation/entryRelationship[note]/act/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | observation/entryRelationship[note]/act/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Additional Comments" |
| | | | | observation/entryRelationship[note]/act/**author** | Optional CDA element.<br><br>If this element is not instantiated the data is considered to be included via induction in //ClinicalDocument/author. |
| | | | | observation/entryRelationship[note]/act/**time** | Optional CDA element.<br><br>See <time> for available attributes.<br><br>If this element is not instantiated the data is considered to be included via induction in //ClinicalDocument/author/time. |
| | | | | observation/entryRelationship[note]/act/**text** | //text/@xsi:type **SHALL** be "ST". |

[1]Note: The source representation of the terminology binding on code in Summary Statement of Condition [DH2019g] 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 preferred binding.

# 10.9 procedure (Summary Statement of Known Procedure)

For each Summary Statement of Known Procedure included:

- It is expected that status will be 'completed'

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Conformance level comes from linking elements | | | | Context: Context: Comes from linking elements | |
| **Procedure** | An action that is or was performed on a patient. This can be a physical intervention like an operation, or less invasive like counseling or hypnotherapy. | 1..1 | DomainResource | **procedure** | |
| | | | | procedure/**@classCode="PROC"** | |
| | | | | procedure/**@moodCode="EVN"** | |
| | | | | procedure/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | procedure/templateId/**@root="1.2.36.1.2001.1001.102.101.100055"** | |
| | | | | procedure/templateId/**@extension="1.0"** | |
| Procedure > **status** | A code specifying the state of the procedure. Generally this will be in-progress or completed state. | 1..1 | code | procedure/**statusCode** | This CDA schema element is of type CodedSimpleValue (CS).<br><br>Procedure Act Status HL7 V3 (required) |
| Procedure > **code** | The specific procedure that is performed. Use text if the exact nature of the procedure cannot be coded (e.g. 'Laparoscopic Appendectomy'). | 1..1 | CodeableConcept | procedure/**code** | See <code> for available attributes.<br><br>Procedure (preferred)[1] |
| Procedure > **subject** | The person, animal or group on which the procedure was performed. | 1..1 | Reference(Patient as Patient with Mandatory Identifier) | **n/a** | Not mapped directly for this model; this is implicit in //ClinicalDocument/recordTarget/patientRole. |
| Procedure > **performed[x]** | The date(time)/period over which the procedure was performed. Allows a period to support complex procedures that span more than one date, and also allows for the length of the procedure to be captured. | 0..1 | dateTime \| Period | procedure/**effectiveTime** | See <time> for available attributes. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Procedure > **note** | Any other notes about the procedure. E.g. the operative notes. | 0..* | Annotation | procedure/**entryRelationship[note]** | |
| | | | | procedure/entryRelationship[note]/**@typeCode="COMP"** | Optional CDA element. |
| | | | | procedure/entryRelationship[note]/**act** | |
| | | | | procedure/entryRelationship[note]/act/**@classCode="ACT"** | |
| | | | | procedure/entryRelationship[note]/act/**@moodCode="EVN"** | |
| | | | | procedure/entryRelationship[note]/act/**code** | |
| | | | | procedure/entryRelationship[note]/act/code/**@code="103.16044"** | |
| | | | | procedure/entryRelationship[note]/act/code/**@codeSystem= "1.2.36.1.2001.1001.101"** | |
| | | | | procedure/entryRelationship[note]/act/code/**@displayName** | Optional CDA element.<br><br>displayName **SHOULD** be "Additional Comments". |
| | | | | procedure/entryRelationship[note]/act/code/**@codeSystemName** | Optional CDA element.<br><br>codeSystemName **SHOULD** be "NCTIS Data Components". |
| | | | | procedure/entryRelationship[note]/act/**author** | Optional CDA element.<br><br>If this element is not instantiated the data is considered to be included via induction in //ClinicalDocument/author. |
| | | | | procedure/entryRelationship[note]/act/**time** | Optional CDA element.<br><br>See <time> for available attributes.<br><br>If this element is not instantiated the data is considered to be included via induction in //ClinicalDocument/author. |
| | | | | procedure/entryRelationship[note]/act/**text** | //text/@xsi:type **SHALL** be "ST". |

[1]Note: The source representation of the terminology binding on code in Summary Statement of Known Procedure [DH2019g] 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 preferred binding.

# 10.10 ext:coverage (Practitioner qualification)

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **CDA Header Data Elements** | | | | Context: /ClinicalDocument/component/structuredBody/component[admin_obs]/section/ See Administrative Observations. | |
| Practitioner > **qualification** | Qualifications obtained by training and certification. | Cardinality comes from linking elements | BackboneElement | **ext:coverage2[prac_qual]** | |
| | | | | ext:coverage2[prac_qual]/**@typeCode="COVBY"** | |
| | | | | ext:coverage2[prac_qual]/**templateId** | The use of templateId signals the imposition of a set of template-defined constraints. |
| | | | | ext:coverage2[prac_qual]/templateId/**@root="1.2.36.1.2001.1001.102.101.100038"** | |
| | | | | ext:coverage2[prac_qual]/templateId/**@extension="1.0"** | |
| | | | | ext:coverage2[prac_qual]/**ext:entitlement** | |
| | | | | ext:coverage2[prac_qual]/ext:entitlement/**@classCode="COV"** | |
| | | | | ext:coverage2[prac_qual]/ext:entitlement/**@moodCode="EVN"** | |
| | | | | ext:coverage2[prac_qual]/ext:entitlement/**ext:participant[prac]** | |
| | | | | ext:coverage2[prac_qual]/ext:entitlement/ext:participant[prac]/**@typeCode="HLD"** | |
| | | | | ext:coverage2[prac_qual]/ext:entitlement/ext:participant[prac]/**ext:participantRole** | |
| | | | | ext:coverage2[prac_qual]/ext:entitlement/ext:participant[prac]/ ext:participantRole/**@classCode="ASSIGNED"** | |
| | | | | ext:coverage2[prac_qual]/ext:entitlement/ext:participant[prac]/ext:participantRole/**ext:id** | Practitioner > qualification is represented in CDA by an entitlement (qualification) held by a participant (practitioner).<br><br>This 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** | |
| Practitioner > qualification > **code** | Coded representation of the qualification. | 1..1 | CodeableConcept | ext:coverage2[prac_qual]/ext:entitlement/**ext:code** | See <code> for available attributes.<br><br>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** | |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Practitioner > qualification > **issuer** | Organization that regulates and issues the qualification. | 0..1 | Reference(Organization as Base Organization) | ext:coverage2[prac_qual]/ext:entitlement/**ext:participant[issuer]** | ext:participant[issuer]/@typeCode SHALL be "AUT".<br><br>ext:participant[issuer]/ext:participantRole SHALL be "COMPAR". |

# 11 Common patterns

## 11.1 code

The <code> element pattern refines the kind of act being recorded. It is of data type CD CWE (Concept Descriptor, Coded With Extensibility). It may have:

- a null attribute (*nullFlavor*)
- *originalText*
- *code* and *codeSystem*
- *qualifier* (CD)
- *translation* (CD)
- any combination of the above.

A *displayName* is highly recommended.

Where used, the *code* attribute **SHALL** contain a code from the relevant vocabulary.

Where used, the *codeSystem* attribute **SHALL** contain the OID for the relevant vocabulary. Values for coding systems can be obtained from the HL7 OID registry accessible from the HL7 home web page at www.hl7.org.

Where used, the *displayName* attribute **SHALL** contain a human-readable description of the code value that is provided by the code system; *displayName* is a case insensitive value except where explicitly stated otherwise by the code system. A preferred interface term for display that is not a member of the description set supplied by the code system **SHALL NOT** be used to populate the *displayName* attribute.

The *codeSystemName* **MAY** be present and, where used, **SHALL** contain a human-readable name for the coding system.

Where used, the *originalText* element **SHALL** be used to carry the full text associated with this code as selected by, typed by or displayed to the author of this statement including the contents of the *qualifier* if present.

Where used, the *qualifier* element **SHALL** carry a code from the same code system as the code; for example if the main concept code is from SNOMED CT the *qualifier* also has to be taken from SNOMED CT as the use of a different code system for a *qualifier* is not allowed. The use of the *qualifier* element is governed by the code system used and cannot be used with code systems that do not provide for qualifiers (e.g. pre-coordinated systems).

Codes can be obtained from a variety of sources. Additional vocabularies are also available from the HL7 Version 3 Vocabulary tables, available to HL7 members through the HL7 web site. In some cases, the vocabularies have been specified; in others, a particular code has been fixed or there is no vocabulary specified. For guidance on coding common clinical concepts in CDA documents see *Representing Coding in CDA Documents Implementation Guidance [NEHT2011bv]*.

Where a code is used from a different code system to that specified, or where the code lies outside the reference set specified, or where a code system or reference set is not specified, the code value **SHALL** be consistent with the meaning of the associated element of the Event Summary model.

If a vocabulary is specified in this implementation guide and no suitable code can be found, the *originalText* element **SHALL** be used to carry the full text as selected by, typed by or displayed to the author of this statement.

If a vocabulary is specified in this implementation guide and it is not possible to use this vocabulary, but an alternate vocabulary is in use, the *originalText* element **SHALL** be used to carry the full text as selected by, typed by or displayed to the author of this statement. The *code* element **SHALL** be used to carry the relevant information from the alternate vocabulary and the alternate vocabulary **SHALL** be registered with HL7 and allocated an appropriate OID.

If an alternate vocabulary is in use and a translation into the specified code system is available, the *originalText* element **SHALL** be used to carry the full text as selected by, typed by or displayed to the author of this statement. The *code* element **SHALL** be used to carry the relevant information from the alternate vocabulary and the alternate vocabulary **SHALL** be registered with HL7 and allocated an appropriate OID. The *translation* element **SHALL** be used to indicate the translation code from the specified vocabulary.

**Example 11.1. code**

```
<!-- Specified code system in use -->
<code
   code="271807003"
   codeSystem="2.16.840.1.113883.6.96"
   codeSystemName="SNOMED CT"
   codeSystemVersion="20101130"
   displayName="Skin rash" />


<!-- Specified code system in use with a qualifier -->
<code
    code="23986001"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Glaucoma" >
    <originalText>Glaucoma, left</originalText>
    <qualifier>
        <name
            code="272741003"
            codeSystem="2.16.840.1.3883.6.96"
            codeSystemName="SNOMED CT"
            displayName="Laterality" />
        <value
            code="7771000"
            codeSystem="2.16.840.1.113883.6.96"
            codeSystemName="SNOMED CT"
            displayName="Left"
            xsi:type="CD" />
    </qualifier>
</code>
```

```
<!-- Alternate code system in use and a translation into the specified code system is available -->
<code
   code="J45.9"
   codeSystem="2.16.840.1.113883.6.135"
   codeSystemName="icd10am"
   displayName="Asthma, unspecified">
   <originalText>Asthma</originalText>
   <translation
      code="195967001"
      codeSystem="2.16.840.1.113883.6.96"
      codeSystemName="SNOMED CT"
      displayName="Asthma"/>
</code>


<!-- Alternate code system in use and no translation into the specified code system is available -->
<code
   code="J45.9"
   codeSystem="2.16.840.1.113883.6.135"
   codeSystemName="icd10am"
   displayName="Asthma, unspecified">
   <originalText>Asthma</originalText>
</code>


<!-- No suitable code can be found or there is no code system in use -->
<code
    <originalText>Asthma</originalText>
</code>
```

# 11.2 id

The <id> element pattern is of data type II (Instance Identifier). The II data type may have:

- a null attribute (*nullFlavor*)
- a *root*
- a *root* and an *extension*
- a *root* and an *extension* and an *assigningAuthorityName*
- a *root* and an *assigningAuthorityName*
- a *root* and an *assigningAuthorityName* and a *displayable*
- a *root* and an *extension* and a *displayable*
- a *root* and an *extension* and an *assigningAuthorityName* and a *displayable*
- a *root* and a *displayable*

The root attribute is **REQUIRED** and is a unique identifier that guarantees the global uniqueness of the instance identifier. The root alone **MAY** be the entire instance identifier. The root attribute **SHALL** be a UUID or OID.

The extension attribute **MAY** be present, and is a character string as a unique identifier within the scope of the identifier root.

In the case of business or technical identifier an assigningAuthorityName is **RECOMMENDED**.

Identifiers appear in this implementation guide for two different reasons. The first is that the identifier has been identified as relevant to the business process or clinical workflow. These identifiers are documented in mapping tables in the Element column, e.g. Composition > identifier or Medication Statement (Prescription) > identifier, which make clear the meaning of this identifier.

In addition, the implementation makes clear that identifiers may also be found on many other parts of the CDA structure. These identifiers, often referred to as technical identifiers, are allowed to facilitate record matching across multiple versions of related documents, so that the same record can consistently be identified, in spite of variations in the information as the record passes through time or between systems. These identifiers have no meaning in the business specification. If senders provide one of these identifiers, it **SHALL** always be the same identifier in all versions of the record, and it **SHALL** be globally unique per the rules of the II data type.

**Example 11.2. id**

```
<id root="2.16.840.1.113883.19" extension="123A45" />
<ext:id assigningAuthorityName="HPI-O" root="1.2.36.1.2001.1003.0.8003621566684455" />
```

# 11.3 time

When a time value is supplied it **SHALL** include hours and minutes.

When a time value is supplied it **MAY** include seconds and fractions of seconds.

When a time value is supplied it **SHALL** include a time zone.

The <time> element pattern is of data type TS (Point in Time) and can also be an interval between two times (IVL_TS), representing a period of time. Both forms can either have a nullFlavor attribute or child components following allowed patterns.

A simple timestamp (point in time) will only contain a value attribute containing the time value, expressed as a series of digits as long as required or as available.

**Example 11.3. Simple timestamp**

```
<time value="20091030" />
```

This represents "October 30, 2009" to calendar day precision. In cases where the containing element is defined in the CDA schema as "ANY" data type, it is useful to provide an xsi:type attribute, set to the value "TS".

The period of time pattern is defined in terms of one or both of its lowest and highest values. The low and high elements are instances of the timestamp pattern described above. More complex time period concepts can be expressed by combining a high, low, or centre element with a width element.

**Example 11.4. Low time**

```
<period>
   <low value="20091030" />
</period>
```

This represents "a period after October 30, 2009". In cases where the containing element is defined in the CDA schema as "ANY" data type, it is useful to provide an xsi:type attribute, set to the value "IVL_TS", as in the next example.

**Example 11.5. Interval timestamp 1**

```
<period xsi:type="IVL_TS">
   <high value="200910301030+1000" />
</period>
```

This represents "a period before 10:30 a.m. UTC+10, October 30, 2009". A discretionary xsi:type attribute has been provided to explicitly cast the pattern to "IVL_TS".

**Example 11.6. Interval timestamp 2**

```
<period xsi:type="IVL_TS">
   <low value="2007" />
   <high value="2009" />
</period>
```

This represents "the calendar years between 2007 and 2009". The low element **SHALL** precede the high element. As per the previous example, a discretionary xsi:type attribute has been provided to explicitly cast the pattern to "IVL_TS".

**Example 11.7. Width time**

```
<period>
   <high value="20091017" />
   <width value="2" unit="wk" />
</period>
```

This expresses "two weeks before October 17th, 2009". A low value can be derived from this.

# 11.4 Entity Identifier

## CDA mapping

| Element | Definition | Card | CDA schema element | Constraints and comments |
|---|---|---|---|---|
| **CDA Data Elements** | | | | |
| **Entity Identifier** | A number or code issued for the purpose of identifying a participant within a health-care context. | The cardinality of the group comes from the linking parent and the cardinality of the children data elements comes from the R-MIM diagram. | **//ext:asEntityIdentifier** | See Australian Digital Health Agency CDA extension: EntityIdentifier. |
| | | 1..1 | //ext:asEntityIdentifier/**@classCode="IDENT"** | |
| | | 1..1 | //ext:asEntityIdentifier/**ext:id** | |
| | | 1..1 | //ext:asEntityIdentifier/ext:id/**@root** | @root **SHALL** be an OID and **SHALL NOT** be a UUID.<br><br>@root **SHALL** be a globally unique object identifier (i.e. OID) that identifies the combination of geographic area, issuer and type. If no such OID exists, it **SHALL** be defined before any identifiers can be created. |
| | | 0..1 | //ext:asEntityIdentifier/ext:id/**@extension** | If present, @extension **SHALL** be a unique identifier within the scope of the root that is populated directly from the designation. |
| | | 0..1 | //ext:asEntityIdentifier/ext:id/**@assigningAuthorityName** | @assigningAuthorityName **SHOULD** be used and, if it is used, **SHALL** be a human-readable 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 **SHOULD NOT** be used for machine readability purposes. |
| | | 0..1 | //ext:asEntityIdentifier/**ext:code** | See <code> for available attributes. |
| | | 0..1 | //ext:asEntityIdentifier/**ext:assigningGeographicArea** | |
| | | 1..1 | //ext:asEntityIdentifier/ext:assigningGeographicArea/**@classCode="PLC"** | |
| | | 0..1 | //ext:asEntityIdentifier/ext:assigningGeographicArea/**ext:name** | If present, ext:name **SHALL** be 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 **SHOULD NOT** be used for machine readability purposes. |

### Example 11.8. Entity Identifier

```
<!-- These example fragments are illustrative only. They 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. -->

<!-- person -->
<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>

<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>

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

# 11.5 Personal Relationship

## CDA mapping

| Element | Definition | Card | CDA schema element | Constraints and comments |
|---|---|---|---|---|
| **CDA Data Elements** | | | | |
| **Personal Relationship** | The relationship of a participant to a subject of care (patient). | The cardinality of the group comes from the linking parent and the cardinality of the children data elements comes from the R-MIM diagram. | **//ext:personalRelationship** | See Australian Digital Health Agency CDA extension: PersonalRelationship.<br><br>This logical data component **SHALL NOT** be instantiated if the participant is a healthcare provider. If ext:personalRelationship is instantiated the value of Entity Identifier **SHALL NOT** be a HPI-I. |
| | | 1..1 | //ext:personalRelationship/**@classCode="PRS"** | |
| | | 0..1 | //ext:personalRelationship/**id** | |
| | | 1..1 | //ext:personalRelationship/**ext:code** | Related Person Relationship Type (extensible)<br><br>See <code> for available attributes. |
| | | 0..1 | //ext:personalRelationship/**ext:statusCode** | v3 Code System RoleStatus (required)<br><br>See <code> for available attributes. |
| | | 0..1 | //ext:personalRelationship/**ext:effectiveTime** | See <time> for available attributes. |
| | | 1..1 | //ext:personalRelationship/**ext:asPersonalRelationship** | |
| | | 0..1 | //ext:personalRelationship/ext:asPersonalRelationship/**@classCode="PSN"** | |
| | | 0..1 | //ext:personalRelationship/ext:asPersonalRelationship/**@determinerCode="INSTANCE"** | |
| | | 1..1 | //ext:personalRelationship/ext:asPersonalRelationship/**id** | This **SHALL** hold the same value as /ClinicalDocument/recordTarget/patientRole/**id**. |
| | | 1..1 | //ext:personalRelationship/ext:asPersonalRelationship/**administrativeGenderCode/@nullFlavor="NA"** | Included for CDA conformance only. |

### Example 11.9. Personal Relationship

```
<!-- These example fragments are illustrative only. They 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. -->

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

<!-- author with personal relationship -->
<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>

<!-- participant performer with personal relationship -->
<participant typeCode="PRF">
   <associatedEntity classCode="ASSIGNED">
      <!--participant performer identifier-->
      <id root="f3351b5c-8a6c-437c-a55c-a6c121873456"/>
      <!-- personal relationship -->
      <associatedPerson>
         <ext:personalRelationship>
            <!--relationship-->
            <ext:code code="FAMMEMB" codeSystem="2.16.840.1.113883.5.111" codeSystemName="v3 Code System RoleCode" displayName="Family Member" />
            <!--patient-->
            <ext:asPersonalRelationship>
               <!-- patient identifier-->
               <id extension="100543" root="2.16.840.1.113883.19.1.2.3.4"/>
               <administrativeGenderCode nullFlavor="NA" />
            </ext:asPersonalRelationship>
         </ext:personalRelationship>
      </associatedPerson>
   </associatedEntity>
</participant>
```

# 11.6 Qualification

## CDA mapping

| Element | Definition | Card | CDA schema element | Constraints and comments |
|---|---|---|---|---|
| **CDA Data Elements** | | | | |
| **Qualification** | A list of professional certifications, and certificates recognising having passed a course. | 0..1 | **//ext:asQualifications** | See Australian Digital Health Agency CDA extension: Qualifications. |
| | | 1..1 | //ext:asQualifications/**@classCode="QUAL"** | |
| | | 1..1 | //ext:asQualifications/**ext:code** | Qualifications is a text field, so the text list is entered in @originalText. |

# Appendix A. 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]*

As such the following extensions have been defined where Australian concepts were not represented in CDA.

This section is provided for clarity only. Please see the relevant mappings section where these extensions have been used for actual mapping details.

# A.1 ClinicalDocument.completionCode

Figure A.1 ClinicalDocument.completionCode shows a subset of the CDA R-MIM containing those classes with the relevant Australian Digital Health Agency CDA extension represented.

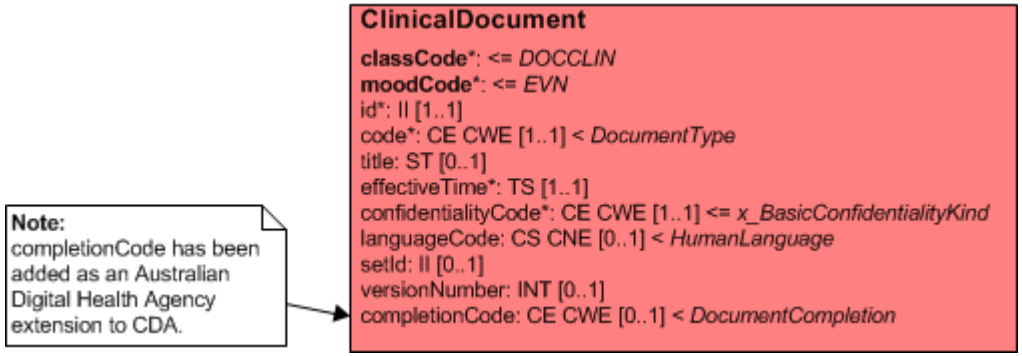


**Figure A.1. ClinicalDocument.completionCode**

# A.2 Multiple Birth

Figure A.2 Multiple Birth shows a subset of the CDA R-MIM containing those classes with the relevant Australian Digital Health Agency CDA extension represented.

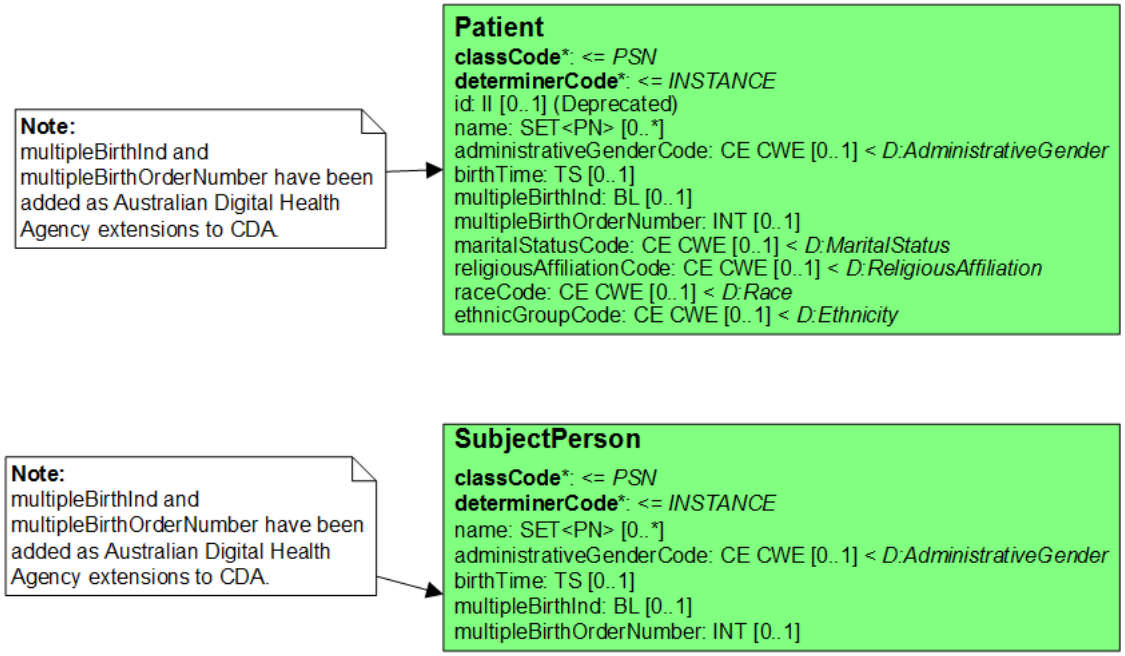


**Figure A.2. Multiple Birth**

# A.3 Deceased Time

Figure A.3 Deceased Time shows a subset of the CDA R-MIM containing those classes with the relevant Australian Digital Health Agency CDA extension represented.

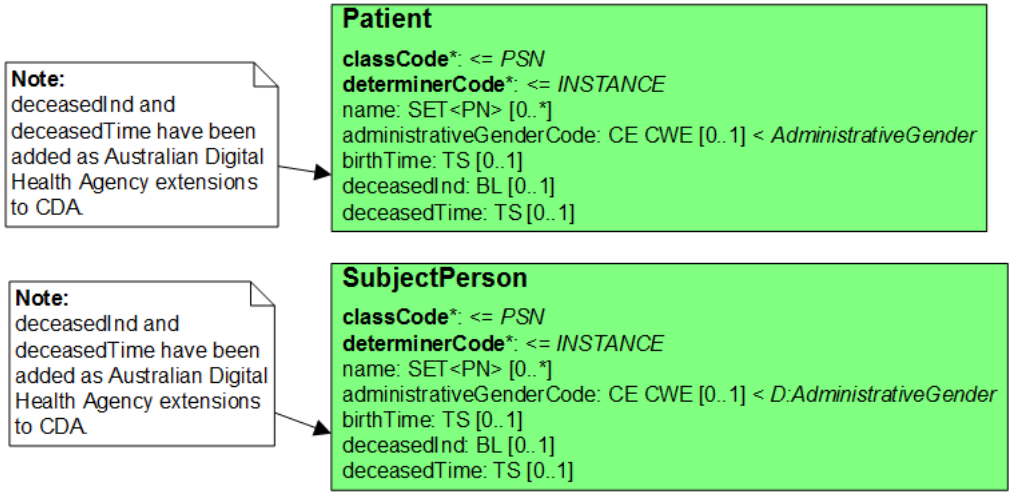


**Figure A.3. Deceased Time**

# A.4 EntityIdentifier

Figure A.4 EntityIdentifier shows a subset of the CDA R-MIM containing those classes with the relevant Australian Digital Health Agency CDA extension represented.

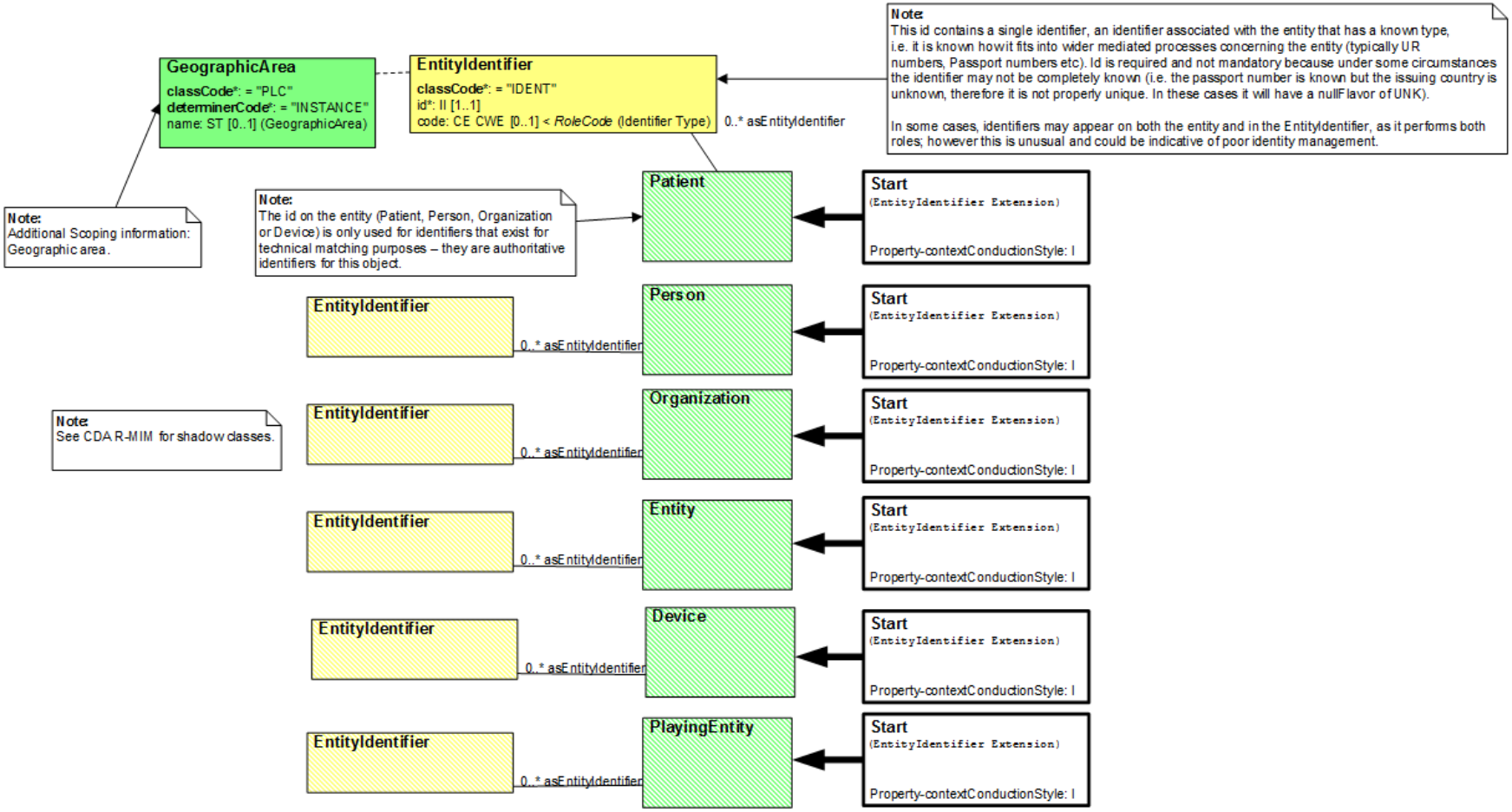


**Figure A.4. EntityIdentifier**

# A.5 Employment

Figure A.5 Employment shows a subset of the CDA R-MIM containing those classes with the relevant Australian Digital Health Agency CDA extension represented.

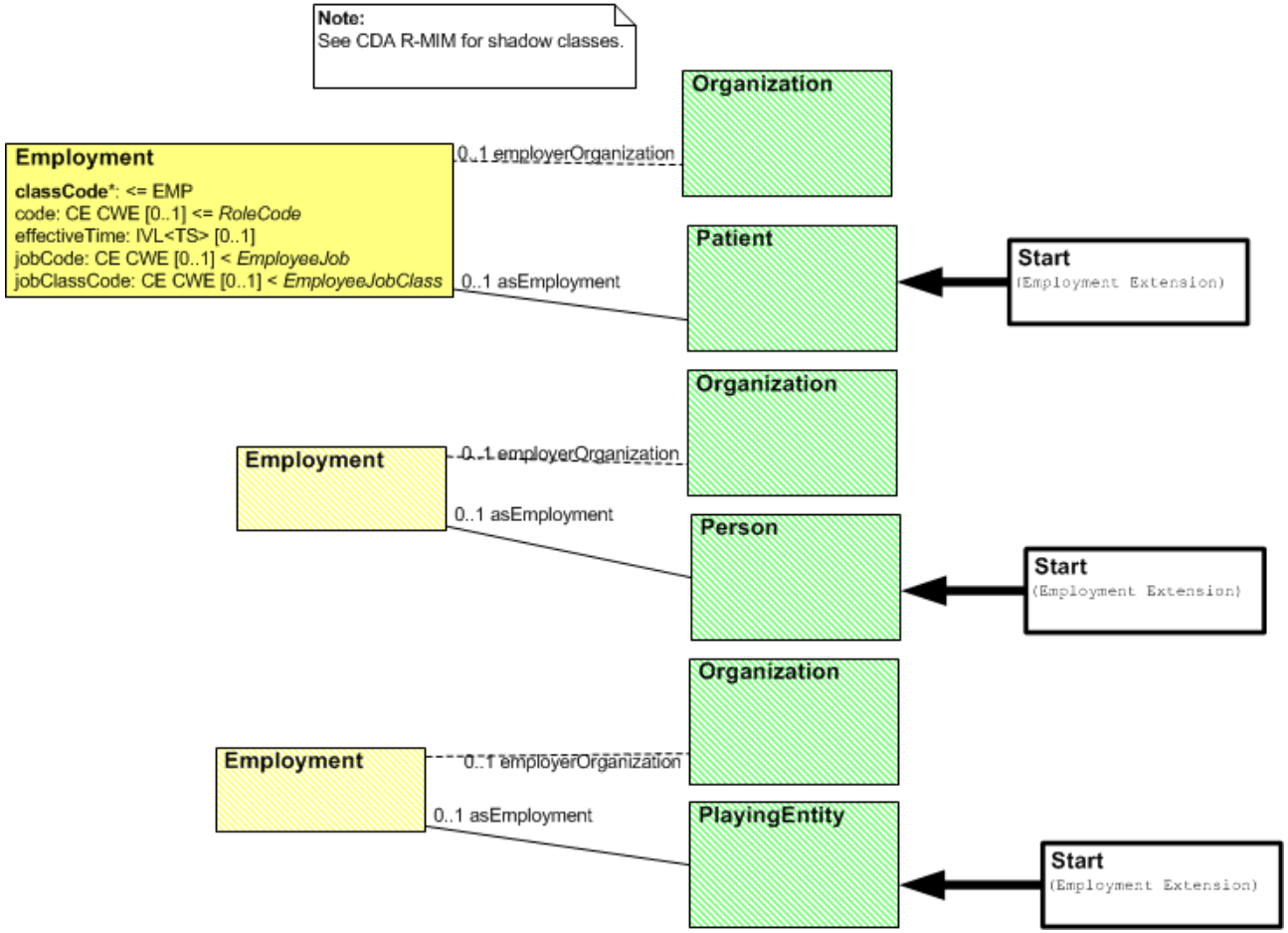


**Figure A.5. Employment**

# A.6 Qualifications

Figure A.6 Qualifications shows a subset of the CDA R-MIM containing those classes with the relevant Australian Digital Health Agency CDA extension represented.

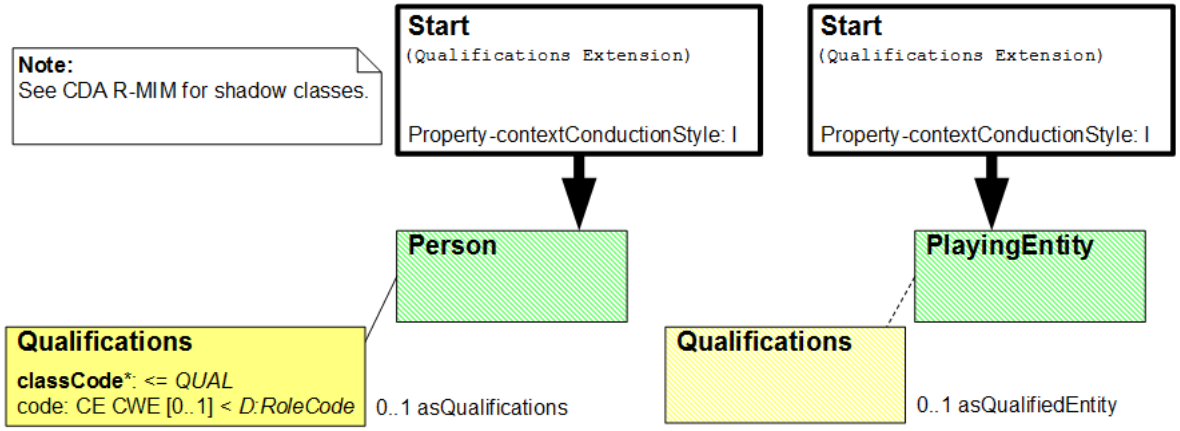


**Figure A.6. Qualifications**

# A.7 PersonalRelationship

Figure A.7 PersonalRelationship shows a subset of the CDA R-MIM containing those classes with the relevant Australian Digital Health Agency CDA extension represented.

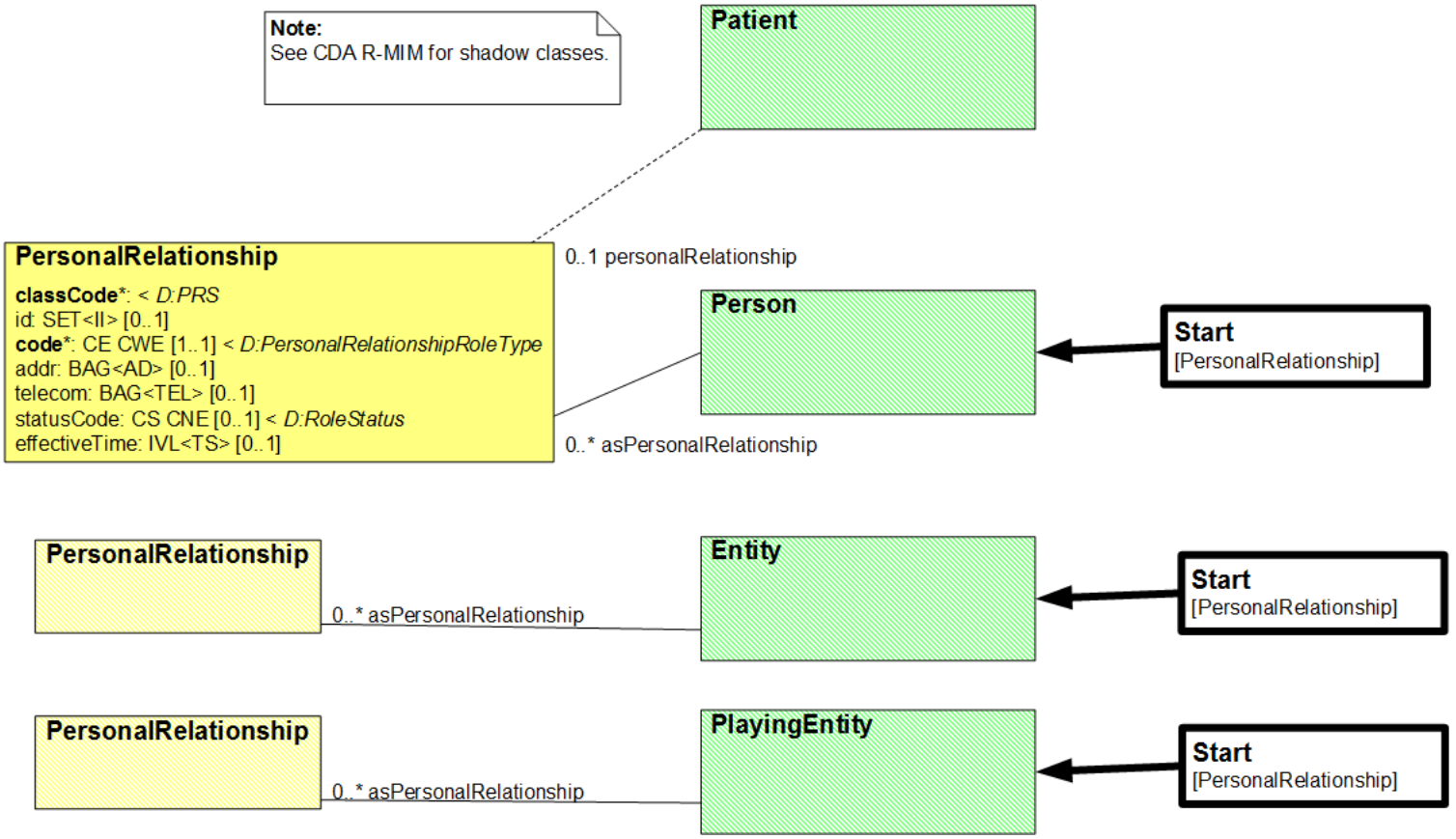


**Figure A.7. PersonalRelationship**

# A.8 Entitlement

Figure A.8 Entitlement shows a subset of the CDA R-MIM containing those classes with the relevant Australian Digital Health Agency CDA extension represented.

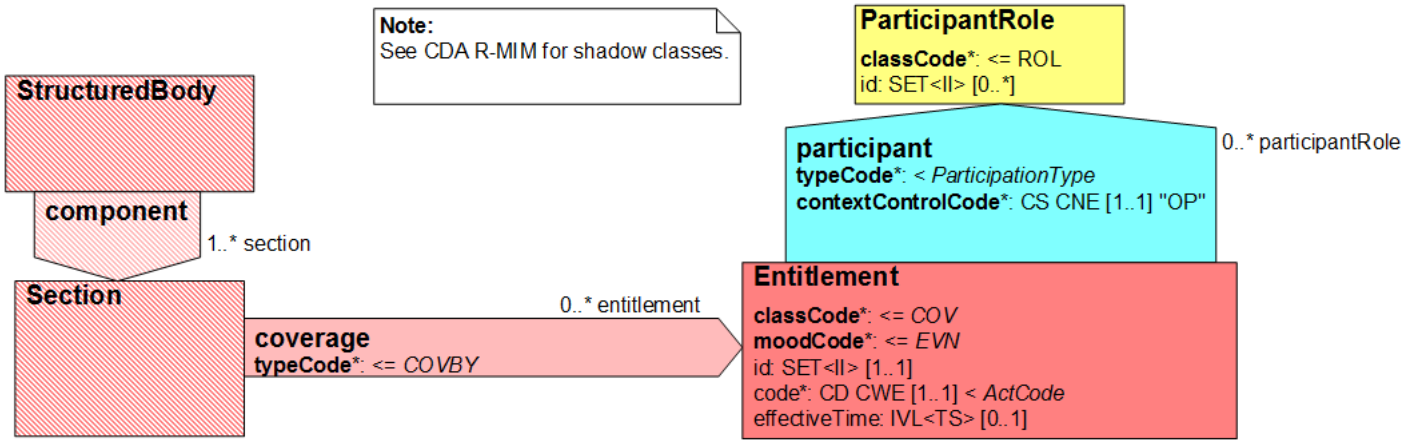


**Figure A.8. Entitlement**

# Appendix B. Complex data type mappings to CDA (R2)

This informative appendix provides some guidance on how complex data types referred to in the body of this specification can map to CDA (R2). The mappings provided are a set of preferred mappings and do not represent conformance requirements.

# B.1 Identifier

This informative appendix provides some guidance on how the complex data type Identifier, referenced in the body of this specification can map to CDA (R2). The mappings provided are a set of preferred mappings and do not represent conformance requirements.

In addition to examples 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]*.

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **Identifier** | A technical identifier - identifies some entity uniquely and unambiguously. | Cardinality comes from linking parent. | Element | See: instantiation choices | In CDA it is possible that the 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.<br><br>**instantiation choices:**<br><br>If the identifier element is for a Patient, Practitioner, PractitionerRole, Organization, RelatedPerson or Device it is expected to be instantiated as //ext:asEntityIdentifier/@classCode="IDENT". See <Entity Identifier> for available attributes.<br><br>The identifier element may be instantiated as //id. |
| Identifier > **use** | The purpose of this identifier. | 0..1 | code | n/a | |
| Identifier > **type** | A coded type for the identifier that can be used to determine which identifier to use for a specific purpose. | 0..1 | code | //ext:asEntityIdentifier/**ext:code** | Identifier Type Codes (extensible)<br><br>This element is only available if the identifier is instantiated as //ext:asEntityIdentifier/@classCode="IDENT". |
| 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:**<br><br>If the identifier element is for a Patient, Practitioner, PractitionerRole, Organization, RelatedPerson or Device this is expected to be instantiated as //ext:asEntityIdentifier/ext:id/@root.<br><br>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:**<br><br>If the identifier element is for a Patient, Practitioner, PractitionerRole, Organization, RelatedPerson or Device this is expected to be instantiated as //ext:asEntityIdentifier/ext:id/@extension.<br><br>The identifier value may be instantiated as //id/@extension. |
| Identifier > **period** | Time period during which identifier is/was valid for use. | 0..1 | Period | n/a | This logical element has no mapping to CDA. |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Identifier > **assigner** | Organization that issued/manages the identifier. | 0..1 | Reference (Organization) | See: instantiation choices | **instantiation choices:**<br><br>If the identifier element is for a Patient, Practitioner, PractitionerRole, Organization, RelatedPerson or Device this is expected to be instantiated as //ext:asEntityIdentifier/ext:id/@assigningAuthorityName.<br><br>The identifier value may be instantiated as //id/@assigningAuthorityName. |

### Example B.1. Identifier

```
<!-- These example fragments are illustrative only. They 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. -->

<!-- subject -->
<recordTarget>
    <!-- subject (Patient) -->
    <patientRole>
        <patient>
            <administrativeGenderCode></administrativeGenderCode>

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

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

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

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

            <!-- Patient.identifier as a Healthcare card number -->
            <ext:asEntityIdentifier classCode="IDENT">
             <!-- identifier.system=urn:oid:2.16.840.1.113883.3.879.270098,
```

```
                identifier.value=307111942H,
                identifier.assigner=Centrelink customer reference number -->
             <ext:id assigningAuthorityName="Centrelink customer reference number"
              root="2.16.840.1.113883.3.879.270098" extension="307111942H"/>
             <ext:code code="HC" codeSystem="2.16.840.1.113883.12.203"
              codeSystemName="Identifier Type (HL7)" displayName="Health Card Number"/>
            </ext:asEntityIdentifier>

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

<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>

<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>

<!--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>
```

# B.2 HumanName

This informative appendix provides some guidance on how the complex data type HumanName, referenced in the body of this specification can map to CDA (R2). The mappings provided are a set of preferred mappings and do not represent conformance requirements.

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **HumanName** | A human's name with the ability to identify parts and usage. | Cardinality comes from linking parent. | Element | **//name** | Name **SHALL** have at least text or family or given instantiated.<br><br>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) |
| 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** | Prefix values 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** | Suffix values 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** | See <time> for available attributes. |

### Example B.2. HumanName

```
<!-- These example fragments are illustrative only. They 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. -->

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

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

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

<!-- 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>
```

# B.3 Address

This informative appendix provides some guidance on how the complex data type Address, referenced in the body of this specification can map to CDA (R2). The mappings provided are a set of preferred mappings and do not represent conformance requirements.

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | 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 parent. | Element | **//addr** | |
| Address > **use** | The purpose of this address. | 0..1 | code | //addr/**@use** | v3 Code System AddressUse (required)<br><br>addr/@use may be used to carry more than one value by a space separated list of codes. |
| 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** | v3 Code System AddressUse (required)<br><br>addr/@use may be used to carry more than one value by a space separated list of codes. |
| Address > **text** | A full text representation of the address. | 0..1 | string | **//addr** | The expectation is that this 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 | state | //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/**usablePeriod** | |

### Example B.3. Address

```
<!-- These example fragments are illustrative only. They 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. -->

<!-- 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>

<!-- 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>

<!-- Address where use=old -->
<addr use="TMP">
    <!--Address.line-->
    <streetAddressLine>Rue Lougoraïa 12, app. 10</streetAddressLine>
    <!--Address.city-->
    <city>Korolevo</city>
    <!--Address.state-->
    <state>Minsk</state>
    <!--Address.country-->
    <country>BELARUS</country>
    <!--Address.period-->
    <useablePeriod xsi:type="IVL_TS">
        <low value="01012001" />
        <high value="01012012" />
    </useablePeriod>
</addr>
```

# B.4 Address as Australian Address

This informative appendix provides some guidance on the constrained form of complex data type Address as Australian Address published by HL7 Australia. The mappings provided are a set of preferred mappings and do not represent conformance requirements.

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **Address** | An address profile where validation of elements is desired for an Australian address. | Cardinality comes from linking parent. | Element | **//addr** | addr SHALL have text or one or more line (addr/streetAddressLine). |
| Address > **use** | The purpose of this address. | 0..1 | code | //addr/**@use** | v3 Code System AddressUse (required)<br><br>//addr/@use may be used to carry more than one value by a space separated list of codes. |
| 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** | v3 Code System AddressUse (required)<br><br>//addr/@use may be used to carry more than one value by a space separated list of codes. |
| Address > **text** | A full text representation of the address. | 0..1 | string | **//addr** | The expectation is that this 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 | state | //addr/**state** | 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. |
| Address > **country** | fixed value if present otherwise assumed to be Australia in this context | 0..1 | string | //addr/**country** | country SHALL be Australia ("AU"). |
| Address > **period** | Time period when address was/is in use. | 0..1 | Period | //addr/**usablePeriod** | |
| Address > **nofixedaddress** | No Fixed Address indicator | 0..1 | boolean | n/a | Not mapped directly, if true, addr SHOULD be equal to "NO FIXED ADDRESS" and addr/@use SHOULD be "PHYS". |

### Example B.4. Address

```
<!-- These example fragments are illustrative only. They 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. -->

<!-- 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>

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

<!-- 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>

<!-- 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>
```

# B.5 ContactPoint

This informative appendix provides some guidance on how the complex data type ContactPoint, referenced in the body of this specification can map to CDA (R2). The mappings provided are a set of preferred mappings and do not represent conformance requirements.

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **ContactPoint** | A human's name with the ability to identify parts and usage. | Cardinality comes from linking parent. | Element | **//telecom** | If value is present, 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** | HL7 URLScheme (required)<br><br>Makes up part of the attribute: 'system:value', e.g. 'tel:phone number', 'mailto:email address', 'http:URL', etc. |
| 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) |
| 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** | See <time> for available attributes. |

### Example B.5. ContactPoint

```
<!-- These example fragments are illustrative only. They 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. -->

<!-- ContactPoint where system=phone, value=+1-(555)555-1212, use=home -->
<telecom value="tel:+1-(555)555-1212" use="H">
    <!-- ContactPoint.period -->
    <useablePeriod xsi:type="IVL_TS">
        <low value="01012001" />
        <high value="01012012" />
    </useablePeriod>
</telecom>

<!-- ContactPoint where system=phone, value=0712341234, use=home -->
<telecom use="H" value="tel:0712341234" />

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

# B.6 Dosage

This informative appendix provides some guidance on how the complex data type Dosage, referenced in the body of this specification can map to CDA (R2). The mappings provided are a set of preferred mappings and do not represent conformance requirements.

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **Dosage** | Indicates how the medication is/was taken or should be taken by the patient. | Cardinality comes from linking parent. | Element | See: instantiation choices | **instantiation choices:**<br><br>When a single instance of dosage is recorded the logical element has no direct mapping; it is implicit in the mapping of the child elements.<br><br>When more than one instance of dosage is recorded, each instance of dosage is recorded as a child substanceAdministration, e.g. //substanceAdministration/entryRelationship[dosage]/substanceAdministration[@typeCode="SBADM", @moodCode="INT"]. |
| Dosage > **sequence** | Indicates the order in which the dosage instructions should be applied or interpreted. | 0..1 | integer | //**entryRelationship[dosage]**<br>//entryRelationship[dosage]/**@typeCode="COMP"**<br>//entryRelationship[dosage]/**sequenceNumber** | This element **SHALL NOT** be instantiated for a single instance of dosage.<br><br>The value of sequenceNumber **SHALL** be an ordinal number starting at "1" and increasing by "1" for each subsequent instance of dosage. |
| Dosage > **text** | Free text dosage instructions e.g. SIG. | 0..1 | string | **//text** | |
| Dosage > **additionalInstruction** | Supplemental instruction - e.g. 'with meals'. | 0..1 | CodeableConcept | n/a | Not mapped directly for this model; included implicitly in text, or patientInstruction, or timing, asNeeded. |
| Dosage > **patientInstruction** | Instructions in terms that are understood by the patient or consumer. | 0..1 | string | **//text** | |
| Dosage > **timing** | When medication should be administered. | 0..1 | Timing | **//effectiveTime** | See <time> for available attributes.<br><br>Recommended mappings for the complex data type to CDA (R2): Timing. |

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

### Example B.6. Dosage

```
<!-- These example fragments are illustrative only. They 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. -->

<entry>
    <!-- MedicationStatement - more than one instance of Dosage -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!-- identifier -->
        <id root="4255b903-6f90-41b8-a71c-8ac0ee1ebdc3"/>
        <!-- medication.as(medicationCodeableConcept) -->
        <consumable>
            <manufacturedProduct>
                <manufacturedMaterial>
                    <code code="6006011000036102"
                        codeSystem="1.2.36.1.2001.1004.100"
                        displayName="Lasix (frusemide 40 mg) tablet: uncoated, 1 tablet">
                        <originalText>Lasix (frusemide 40 mg)
                            tablet</originalText>
                    </code>
                </manufacturedMaterial>
            </manufacturedProduct>
        </consumable>

        <!-- Dosage to indicate asNeeded with a condition-->
        <entryRelationship typeCode="COMP"  >
            <!-- sequence -->
            <sequenceNumber value="1"/>
            <substanceAdministration  classCode="SBADM" moodCode="INT" >
                <consumable>
                    <manufacturedProduct>
                        <manufacturedMaterial nullFlavor="NA" />
                    </manufacturedProduct>
                </consumable>
                <!-- asNeededCodeableConcept  - instantiated as prn with specified condition -->
                <precondition typeCode="PRCN">
                    <criterion>
                        <code code="ASSERTION"
                            codeSystem="2.16.840.1.113883.5.4"/>
                        <!-- joint pain -->
                        <value xsi:type="CD" code="57676002"
                            codeSystem="2.16.840.1.113883.6.96"
                            displayName="Joint pain"/>
                    </criterion>
                </precondition>
            </substanceAdministration>
        </entryRelationship>
        <!-- Dosage to indicate timing -->
        <entryRelationship typeCode="COMP">
            <!-- sequence -->
            <sequenceNumber value="2"/>
            <substanceAdministration classCode="SBADM" moodCode="INT">
                <!-- additionalInstruction / patientInstruction -->
                <text>Every day at 8 in the morning for 10 minutes</text>
                <!-- timing -->
                <effectiveTime xsi:type="PIVL_TS" operator="A">
                    <phase>
                        <low value="198701010800" inclusive="true"/>
                        <width value="10" unit="min"/>
                    </phase>
```

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

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

# B.7 Timing

This informative appendix provides some guidance on how the complex data type Timing, referenced in the body of this specification can map to CDA (R2). The mappings provided are a set of possible mappings and do not represent conformance requirements.

## CDA mapping

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| **Timing** | Specifies an event that may occur multiple times. Timing schedules are used to record when things are planned, expected or requested to occur. The most common usage is in dosage instructions for medications. They are also used when planning care of various kinds, and may be used for reporting the schedule to which past regular activities were carried out. | Cardinality comes from linking parent. | Element | **//effectiveTime** | See <time> for available attributes. |
| Timing > **event** | Identifies specific times when the event occurs. | 0..1 | dateTime | //effectiveTime/**@value** | |
| Timing > repeat > **repeat** | A set of rules that describe when the event is scheduled. | 0..1 | Element | //effectiveTime/**@xsi:type** | Not mapped directly; implicit in the instantiation of the xsi:type, e.g. PIVL_TS or EIVL_TS, and the mapping of the child elements.<br><br>If duration is present, durationUnit **SHALL** be present.<br><br>If timeOfDay is present, when **SHALL NOT** be present.<br><br>If period is present, periodUnit **SHALL** be present.<br><br>duration **SHALL** be a non-negative value.<br><br>period **SHALL** be a non-negative value.<br><br>If periodMax is present, period **SHALL** be present.<br><br>If offset is present, when **SHALL** be present. |
| Timing > repeat > **bounds** | Either a duration for the length of the timing schedule, a range of possible length, or outer bounds for start and/or end limits of the timing schedule. | 0..1 | Duration \| Range \| Period | //effectiveTime/**@xsi:type="IVL_TS"** | |
| Timing > repeat > **count** | A total count of the desired number of repetitions. | 0..1 | integer | //repeatNumber/@value | count**SHALL** only be instantiated in the repeatNumber element of the Dosage substanceAdministration act where the moodCode is "INT" or "PLAN". |
| Timing > repeat > **countMax** | A maximum value for the count of the desired repetitions (e.g. do something 6-8 times). | 0..1 | integer | //repeatNumber/high/@value | count**SHALL** only be instantiated in the repeatNumber element of the Dosage substanceAdministration act where the moodCode is "INT" or "PLAN". |
| Timing > repeat > **duration** | How long this thing happens for when it happens. | 0..1 | decimal | //effectiveTime/phase/width/**@value** | effectiveTime/@xsi:type **SHOULD** be "PIVL_TS". |
| Timing > repeat > **durationMax** | The upper limit of how long this thing happens for when it happens. | 0..1 | decimal | n/a | This logical element has no mapping to CDA. |
| Timing > repeat > **durationUnit** | The units of time for the duration, in UCUM units. | 0..1 | code | //effectiveTime/phase/width/**@unit** | effectiveTime/@xsi:type **SHOULD** be "PIVL_TS". |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Timing > repeat > **frequency** | The number of times to repeat the action within the specified period / period range (i.e. both period and periodMax provided). | 0..1 | integer | //effectiveTime/phase/**frequency**<br>//effectiveTime/phase/frequency/**numerator** | effectiveTime/@xsi:type **SHALL** be "PIVL_TS".<br>frequency is expressed as the numerator (with an xsi:type of "INT") and period is expressed in CDA as the denominator.<br>frequency is often not included in CDA as a separate element but addressed by adjusting the values of period and periodUnit to take into account frequency. |
| Timing > repeat > **frequencyMax** | If present, indicates that the frequency is a range - so to repeat between [frequency] and [frequencyMax] times within the period or period range. | 0..1 | integer | //effectiveTime/**phase** | effectiveTime/@xsi:type **SHOULD** be "PIVL_TS". |
| Timing > repeat > **period** | Indicates the duration of time over which repetitions are to occur; e.g. to express '3 times per day', 3 would be the frequency and '1 day' would be the period. | 0..1 | decimal | See: instantiation choices | effectiveTime/@xsi:type **SHOULD** be "PIVL_TS".<br>**instantiation choices:**<br>May be represented by //effectiveTime/phase or //effectiveTime/period. |
| Timing > repeat > **periodMax** | If present, indicates that the period is a range from [period] to [periodMax], allowing expressing concepts such as 'do this once every 3-5 days. | 0..1 | decimal | See: instantiation choices | effectiveTime/@xsi:type **SHOULD** be "PIVL_TS".<br>**instantiation choices:**<br>May be represented by //effectiveTime/phase or //effectiveTime/period/high. |
| Timing > repeat > **periodUnit** | The units of time for the period in UCUM units. | 0..1 | code | See: instantiation choices | effectiveTime/@xsi:type **SHOULD** be "PIVL_TS".<br>**instantiation choices:**<br>May be represented by //effectiveTime/phase/@unit or //effectiveTime/period/low/@unit or //effectiveTime/period/high/@unit. |
| Timing > repeat > **dayOfWeek** | If one or more days of week is provided, then the action happens only on the specified day(s). | 0..* | code | //effectiveTime/phase/period/**@value** | effectiveTime/@xsi:type **SHALL** be "PIVL_TS".<br>effectiveTime/phase/period/@unit **SHALL** be "wk". |
| Timing > repeat > **timeOfDay** | Specified time of day for action to take place. | 0..* | time | //effectiveTime/**phase**<br>//effectiveTime/phase/**low**<br>//effectiveTime/phase/low/**@value** | effectiveTime/@xsi:type **SHOULD** be "PIVL_TS". |
| Timing > repeat > **when** | Real world events that the occurrence of the event should be tied to. | 0..* | code | //effectiveTime/**event** | effectiveTime/@xsi:type **SHALL** be "EIVL_TS".<br>This CDA schema element is of type CodedSimpleValue (CS).<br>EventTiming (required) |
| Timing > repeat > **offset** | The number of minutes from the event. If the event code does not indicate whether the minutes is before or after the event, then the offset is assumed to be after the event. | 0..1 | unsignedInt | //effectiveTime/**offset** | effectiveTime/@xsi:type **SHALL** be "EIVL_TS". |

| Element | Element description | Card | Element type | CDA schema element | Constraints and comments |
|---|---|---|---|---|---|
| Timing > **code** | A code for the timing schedule. Some codes such as BID are ubiquitous, but many institutions define their own additional codes. If a code is provided, the code is understood to be a complete statement of whatever is specified in the structured timing data, and either the code or the data may be used to interpret the Timing, with the exception that .repeat.bounds still applies over the code (and is not contained in the code). | 0..1 | CodeableConcept | n/a | Not directly supported in CDA; implied by frequency. |

### Example B.7. Timing

```
<!-- These example fragments are illustrative only. They 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. -->

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


<entry>
    <!-- MedicationStatement - common timing representations - this is not a meaningful example and is there to show common instantiations
    and their corresponding code -->
    <substanceAdministration classCode="SBADM" moodCode="EVN">
        <!--identifier-->
        <id root="7e5cc411-c248-4d5d-b333-257f16f9136c"/>
        <!-- common timing representations taken from https://docs.google.com/document/d/1Y0Z458o_MrR2aPnpx6EygO6hpI88Bl95esjRWZ0agtY/edit -->
        <!-- b.i.d twice a day  -->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true" operator="A">
            <!-- frequency=2, period=1, periodUnit=d -->
            <period value="0.5" unit="d"/>
        </effectiveTime>
        <!-- q12h Every 12 hours  -->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
            operator="A">
            <!-- frequency=1, period=12, periodUnit=h -->
            <period value="12" unit="h"/>
        </effectiveTime>
        <!--t.i.d Three times a day, at times determined by the person administering the medication-->
        <effectiveTime xsi:type="PIVL_TS" institutionSpecified="true"
            operator="A">
            <!-- frequency=3, period=1, periodUnit=d -->
            <period value="0.3333" unit="d"/>
        </effectiveTime>
        <!-- q8h Every 8 hours -->
```

```
<effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
    operator="A">
    <!-- frequency=1, period=8, periodUnit=h -->
    <period value="8" unit="h"/>
</effectiveTime>
<!--qid four times daily-->
<effectiveTime xsi:type="PIVL_TS" institutionSpecified="true"
    operator="A">
    <!-- frequency=4, period=1, periodUnit=d -->
    <period value="0.25" unit="d"/>
</effectiveTime>
<!-- q6h Every 6 hours -->
<effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
    operator="A">
    <!-- frequency=1, period=6, periodUnit=h -->
    <period value="6" unit="h"/>
</effectiveTime>
<!-- qd daily -->
<effectiveTime xsi:type="PIVL_TS" institutionSpecified="true"
    operator="A">
    <!-- frequency=1, period=1, periodUnit=d -->
    <period value="1" unit="d"/>
</effectiveTime>
<!-- q24h Every 24 hours -->
<effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
    operator="A">
    <!-- frequency=1, period=24, periodUnit=h -->
    <period value="24" unit="h"/>
</effectiveTime>
<!-- qod Every other day -->
<effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
    operator="A">
    <!-- frequency=1, period=2, periodUnit=d -->
    <period value="2" unit="d"/>
</effectiveTime>
<!-- qm Once a month -->
<effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
    operator="A">
    <!-- frequency=1, period=1, periodUnit=mo -->
    <period value="1" unit="m"/>
</effectiveTime>
<!-- q4-6h Every 4 to 6 hours (preferred) -->
<effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
    operator="A">
    <!-- frequency (where frequency=1)-->
    <period xsi:type="IVL_PQ">
        <!-- period and periodUnit -->
        <low value="4" unit="h" />
        <!-- periodMax and periodUnit -->
        <high value="6" unit="h" />
    </period>
</effectiveTime>
<!-- q4-6h Every 4 to 6 hours (alternate) -->
<effectiveTime xsi:type="PIVL_TS" institutionSpecified="false"
    operator="A">
    <period xsi:type="PPD_PQ" value="5" unit="h">
        <standardDeviation value="1" unit="h"/>
    </period>
</effectiveTime>
<!-- qam In the morning -->
<effectiveTime xsi:type="EIVL_TS" operator="A">
    <!-- when using code from TimingEvent value set (2.16.840.1.113883.5.139) -->
    <event code="ACM"/>
```

```
        </effectiveTime>
        <!-- qam Every day at 8 in the morning for 10 minutes -->
        <effectiveTime xsi:type="PIVL_TS" operator="A">
            <phase>
                <!-- boundsPeriod / timeOfDay -->
                <low value="198701010800" inclusive="true"/>
                <!-- duration and durationUnit -->
                <width value="10" unit="min"/>
            </phase>
            <period value="1" unit="d"/>
        </effectiveTime>
        <!-- 1 hour after meal -->
        <effectiveTime xsi:type="EIVL_TS" operator="A">
            <!-- when using code from TimingEvent value set (2.16.840.1.113883.5.139) -->
            <event code="PC"/>
            <!-- offset -->
            <offset>
                <low value="1" unit="h" />
            </offset>
        </effectiveTime>
        <!-- before dinner -->
        <effectiveTime xsi:type="EIVL_TS" operator="A">
            <!-- when using code from TimingEvent value set (2.16.840.1.113883.5.139) -->
            <event code="ACV"/>
        </effectiveTime>
        <!-- before lunch -->
        <effectiveTime xsi:type="EIVL_TS" operator="A">
            <!-- when using code from TimingEvent value set (2.16.840.1.113883.5.139) -->
            <event code="ACD"/>
        </effectiveTime>
        <!-- every evening -->
        <effectiveTime xsi:type="EIVL_TS" operator="A">
            <!-- when using code from TimingEvent value set (2.16.840.1.113883.5.139) -->
            <event code="ICV"/>
        </effectiveTime>
        <consumable>
            <manufacturedProduct>
                <manufacturedMaterial>
                    <code nullFlavor="NA"/>
                </manufacturedMaterial>
            </manufacturedProduct>
        </consumable>
    </substanceAdministration>
</entry>
```

# Appendix C. Examples

This informative appendix provides some examples that conform to the conformance requirements specified within this implementation guide.

# C.1 Event Summary example 1

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

**Example C.1. Event Summary 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 ../../../library/schema_au_published/CDA-AU-V1_0.xsd">
 <typeId root="2.16.840.1.113883.1.3" extension="POCD_HD000040"/>
 <!-- Put content here -->

</ClinicalDocument>
```

# Appendix D. Mapping from requirements

This informative appendix provides mapping from the data items (i.e. requirements) in *Shared Health Summary Information Requirements [NEHT2015e]*.

The table below matches the data items to the elements of the Event Summary (ES) model as shown in the Element column of the CDA Mapping table in the relevant template, and their corresponding CDA schema element(s) path from the root CDA schema element ClinicalDocument.

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