



Detailed Clinical Model Specification

**Imaging Examination Result
Version 2.1**

22 December 2011

Approved for External Release

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Document Information

Document owner

Document Owner

The National Clinical Terminology and Information Service

Change history

Version	Date	Comments
1.0	30 Jun 2007	Initial NEHTA release.
2.0	25 Aug 2011	New version created in accordance with the archetype from NEHTA Clinical Knowledge Manager ¹ .
2.1	22 Dec 2011	This version of the specification is published to support the Structured Content Specifications published (at the end of 2011) that use the versions of the DCMs included in this specification. Changes to the DCMs, included in this specification, are primarily to support the Consolidated View in the PCEHR.

Related documents

Name	Version/Release Date
NEHTA Acronyms, Abbreviations & Glossary of Terms	Version 1.2, Issued 25 May 2005
Participation Data Specification	Version 3.2, Issued 20 July 2011

Included Detailed Clinical Models

This specification contains the following Detailed Clinical Models:

1. Imaging Examination Result, version 2.1

¹ <http://dcm.nehta.org.au/ckm>

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Acknowledgements

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- Standards Australia;
- Members of the Australian DataTypes Project;
- Australian Institute of Health and Welfare; and
- Ocean Informatics.

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1 Introduction

1.1 Purpose and Scope

This detailed clinical model (DCM) specification forms part of a suite of data specifications that the National E-Health Transition Authority (NEHTA) is developing for the Australian health informatics community. The suite comprises specifications for a range of health topics (represented as data groups), which are considered to be the most critical to support the work programme given to NEHTA and to realise the benefits derived from Level 4 (semantic) interoperability¹ in the Australian healthcare setting.

NEHTA values your questions and comments about this document. Please direct your questions or feedback to clinicalinformation@nehta.gov.au.

1.2 Intended Audience

This document is intended to be read by jurisdictional information and communication technology (ICT) managers, clinicians involved in clinical information system specifications, software architects and developers, and implementers of clinical information systems in various healthcare settings.

It is reasonably technical in nature and expects the audience to be familiar with the language of health data specification and have some familiarity with health information standards and specifications. Definitions and examples are provided to clarify relevant terminology usage and intent.

1.3 Background

There are several e-health priority areas to be addressed by NEHTA specifications. One area of priority is identification of the data to be communicated and its structure. NEHTA is addressing this through data specifications, which detail the data elements (logically grouped) and their associated value domains.

Data specifications need to be independent of messaging formats. They are concerned with providing an information framework in which to achieve semantic interoperability.

Data specifications have been developed:

- Based on jurisdiction and clinician identified priorities;
- Specifically to suit the Australian model for a shared electronic health record (EHR);
- To define collections of related information, e.g. event summaries, data groups, data elements;
- To allow for expansion and extension as electronic systems mature;
- So they are human readable (with information enhanced by the hierarchical structure);
- Incorporating clinical examples of use to enhance utility and adoption; and
- To provide a set of clinical terminologies, specific to the requirements of the Australian healthcare system.

Whilst the Personally Controlled Electronic Health Record (PCEHR) System is referred to in these documents, the implementation of the PCEHR System is not dealt with here.

¹Level 4 interoperability is described in [\[WALJ2005a\]](#).

1.4 Terminology

NEHTA, through the National Clinical Terminology and Information Service (NCTIS), is defining a national approach to clinical terminology. Consistent and accurate articulation and interpretation of clinical terms is critical to the process of safe exchange.

The Systematized Nomenclature of Medicine - Clinical Terms[®] (SNOMED CT^{® 2}) has been recommended by NEHTA and endorsed by the Australian, state and territory governments as the preferred clinical terminology for Australia, and is now freely available for e-health software developers to use in their Australian products under International Health Terminology Standards Development Organisation (IHTSDO) licensing arrangements.

While NEHTA's achievement of a national standard clinical terminology is based on SNOMED CT as the foundational resource, local variations and customisation of terms relevant to the Australian healthcare sector will be incorporated. SNOMED CT Australian Release (SNOMED CT-AU) is the Australian extension to SNOMED CT; the integrated national release of SNOMED CT for implementation in Australian deployed clinical IT systems. NEHTA is also developing the Australian Medicines Terminology (AMT) as the designated clinical terminology for medicines available in Australia. The AMT will provide a consistent approach to the identification and naming of medicines, to support medicines management and activity across the Australian healthcare domain. The AMT will be integrated with SNOMED CT-AU in the near future.

Reference sets listed as value domains within this document have been developed taking into account data element and data group definitions, as well as how they align and complement the SNOMED CT concept model. For further information regarding terminology and the development of reference sets please visit <http://www.nehta.gov.au/our-work/clinical-terminology> and direct your questions or feedback to terminologies@nehta.gov.au.

²SNOMED CT[®] is a registered trademark of the International Health Terminology Standards Development Organisation.

2 Imaging Examination Result Detailed Clinical Model

This chapter describes version 2.1 of the Imaging Examination Result Detailed Clinical Model.

2.1 Purpose

To record the findings and interpretation of an imaging examination, or series of examinations, performed.

2.2 Use

Use to record all results related to the diagnostic imaging aspects of any imaging examinations performed.

Use to record the imaging examination components (only) of a more complex procedure, including those that may have been undertaken under imaging guidance.

More complex procedures (such as echocardiograms or bone density scans) may be represented using templates or specialised DCMs where additional report content is appropriate.

Will normally be reported back to the requesting clinician as one component within the context of an overall COMPOSITION-based report.

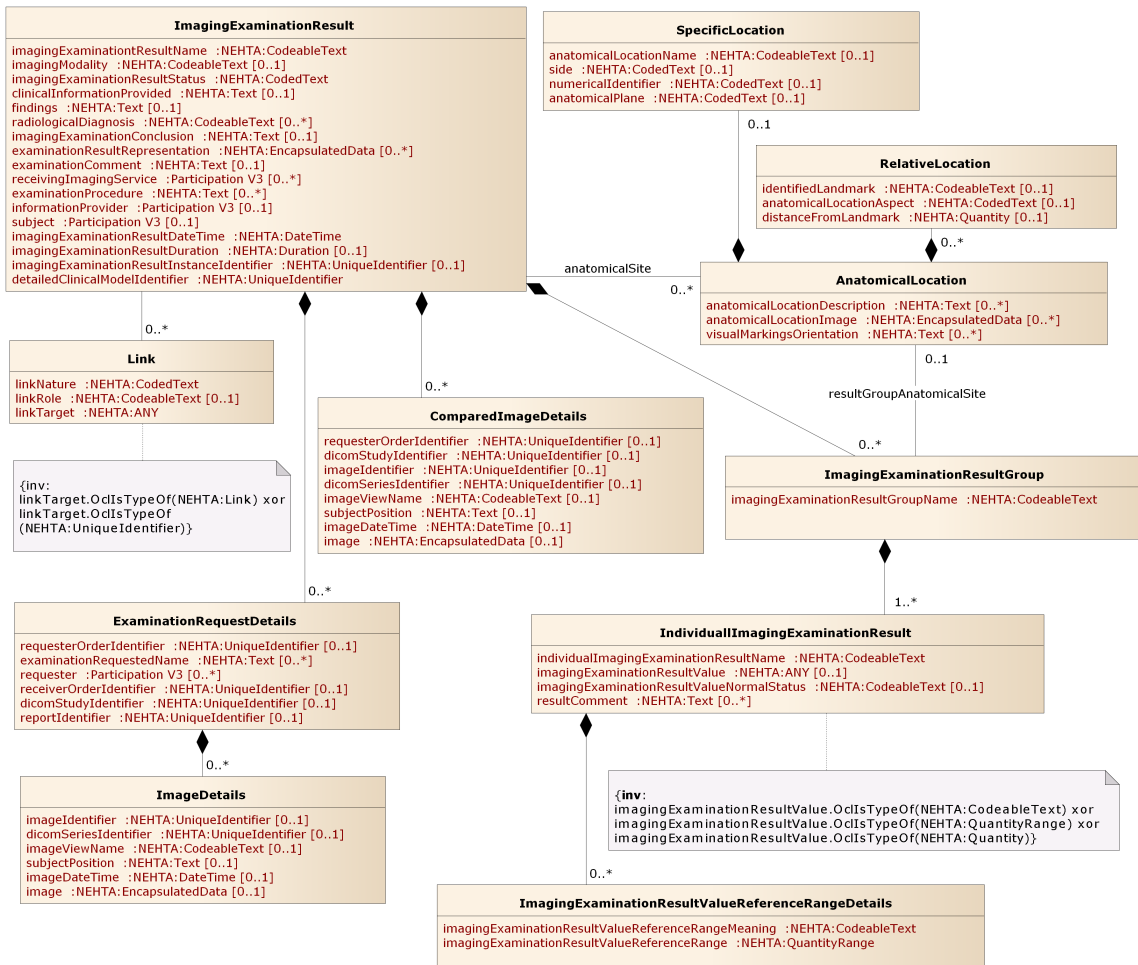
2.3 Misuse

Not to be used to record non-imaging examination findings or activities. For example when imaging is performed as part of a procedure the information related to the procedure shall be recorded using the *Procedure* DCM for the operative findings. This DCM will only be used to record the findings from the imaging.

Not to be used to record details about any parallel procedure undertaken. Use the specific procedure-related DCMs, for example *Procedure* DCM.

Not to be used to record details about medications administered during the imaging test. Use specific medication-related DCMs, for example *Medication Action* DCM.

2.4 UML Class Diagram



The figure represents the data hierarchy of the Detailed Clinical Model as a UML 2.0 class diagram. The diagram displays data groups and data elements, together with their names, data types and multiplicities. Data elements are displayed as attributes. Data groups are displayed as classes, their names are represented as association role names. Association role names are only displayed if they differ from the associated class name. The diagram shows the data hierarchy excluding the details of participation. The default multiplicity is 1..1.

2.5 IMAGING EXAMINATION RESULT










Identification





















Label	IMAGING EXAMINATION RESULT
Metadata Type	Data Group
Identifier	DG-16145
OID	1.2.36.1.2001.1001.101.102.16145

























Definition


Definition	Record the findings and interpretation of an imaging examination, or series of examinations, performed.
Definition Source	NEHTA
Synonymous Names	CAT CT Computed Tomography Imaging Magnetic Resonance Imaging MRI Nuclear Medicine Imaging Radiology Scan Ultrasound Xray X-ray

Data Hierarchy

 IMAGING EXAMINATION RESULT			
		Examination Result Name (Imaging Examination Result Name)	1..1
		Modality (Imaging Modality)	0..1
		Anatomical Site (ANATOMICAL LOCATION)	0..*
		SPECIFIC LOCATION	0..1
		Name of Location (Anatomical Location Name)	0..1
		Side	0..1
		Numerical Identifier	0..1
		Anatomical Plane	0..1

		RELATIVE LOCATION	0..*
		Identified Landmark	0..1
		Aspect (Anatomical Location Aspect)	0..1
		Distance From Landmark	0..1
		Description (Anatomical Location Description)	0..*
		Visual Markings/Orientation	0..*
		Image (Anatomical Location Image)	0..*
		Overall Result Status (Imaging Examination Result Status)	1..1
		Clinical Information Provided	0..1
		Findings	0..1
		Result Group (IMAGING EXAMINATION RESULT GROUP)	0..*
		Result Group Name (Imaging Examination Result Group Name)	1..1
		Result (INDIVIDUAL IMAGING EXAMINATION RESULT)	1..*
		Result Name (Individual Imaging Examination Result Name)	1..1
	  	Result Value (Imaging Examination Result Value)	0..1
		Result Value Normal Status (Imaging Examination Result Value Normal Status)	0..1
		Result Value Reference Range Details (IMAGING EXAMINATION RESULT VALUE REFERENCE RANGE DETAILS)	0..*
		Result Value Reference Range Meaning (Imaging Examination Result Value Reference Range Meaning)	1..1
		Result Value Reference Range (Imaging Examination Result Value Reference Range)	1..1
		Result Comment	0..*
		Result Group Anatomical Site (ANATOMICAL LOCATION)	0..1
		SPECIFIC LOCATION	0..1
		Name of Location (Anatomical Location Name)	0..1

				Side	0..1
				Numerical Identifier	0..1
				Anatomical Plane	0..1
				RELATIVE LOCATION	0..*
				Identified Landmark	0..1
				Aspect (Anatomical Location Aspect)	0..1
				Distance From Landmark	0..1
				Description (Anatomical Location Description)	0..*
				Visual Markings/Orientation	0..*
				Image (Anatomical Location Image)	0..*
				Radiological Diagnosis	0..*
				Conclusion (Imaging Examination Conclusion)	0..1
				Examination Result Representation	0..*
				Examination Comment	0..1
				RECEIVING IMAGING SERVICE	0..*
				EXAMINATION REQUEST DETAILS	0..*
				Requester Order Identifier	0..1
				Examination Requested Name	0..*
				REQUESTER	0..*
				Receiver Order Identifier	0..1
				DICOM Study Identifier	0..1
				Report Identifier	0..1
				IMAGE DETAILS	0..*
				Image Identifier	0..1

			DICOM Series Identifier	0..1
			View (Image View Name)	0..1
			Position (Subject Position)	0..1
			Image DateTime	0..1
			Image	0..1
		Examination Procedure		0..*
		COMPARED IMAGE DETAILS		0..*
			Requester Order Identifier	0..1
			DICOM Study Identifier	0..1
			Image Identifier	0..1
			DICOM Series Identifier	0..1
			View (Image View Name)	0..1
			Position (Subject Position)	0..1
			Image DateTime	0..1
			Image	0..1
		INFORMATION PROVIDER		0..1
		SUBJECT		0..1
			Imaging Examination Result DateTime	1..1
			Imaging Examination Result Duration	0..1
			Imaging Examination Result Instance Identifier	0..1
		LINK		0..*
			Link Nature	1..1
			Link Role	0..1

		 	<p>Link Target</p>	<p>1..1</p>
		<p>Detailed Clinical Model Identifier</p>	<p>1..1</p>	

2.6 Imaging Examination Result Name

Identification

Label	Examination Result Name
Metadata Type	Data Element
Identifier	DE-16498
OID	1.2.36.1.2001.1001.101.103.16498

Definition


Definition	Identification of the imaging examination or procedure performed, typically including modality and anatomical location (including laterality).
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	<i>Not specified.</i>
	In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure ¹ with an appropriate object identifier (OID), and SHALL be publicly available.
	When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.

Usage

Examples	
-----------------	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	1..1

¹ <http://www.hl7.org/oid/index.cfm>

2.7 Imaging Modality

Identification

Label	Modality
Metadata Type	Data Element
Identifier	DE-16500
OID	1.2.36.1.2001.1001.101.103.16500

Definition

Definition	The imaging method used to perform the examination.
Definition Source	NEHTA
Synonymous Names	
Context	For identification or description of the diagnostic imaging modalities that are: <ul style="list-style-type: none"> • available for request; or • used in reporting.
Context Source	NEHTA
Notes	<p>The imaging method, including the electro-magnetic energy type, applied to produce diagnostic quality images of body structures or internal organs performed during a diagnostic imaging procedure.</p> <p>If the modality is specified by a code in <i>Examination Result Name</i>, then this field is not required.</p>
Data Type	CodeableText
Value Domain	<p><i>Not specified.</i></p> <p>In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure² with an appropriate object identifier (OID), and SHALL be publicly available.</p> <p>When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.</p>


Usage

Examples	<ol style="list-style-type: none"> 1. X-ray 2. CT scan 3. MRI 4. PET scan
-----------------	---

² <http://www.hl7.org/oid/index.cfm>

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..1

2.8 ANATOMICAL LOCATION

Identification


Label	Anatomical Site
Metadata Type	Data Group
Identifier	DG-16150
OID	1.2.36.1.2001.1001.101.102.16150

Definition






Definition	Details about the anatomical locations to which this examination result refers.
Definition Source	NEHTA
Synonymous Names	
Notes	Do not include anatomical locations described in <i>IMAGING EXAMINATION RESULT GROUP</i> .

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..*

Children

Data Type	Name	Occurrences
	SPECIFIC LOCATION	0..1
	RELATIVE LOCATION	0..*
	Description (Anatomical Location Description)	0..*
	Visual Markings/Orientation	0..*
	Image (Anatomical Location Image)	0..*

2.9 Imaging Examination Result Status

Identification

Label	Overall Result Status
Metadata Type	Data Element
Identifier	DE-16502
OID	1.2.36.1.2001.1001.101.103.16502

Definition

Definition	The status of the examination result as a whole.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodedText
Value Domain	<i>Not specified.</i>
	In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure ³ with an appropriate object identifier (OID), and SHALL be publicly available.
	When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.


Usage

Examples	<ol style="list-style-type: none"> 1. "Registered". No result yet available. 2. "Interim". This is an initial or interim result: data may be missing or verification not been performed. 3. "Final". The result is complete and verified by the responsible radiologist. 4. "Amended". The result has been modified subsequent to being Final, and is complete and verified by the radiologist. 5. "Cancelled / Aborted". The result is not available because the examination was not started or completed.
-----------------	--

³ <http://www.hl7.org/oid/index.cfm>

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	1..1

2.10 Clinical Information Provided

Identification

Label	Clinical Information Provided
Metadata Type	Data Element
Identifier	DE-16397
OID	1.2.36.1.2001.1001.101.103.16397

Definition


Definition	Description of clinical information available at the time of interpretation of results, or a link to the original clinical information provided in the examination request.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..1

2.11 Findings

Identification

Label	Findings
Metadata Type	Data Element
Identifier	DE-16503
OID	1.2.36.1.2001.1001.101.103.16503

Definition


Definition	Narrative description of findings, including comparative findings.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	
-----------------	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..1

2.12 IMAGING EXAMINATION RESULT GROUP

Identification


Label	Result Group
Metadata Type	Data Group
Identifier	DG-16504
OID	1.2.36.1.2001.1001.101.102.16504

Definition




Definition	A group of structured results.
Definition Source	NEHTA
Synonymous Names	
Notes	Results may be grouped by anatomical location or by some other name or code to describe what binds all the results together.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..*

Children

Data Type	Name	Occurrences
	Result Group Name (Imaging Examination Result Group Name)	1..1
	Result (INDIVIDUAL IMAGING EXAMINATION RESULT)	1..*
	Result Group Anatomical Site (ANATOMICAL LOCATION)	0..1

2.13 Imaging Examination Result Group Name

Identification

Label	Result Group Name
Metadata Type	Data Element
Identifier	DE-16567
OID	1.2.36.1.2001.1001.101.103.16567

Definition


Definition	The name of a group of structured results.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	<i>Not specified.</i>
	In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure ⁴ with an appropriate object identifier (OID), and SHALL be publicly available.
	When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.

Usage

Examples	
-----------------	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result Group (IMAGING EXAMINATION RESULT GROUP)	1..1

⁴ <http://www.hl7.org/oid/index.cfm>

2.14 INDIVIDUAL IMAGING EXAMINATION RESULT

Identification


Label	Result
Metadata Type	Data Group
Identifier	DG-16505
OID	1.2.36.1.2001.1001.101.102.16505

Definition


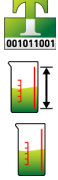


Definition	Specific detailed result, including both the value of the result item and additional information that may be useful for clinical interpretation.
Definition Source	NEHTA
Synonymous Names	
Notes	Results include whatever specific data items imaging services report as part of the clinical service; it may include measurements. These are often referred to as structured findings.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result Group (IMAGING EXAMINATION RESULT GROUP)	1..*

Children

Data Type	Name	Occurrences
	Result Name (Individual Imaging Examination Result Name)	1..1
	Result Value (Imaging Examination Result Value)	0..1
	Result Value Normal Status (Imaging Examination Result Value Normal Status)	0..1
	Result Value Reference Range Details (IMAGING EXAMINATION RESULT VALUE REFERENCE RANGE DETAILS)	0..*

Data Type	Name	Occurrences
T	Result Comment	0..*

2.15 Individual Imaging Examination Result Name

Identification

Label	Result Name
Metadata Type	Data Element
Identifier	DE-16568
OID	1.2.36.1.2001.1001.101.103.16568

Definition


Definition	The name of a specific detailed result.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	<i>Not specified.</i>
	In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure ⁵ with an appropriate object identifier (OID), and SHALL be publicly available.
	When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.

Usage

Examples	<ol style="list-style-type: none"> 1. Cardiac ejection fraction 2. Bone density
-----------------	---

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result (INDIVIDUAL IMAGING EXAMINATION RESULT)	1..1

⁵ <http://www.hl7.org/oid/index.cfm>

2.16 Imaging Examination Result Value

Identification

Label	Result Value
Metadata Type	Data Element
Identifier	DE-11023
OID	1.2.36.1.2001.1001.101.103.11023

Definition

Definition	The actual value of the result.
Definition Source	NEHTA
Synonymous Names	
Notes	Most result values will be numerical measurements, but others may be coded concepts or free text.
Data Type	CodeableText QuantityRange Quantity
Value Domain	<i>Not specified.</i>
	In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure ⁶ with an appropriate object identifier (OID), and SHALL be publicly available.
	When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.


Usage

Examples	1. 140 2. ++ 3. Neg
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⁶ <http://www.hl7.org/oid/index.cfm>

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result (INDIVIDUAL IMAGING EXAMINATION RESULT)	0..1

2.17 Imaging Examination Result Value Normal Status

Identification

Label	Result Value Normal Status
Metadata Type	Data Element
Identifier	DE-16572
OID	1.2.36.1.2001.1001.101.103.16572

Definition


Definition	An interpretation of an observation to indicate whether the result is considered normal or abnormal.
Definition Source	NEHTA
Synonymous Names	
Notes	Often included by laboratories, even if the normal range itself is not included.
Data Type	CodeableText
Value Domain	Imaging Examination Result Value Normal Status Values

Usage

Examples

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result (INDIVIDUAL IMAGING EXAMINATION RESULT)	0..1

2.18 Imaging Examination Result Value Normal Status Values

Identification

Label	Result Value Normal Status Values
Metadata Type	Value Domain
Identifier	VD-16572
OID	1.2.36.1.2001.1001.101.104.16572

Definition


Definition	The set of values to indicate whether an observation result is considered normal or abnormal.
Definition Source	NEHTA

Value Domain

Source	HL7 V3: ObservationInterpretationNormality code set
---------------	---

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
 001011001	Result Value Normal Status (Imaging Examination Result Value Normal Status)	1..1

2.19 IMAGING EXAMINATION RESULT VALUE REFERENCE RANGE DETAILS

Identification

Label	Result Value Reference Range Details
Metadata Type	Data Group
Identifier	DG-16325
OID	1.2.36.1.2001.1001.101.102.16325

Definition


Definition	Tagged reference ranges for this value in its particular measurement context.
Definition Source	NEHTA
Synonymous Names	
Notes	<p>Defines a range to be associated with any <i>Quantity</i> datum.</p> <p>Each such range is particular to the patient and context, e.g. sex, age, and any other factor that affects ranges.</p>

Usage



Conditions of Use	May be used to represent normal, therapeutic, dangerous, critical and other such clinical ranges.
Conditions of Use Source	NEHTA

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result (INDIVIDUAL IMAGING EXAMINATION RESULT)	0..*

Children

Data Type	Name	Occurrences
	Result Value Reference Range Meaning (Imaging Examination Result Value Reference Range Meaning)	1..1
	Result Value Reference Range (Imaging Examination Result Value Reference Range)	1..1

2.20 Imaging Examination Result Value Reference Range Meaning

Identification

Label	Result Value Reference Range Meaning
Metadata Type	Data Element
Identifier	DE-16574
OID	1.2.36.1.2001.1001.101.103.16574

Definition

Definition	Term whose value indicates the meaning of this range.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	<i>Not specified.</i>
	In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure ⁷ with an appropriate object identifier (OID), and SHALL be publicly available.
	When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.


Usage

Examples	<ol style="list-style-type: none"> 1. Normal 2. Critical 3. 75th percentile
Default Value	Normal

⁷ <http://www.hl7.org/oid/index.cfm>

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result Value Reference Range Details (IMAGING EXAMINATION RESULT VALUE REFERENCE RANGE DETAILS)	1..1

2.21 Imaging Examination Result Value Reference Range

Identification

Label	Result Value Reference Range
Metadata Type	Data Element
Identifier	DE-16566
OID	1.2.36.1.2001.1001.101.103.16566

Definition


Definition	The data range for the associated meaning.
Definition Source	NEHTA
Synonymous Names	
Data Type	QuantityRange

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result Value Reference Range Details (IMAGING EXAMINATION RESULT VALUE REFERENCE RANGE DETAILS)	1..1

2.22 Result Comment

Identification

Label	Result Comment
Metadata Type	Data Element
Identifier	DE-16466
OID	1.2.36.1.2001.1001.101.103.16466

Definition


Definition	May include statements about significant, unexpected or unreliable values, or information about the source of the value where this may be relevant to the interpretation of the result.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result (INDIVIDUAL IMAGING EXAMINATION RESULT)	0..*

2.23 ANATOMICAL LOCATION

Identification


Label	Result Group Anatomical Site
Metadata Type	Data Group
Identifier	DG-16150
OID	1.2.36.1.2001.1001.101.102.16150

Definition






Definition	Details about the individual anatomical location to which these result group examination results refer, where finer-grained representation of <i>Anatomical Location</i> is required.
Definition Source	NEHTA
Synonymous Names	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result Group (IMAGING EXAMINATION RESULT GROUP)	0..1

Children

Data Type	Name	Occurrences
	SPECIFIC LOCATION	0..1
	RELATIVE LOCATION	0..*
	Description (Anatomical Location Description)	0..*
	Visual Markings/Orientation	0..*
	Image (Anatomical Location Image)	0..*

2.24 Radiological Diagnosis

Identification

Label	Radiological Diagnosis
Metadata Type	Data Element
Identifier	DE-16507
OID	1.2.36.1.2001.1001.101.103.16507

Definition


Definition	Single word, phrase or brief description representing the conclusion.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	<i>Not specified.</i>
	In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure ⁸ with an appropriate object identifier (OID), and SHALL be publicly available.
	When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..*

⁸ <http://www.hl7.org/oid/index.cfm>

2.25 Imaging Examination Conclusion

Identification

Label	Conclusion
Metadata Type	Data Element
Identifier	DE-16508
OID	1.2.36.1.2001.1001.101.103.16508

Definition


Definition	Concise and clinically contextualised narrative interpretation of the imaging examination findings.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	
-----------------	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..1

2.26 Examination Result Representation

Identification

Label	Examination Result Representation
Metadata Type	Data Element
Identifier	DE-16509
OID	1.2.36.1.2001.1001.101.103.16509

Definition


Definition	Rich text representation of the entire result as issued by the diagnostic service.
Definition Source	NEHTA
Synonymous Names	
Data Type	EncapsulatedData

Usage

Conditions of Use	Multiple formats are allowed but they SHALL be semantically equivalent.
Conditions of Use Source	NEHTA
Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..*

2.27 Examination Comment

Identification

Label	Examination Comment
Metadata Type	Data Element
Identifier	DE-16510
OID	1.2.36.1.2001.1001.101.103.16510

Definition


Definition	Additional narrative about the examination that is not captured in other fields.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	<ol style="list-style-type: none"> 1. Recommendations for future examinations. 2. A comment on appropriateness of the examination or on quality of images, if separate to findings. 3. A note that the film was given to the patient.
-----------------	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..1

2.28 RECEIVING IMAGING SERVICE

Identification

Label	RECEIVING IMAGING SERVICE
Metadata Type	Data Group
Identifier	DG-10296
OID	1.2.36.1.2001.1001.101.102.10296

Definition


Definition	Details pertinent to the receiving imaging service performing the imaging test.
Definition Source	NEHTA
Synonymous Names	
Notes	<p>This does not have to be a person and, in particular, does not have to be a healthcare provider. Types of sources include:</p> <ul style="list-style-type: none"> • the clinician; and • a device or software.

Usage

Conditions of Use	<p>This is a reuse of the <i>PARTICIPATION</i> data group, which is described in Participation Data Specification [NEHT2011v].</p> <p>The following constraints are additional to those specified in Participation Data Specification [NEHT2011v]. Constraints are explained in Appendix B, Specification Guide for Use.</p> <ul style="list-style-type: none"> • Participation Type SHALL have an implementation-specific value equivalent to "Receiving Imaging Service". • PERSON OR ORGANISATION OR DEVICE SHALL be instantiated as a PERSON or DEVICE.
Conditions of Use Source	NEHTA

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..*

2.29 EXAMINATION REQUEST DETAILS

Identification


Label	EXAMINATION REQUEST DETAILS
Metadata Type	Data Group
Identifier	DG-16511
OID	1.2.36.1.2001.1001.101.102.16511

Definition








Definition	Details concerning a single examination requested.
Definition Source	NEHTA
Synonymous Names	
Notes	Usually there is one examination request for each result, however in some circumstances multiple examination requests may be represented using a single <i>Imaging Examination Result</i> .

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..*

Children

Data Type	Name	Occurrences
	Requester Order Identifier	0..1
	Examination Requested Name	0..*
	REQUESTER	0..*
	Receiver Order Identifier	0..1
	DICOM Study Identifier	0..1
	Report Identifier	0..1
	IMAGE DETAILS	0..*

2.30 Requester Order Identifier

Identification

Label	Requester Order Identifier
Metadata Type	Data Element
Identifier	DE-11006
OID	1.2.36.1.2001.1001.101.103.11006

Definition


Definition	The local identifier assigned to the order by the order requester.
Definition Source	NEHTA
Synonymous Names	Request Order Number Order Number Request Number (Requester)
Notes	Assigning an identifier to a request by the clinical information system enables the progress of the request to be tracked and enables requests to be linked to results. It also provides a reference to assist with enquiries and it is equivalent to the HL7 Placer Order Identifier.
Data Type	UniquelIdentifier

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	EXAMINATION REQUEST DETAILS	0..1

2.31 Examination Requested Name

Identification

Label	Examination Requested Name
Metadata Type	Data Element
Identifier	DE-16512
OID	1.2.36.1.2001.1001.101.103.16512

Definition


Definition	Identification of imaging examination or procedure requested where the examination requested differs from the examination actually performed.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	EXAMINATION REQUEST DETAILS	0..*

2.32 REQUESTER

Identification

Label	REQUESTER
Metadata Type	Data Group
Identifier	DG-10296
OID	1.2.36.1.2001.1001.101.102.10296

Definition


Definition	Details pertinent to the clinician or organisation requesting the imaging examination.
Definition Source	NEHTA
Synonymous Names	
Notes	<p>This can be a person or an organisation. Types of sources include:</p> <ul style="list-style-type: none"> • the clinician; and • a healthcare provider or organisation.

Usage

Conditions of Use	<p>This is a reuse of the <i>PARTICIPATION</i> data group, which is described in Participation Data Specification [NEHT2011v].</p> <p>The following constraints are additional to those specified in Participation Data Specification [NEHT2011v]. Constraints are explained in Appendix B, Specification Guide for Use.</p> <ul style="list-style-type: none"> • Participation Type SHALL have an implementation-specific value equivalent to "Requester". • PERSON OR ORGANISATION OR DEVICE SHALL be instantiated as a PERSON or ORGANISATION.
Conditions of Use Source	NEHTA

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	EXAMINATION REQUEST DETAILS	0..*

2.33 Receiver Order Identifier

Identification

Label	Receiver Order Identifier
Metadata Type	Data Element
Identifier	DE-11007
OID	1.2.36.1.2001.1001.101.103.11007

Definition


Definition	The local identifier assigned to the examination order by the order filler, usually by the radiology information system (RIS).
Definition Source	NEHTA
Synonymous Names	Request Number (Laboratory)
Context	Assigning an identifier to a request by the laboratory information system enables the progress of the request to be tracked and enables requests to be linked to results. It also provides a reference to assist with enquiries and it is usually equivalent to the HL7 Filler Order Number.
Context Source	NEHTA
Assumptions	The laboratory information system has functionality to assign an identifier to each request upon receipt.
Assumptions Source	NEHTA
Data Type	UniqueIdentifier

Usage

Examples

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	EXAMINATION REQUEST DETAILS	0..1

2.34 DICOM Study Identifier

Identification

Label	DICOM Study Identifier
Metadata Type	Data Element
Identifier	DE-16513
OID	1.2.36.1.2001.1001.101.103.16513

Definition


Definition	Unique identifier of this study allocated by the imaging service.
Definition Source	NEHTA
Synonymous Names	
Data Type	UniquelIdentifier

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	EXAMINATION REQUEST DETAILS	0..1

2.35 Report Identifier

Identification

Label	Report Identifier
Metadata Type	Data Element
Identifier	DE-16514
OID	1.2.36.1.2001.1001.101.103.16514

Definition


Definition	The local identifier given to the imaging examination report.
Definition Source	NEHTA
Synonymous Names	Diagnostic Imaging Report Identifier.
Context	<p>Unique identification of a diagnostic imaging procedure/study report.</p> <p>Unique system identifier that uniquely identifies a procedure or study report being created.</p> <p>It is recommended that the Report Instance Identifier value should be globally unique.</p> <p>The global uniqueness of the value of this Identifier may be achieved by:</p> <p>System ID (instance identifier generated by System) + state identifier + organisation identifier</p> <p>If unique national healthcare provider organisation identifiers (e.g. HPI-O) are available, uniqueness of the value of this Identifier may be achieved by:</p> <p>System ID (instance identifier generated by System) + HPI-O + Report Identifier</p> <p>For a single study, the "Study Identifier", "Report Identifier" and "Report Version Number" values provide the version tracking facility for related reports that belong to a specific study set.</p>
Context Source	NEHTA
Assumptions	The value of <i>Report Identifier</i> is intended for machine/computer consumption. It does not need to be used or consumed by the human user, e.g. reporting provider or the recipient of a test report.
Assumptions Source	NEHTA
Data Type	UniquelIdentifier

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	EXAMINATION REQUEST DETAILS	0..1

2.36 IMAGE DETAILS

Identification


Label	IMAGE DETAILS
Metadata Type	Data Group
Identifier	DG-16515
OID	1.2.36.1.2001.1001.101.102.16515

Definition







Definition	Images referred to, or provided, to assist clinical understanding of the examination.
Definition Source	NEHTA
Synonymous Names	
Notes	If the attached image is in DICOM (Digital Imaging and Communications in Medicine) format, all fields below the image should be populated so that the values are available to software that does not process DICOM images.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	EXAMINATION REQUEST DETAILS	0..*

Children

Data Type	Name	Occurrences
	Image Identifier	0..1
	DICOM Series Identifier	0..1
	View (Image View Name)	0..1
	Position (Subject Position)	0..1
	Image DateTime	0..1
	Image	0..1

2.37 Image Identifier

Identification

Label	Image Identifier
Metadata Type	Data Element
Identifier	DE-16516
OID	1.2.36.1.2001.1001.101.103.16516

Definition


Definition	Unique identifier of this image allocated by the imaging service (often the DICOM image instance UID).
Definition Source	NEHTA
Synonymous Names	Diagnostic Image Identifier.
Context	<p>The <i>Image Identifier</i> value uniquely identifies an image object (DICOM or non-DICOM image). This allows software to easily determine if an image is already present, rather than having to compare a large number of (DICOM/image) tags.</p> <p>Example:</p> <p>X-ray skull AP and lateral views study produces two images each with a unique image identifier assigned by the system.</p> <p>Source - The DICOM Standard White Paper - DICOM Part 1: Introduction and Overview, National Electrical Manufacturers Association, Rosslyn, VA, USA, 2000.</p>
Context Source	NEHTA
Assumptions	<p>It is assumed that the diagnostic imaging information system or Picture Archive and Communicating System (PACS) generates a unique identifier for each diagnostic image produced from the test procedure performed.</p> <p>To ensure global uniqueness, the <i>Image Identifier</i> value may have to be used or associated with the unique "Organisation identifier" value.</p>
Assumptions Source	NEHTA
Data Type	UniquelIdentifier

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGE DETAILS	0..1

2.38 DICOM Series Identifier

Identification

Label	DICOM Series Identifier
Metadata Type	Data Element
Identifier	DE-16517
OID	1.2.36.1.2001.1001.101.103.16517

Definition


Definition	Unique identifier of this series allocated by the imaging service.
Definition Source	NEHTA
Synonymous Names	
Data Type	UniquelIdentifier

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGE DETAILS	0..1

2.39 Image View Name

Identification

Label	View
Metadata Type	Data Element
Identifier	DE-16198
OID	1.2.36.1.2001.1001.101.103.16198

Definition


Definition	The name of the imaging view.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	<i>Not specified.</i>
	In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure ⁹ with an appropriate object identifier (OID), and SHALL be publicly available.
	When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.

Usage

Examples	<ol style="list-style-type: none"> 1. Lateral 2. Antero-posterior (AP)
-----------------	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGE DETAILS	0..1

⁹ <http://www.hl7.org/oid/index.cfm>

2.40 Subject Position

Identification

Label	Position
Metadata Type	Data Element
Identifier	DE-16519
OID	1.2.36.1.2001.1001.101.103.16519

Definition


Definition	Description of the subject of care's position when the image was performed.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGE DETAILS	0..1

2.41 Image DateTime

Identification

Label	Image DateTime
Metadata Type	Data Element
Identifier	DE-16520
OID	1.2.36.1.2001.1001.101.103.16520

Definition


Definition	Specific date and, optionally, time the imaging examination was performed.
Definition Source	NEHTA
Synonymous Names	
Data Type	DateTime

Usage

Examples	Please see DateTime in Appendix B, Specification Guide for Use for examples and usage information on specifying a date or time (or both).
-----------------	---

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGE DETAILS	0..1

2.42 Image

Identification

Label	Image
Metadata Type	Data Element
Identifier	DE-16199
OID	1.2.36.1.2001.1001.101.103.16199

Definition


Definition	An attached or referenced image of a current view.
Definition Source	NEHTA
Synonymous Names	
Data Type	EncapsulatedData

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGE DETAILS	0..1

2.43 Examination Procedure

Identification

Label	Examination Procedure
Metadata Type	Data Element
Identifier	DE-16633
OID	1.2.36.1.2001.1001.101.105.16633

Definition


Definition	Additional structured details of imaging examination methodology followed.
Definition Source	NEHTA
Synonymous Names	
Notes	This free text data element is currently a placeholder for further structured data that is as yet undefined. See Appendix A, Known Issues for further information.
Data Type	Text

Usage

Examples

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..*

2.44 COMPARED IMAGE DETAILS

Identification


Label	COMPARED IMAGE DETAILS
Metadata Type	Data Group
Identifier	DG-16522
OID	1.2.36.1.2001.1001.101.102.16522

Definition









Definition	Details of previous images used for comparison.
Definition Source	NEHTA
Synonymous Names	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..*

Children

Data Type	Name	Occurrences
	Requester Order Identifier	0..1
	DICOM Study Identifier	0..1
	Image Identifier	0..1
	DICOM Series Identifier	0..1
	View (Image View Name)	0..1
	Position (Subject Position)	0..1
	Image DateTime	0..1
	Image	0..1

2.45 INFORMATION PROVIDER

Identification

Label	INFORMATION PROVIDER
Metadata Type	Data Group
Identifier	DG-10296
OID	1.2.36.1.2001.1001.101.102.10296

Definition


Definition	Details pertinent to the identification of the source of the imaging examination information.
Definition Source	NEHTA
Synonymous Names	
Notes	<p>This does not have to be a person and, in particular, does not have to be a healthcare provider. Types of sources include:</p> <ul style="list-style-type: none"> • the subject of care; • a subject of care agent, e.g. parent, guardian; • the clinician; and • a device or software.

Usage

Conditions of Use	<p>This SHALL NOT be used unless the provider of the information is not the <i>Composer/Author</i> of the enclosing Structured Document.</p> <p>This is a reuse of the <i>PARTICIPATION</i> data group, which is described in Participation Data Specification [NEHT2011v].</p> <p>The following constraints are additional to those specified in Participation Data Specification [NEHT2011v]. Constraints are explained in Appendix B, Specification Guide for Use.</p> <ul style="list-style-type: none"> • Participation Type SHALL have an implementation-specific value equivalent to "Information Provider". • PERSON OR ORGANISATION OR DEVICE SHALL be instantiated as a PERSON or as a DEVICE.
Conditions of Use Source	NEHTA

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..1

2.46 SUBJECT

Identification

Label	SUBJECT
Metadata Type	Data Group
Identifier	DG-10296
OID	1.2.36.1.2001.1001.101.102.10296

Definition


Definition	The individual about whom the imaging test information is being recorded.
Definition Source	NEHTA
Synonymous Names	
Scope	Generally only used when the recorder needs to make it explicit. Otherwise, the subject of the enclosing Structured Document is assumed.
Scope Source	NEHTA

Usage

Conditions of Use	<p>This SHALL NOT be used unless the subject of the information is not the <i>Subject of Care</i> of the enclosing Structured Document.</p> <p>This is a reuse of the <i>PARTICIPATION</i> data group, which is described in Participation Data Specification [NEHT2011v].</p> <p>The following constraints are additional to those specified in Participation Data Specification [NEHT2011v]. Constraints are explained in Appendix B, Specification Guide for Use.</p> <ul style="list-style-type: none"> • Participation Type SHALL have an implementation-specific value equivalent to "Subject". • PERSON OR ORGANISATION OR DEVICE SHALL be instantiated as a PERSON.
Conditions of Use Source	NEHTA

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..1

2.47 Imaging Examination Result DateTime

Identification

Label	Imaging Examination Result DateTime
Metadata Type	Data Element
Identifier	DE-16589
OID	1.2.36.1.2001.1001.101.103.16589

Definition


Definition	The date and, optionally, time when the <i>Imaging Examination Result</i> became available.
Definition Source	NEHTA
Synonymous Names	
Data Type	DateTime

Usage

Examples	Please see DateTime in Appendix B, Specification Guide for Use for examples and usage information on specifying a date or time (or both).
-----------------	---

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	1..1

2.48 Imaging Examination Result Duration

Identification

Label	Imaging Examination Result Duration
Metadata Type	Data Element
Identifier	DE-16590
OID	1.2.36.1.2001.1001.101.103.16590

Definition


Definition	The duration over which the <i>Imaging Examination Result</i> observation was taken.
Definition Source	NEHTA
Synonymous Names	
Data Type	Duration

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..1

2.49 Imaging Examination Result Instance Identifier

Identification

Label	Imaging Examination Result Instance Identifier
Metadata Type	Data Element
Identifier	DE-16715
OID	1.2.36.1.2001.1001.101.103.16715

Definition


Definition	A globally unique identifier for each instance of an <i>Imaging Examination Result</i> observation.
Definition Source	NEHTA
Synonymous Names	
Data Type	UniqueIdentifier

Usage

Examples

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..1

2.50 LINK

Identification


Label	LINK
Metadata Type	Data Group
Identifier	DG-16692
OID	1.2.36.1.2001.1001.101.102.16692

Definition




Definition	A link to an instance of another Detailed Clinical Model (DCM) or a document containing an instance of another DCM.
Definition Source	NEHTA
Synonymous Names	
Notes	Links may be to structures inside the enclosing document or inside other documents.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..*

Children

Data Type	Name	Occurrences
	Link Nature	1..1
	Link Role	0..1
	Link Target	1..1

2.51 Link Nature

Identification

Label	Link Nature
Metadata Type	Data Element
Identifier	DE-16698
OID	1.2.36.1.2001.1001.101.103.16698

Definition


Definition	The general semantic category of the relationship between this instance of this DCM, i.e. the source, and the target DCM instance or target document.
Definition Source	NEHTA
Synonymous Names	
Notes	This is one of two attributes which together communicate the semantics of the relationship between the source and target DCMs or document. This attribute is intended to be a coarse-grained category that can be used to enable interoperability between sender and receiver.
Data Type	CodedText
Value Domain	Link Nature Values

Usage

Examples	<ol style="list-style-type: none"> 1. is related to 2. is confirmed by or authorised by 3. is related to the same problem or health issue
-----------------	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	LINK	1..1

2.52 Link Nature Values

Identification

Label	Link Nature Values
Metadata Type	Value Domain
Identifier	VD-16698
OID	1.2.36.1.2001.1001.101.104.16698

Definition

Definition	The set of values for the general semantic category of the relationship between this instance of this DCM, i.e. the source, and the target DCM instance or target document.
Definition Source	NEHTA


Value Domain

Source	ISO 13606-3:2009	
Permissible Values	The permissible values are those specified in Termlist LINK_NATURE in ISO 13606-3:2009 Health informatics - Electronic health record communication - Part 3: Reference archetypes and term lists [ISO2009a] . They are listed here.	
	LINK-A0, is related to	A generic category for any Link, the details of which will be given by the value of Link Role.
	LINK-B0, is confirmed by or authorised by	The target link contains [an instance of a DCM or document] that acts as the legal or clinical basis for the activity documented in the source [DCM instance], or is a declaration of intent to provide (or not to provide) requested care. This Link is to be used to connect two [DCM instances or DCM and document], as opposed to the inclusion of a corroborating or authorising participant as an identified party within a single [DCM instance or document].
	LINK-C0, is related to the same problem or health issue	The target [instance of a DCM or document] documents health or health care that pertains to the same clinical situation as the source [DCM instance]. One of the two might be defining a problem for which the other is a manifestation, or the relationship might for example be cause and effect, stages in an evolving clinical history, a different interpretation of an observation, a clinical indication or contraindication.
	LINK-D0, is related to the same care plan, act or episode	The source and the target [instances of DCM or documents] are each documenting parts of the same care plan, act or episode. One of the

	<p>LINK-E0, is a related documentation</p>	<p>two might be defining the same care plan, act or episode, or both might be related milestones.</p> <p>The target [instance of a DCM or document] is an alternative documentary form of the source [DCM instance], such as re-expression of the same clinical information or additional supplementary explanatory information.</p>
--	--	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Link Nature	1..1

2.53 Link Role

Identification

Label	Link Role
Metadata Type	Data Element
Identifier	DE-16699
OID	1.2.36.1.2001.1001.101.103.16699

Definition


Definition	The detailed semantic description of the relationship between this instance of this DCM, i.e. the source, and the target DCM instance or target document.
Definition Source	NEHTA
Synonymous Names	
Notes	This is one of two attributes which together communicate the semantics of the relationship between the source and target DCMs. This attribute provides for a specific description of the actual role played by the target in relation to the source. This attribute may be populated from any suitable terminology, and therefore might support human readership better than interoperable automated processing.
Data Type	CodeableText
Value Domain	Link Role Values

Usage

Examples	<ol style="list-style-type: none">1. unspecified link2. suggests3. endorses4. evidence for5. outcome6. is documented by7. excerpts
-----------------	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	LINK	0..1

2.54 Link Role Values

Identification

Label	Link Role Values
Metadata Type	Value Domain
Identifier	VD-16699
OID	1.2.36.1.2001.1001.101.104.16699

Definition

Definition	The set of values for the detailed semantic description of the relationship between this instance of this DCM, i.e. the source, and the target DCM instance or target document.
Definition Source	NEHTA
Context	These values are used within the context of values from <i>Link Role</i> . They provide greater specificity and may be selected more for human readership than for interoperable automated processing.
Context Source	NEHTA

Value Domain

Source	ISO 13606-3:2009										
Permissible Values	<p>Values SHOULD be from Termlist LINK_ROLE in ISO 13606-3:2009 [ISO2009a].</p> <p>Values MAY be from any suitable terminology.</p> <p>Some values from Termlist LINK_ROLE in ISO 13606-3:2009 Health informatics - Electronic health record communication - Part 3: Reference archetypes and term lists [ISO2009a] are:</p> <table border="1"> <tr> <td>LINK-A1, unspecified link</td> <td>The term is used when no semantic information is available for this Link in the EHR system from which the EXTRACT has been created.</td> </tr> <tr> <td>LINK-A2, suggests</td> <td>The interpretation expressed in the target component is a possible cause or outcome of the findings documented in the source component.</td> </tr> <tr> <td>LINK-B1, endorses</td> <td>The interpretation expressed in the source component provides confirmatory evidence or a confirmatory opinion of the interpretation expressed in the target component.</td> </tr> <tr> <td>LINK-C3, evidence for</td> <td>The observation or interpretation documented in the source component provides confirmatory evidence of the interpretation expressed in the target component.</td> </tr> <tr> <td>LINK-D1, outcome</td> <td>The clinical situation documented in the target component is the direct outcome of the situation documented in the source component.</td> </tr> </table>	LINK-A1, unspecified link	The term is used when no semantic information is available for this Link in the EHR system from which the EXTRACT has been created.	LINK-A2, suggests	The interpretation expressed in the target component is a possible cause or outcome of the findings documented in the source component.	LINK-B1, endorses	The interpretation expressed in the source component provides confirmatory evidence or a confirmatory opinion of the interpretation expressed in the target component.	LINK-C3, evidence for	The observation or interpretation documented in the source component provides confirmatory evidence of the interpretation expressed in the target component.	LINK-D1, outcome	The clinical situation documented in the target component is the direct outcome of the situation documented in the source component.
LINK-A1, unspecified link	The term is used when no semantic information is available for this Link in the EHR system from which the EXTRACT has been created.										
LINK-A2, suggests	The interpretation expressed in the target component is a possible cause or outcome of the findings documented in the source component.										
LINK-B1, endorses	The interpretation expressed in the source component provides confirmatory evidence or a confirmatory opinion of the interpretation expressed in the target component.										
LINK-C3, evidence for	The observation or interpretation documented in the source component provides confirmatory evidence of the interpretation expressed in the target component.										
LINK-D1, outcome	The clinical situation documented in the target component is the direct outcome of the situation documented in the source component.										


	LINK-E1, documented by	A clinical situation documented in the source component is more formally documented in the target component.
	LINK-E4, excerpts	The source component is an extract (copy) of part or all of the information contained within the target component.

Usage

Conditions of Use	Each of the link terms in LINK_ROLE from ISO 13606-3:2009 is a sub-category of a corresponding term in <i>Link Nature Values</i> , where that correspondence is indicated by the first letter after the code string "LINK-" e.g. the term LINK-A1 is a subcategory of term LINK-A0. If a term in this list is used for the <i>Link Role</i> data element, the appropriate corresponding value SHALL be used from <i>Link Nature Values</i> .
Conditions of Use Source	ISO 13606-3:2009

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Link Role	1..1

2.55 Link Target

Identification

Label	Link Target
Metadata Type	Data Element
Identifier	DE-16700
OID	1.2.36.1.2001.1001.101.103.16700

Definition


Definition	The logical “to” object in the link relation, as per the linguistic sense of the <i>Link Nature</i> data element (and, if present, the <i>Link Role</i> data element).
Definition Source	NEHTA
Synonymous Names	
Data Type	Link UniquelIdentifier

Usage

Examples	
-----------------	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	LINK	1..1

2.56 Detailed Clinical Model Identifier

Identification

Label	Detailed Clinical Model Identifier
Metadata Type	Data Element
Identifier	DE-16693
OID	1.2.36.1.2001.1001.101.103.16693

Definition


Definition	The NEHTA OID for the <i>Imaging Examination Result</i> concept represented by this DCM.
Definition Source	NEHTA
Synonymous Names	
Data Type	UniqueIdentifier

Usage

Examples	
Default Value	1.2.36.1.2001.1001.101.102.16145
Default Value Conditions of Use	The value of this item is fixed and SHALL be the default value.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	1..1

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3 Anatomical Location Data Group

This chapter describes version 1.0 of the Anatomical Location Data Group.

3.1 Purpose

To record details about anatomical location.

3.2 Misuse

Not for specifying unilateral/bilateral occurrences - this is related to an evaluation which perhaps includes multiple locations.

3.3 ANATOMICAL LOCATION

Identification


Label	Anatomical Site
Metadata Type	Data Group
Identifier	DG-16150
OID	1.2.36.1.2001.1001.101.102.16150

Definition






Definition	Details about an anatomical location.
Definition Source	NEHTA
Synonymous Names	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	IMAGING EXAMINATION RESULT	0..*

Children

Data Type	Name	Occurrences
	SPECIFIC LOCATION	0..1
	RELATIVE LOCATION	0..*
	Description (Anatomical Location Description)	0..*
	Visual Markings/Orientation	0..*
	Image (Anatomical Location Image)	0..*

3.4 SPECIFIC LOCATION

Identification



Label	SPECIFIC LOCATION
Metadata Type	Data Group
Identifier	DG-16151
OID	1.2.36.1.2001.1001.101.102.16151

Definition





Definition	Specific and identified anatomical location.
Definition Source	NEHTA
Synonymous Names	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Anatomical Site (ANATOMICAL LOCATION)	0..1
	Result Group Anatomical Site (ANATOMICAL LOCATION)	0..1

Children

Data Type	Name	Occurrences
	Name of Location (Anatomical Location Name)	0..1
	Side	0..1
	Numerical Identifier	0..1
	Anatomical Plane	0..1

3.5 Anatomical Location Name

Identification

Label	Name of Location
Metadata Type	Data Element
Identifier	DE-16153
OID	1.2.36.1.2001.1001.101.103.16153

Definition


Definition	The name of the anatomical location.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	Body Structure Foundation Reference Set

Usage

Examples	
-----------------	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	SPECIFIC LOCATION	0..1

3.6 Body Structure Foundation Reference Set

Identification

Label	Body Structure Foundation Reference Set
Metadata Type	Value Domain
Identifier	VD-16152
OID	1.2.36.1.2001.1001.101.104.16152
External Identifier	SNOMED CT-AU Concept Id: 32570061000036105

Definition


Definition	The set of values for named anatomical locations.
Definition Source	NEHTA

Value Domain

Source	SNOMED CT-AU
---------------	--------------

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Name of Location (Anatomical Location Name)	1..1

3.7 Side

Identification

Label	Side
Metadata Type	Data Element
Identifier	DE-16336
OID	1.2.36.1.2001.1001.101.103.16336

Definition


Definition	The laterality of the anatomical location.
Definition Source	NEHTA
Synonymous Names	Laterality
Data Type	CodedText
Value Domain	Laterality Reference Set

Usage

Examples	<ol style="list-style-type: none"> 1. Right 2. Left 3. Bilateral
-----------------	---

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	SPECIFIC LOCATION	0..1

3.8 Laterality Reference Set

Identification

Label	Laterality Reference Set
Metadata Type	Value Domain
Identifier	VD-16312
OID	1.2.36.1.2001.1001.101.104.16312
External Identifier	SNOMED CT-AU Concept Id: 32570611000036103

Definition


Definition	The set of values for identifying the laterality of an anatomical location.
Definition Source	NEHTA

Value Domain

Source	SNOMED CT-AU
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Side	1..1

3.9 Numerical Identifier

Identification

Label	Numerical Identifier
Metadata Type	Data Element
Identifier	DE-16338
OID	1.2.36.1.2001.1001.101.103.16338

Definition

Definition	An ordinal number that identifies the specific anatomical site from multiple sites.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodedText
Value Domain	<i>Not specified.</i>
	In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure ¹ with an appropriate object identifier (OID), and SHALL be publicly available.
	When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.


Usage

Conditions of Use	This SHALL be an ordinal number between first and eighteenth.
Conditions of Use Source	NEHTA
Examples	<ol style="list-style-type: none"> 1. First, as in 'first rib'. 2. Second, as in 'second toe'. 3. Third, as in 'third lumbar vertebra'.

¹ <http://www.hl7.org/oid/index.cfm>

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	SPECIFIC LOCATION	0..1

3.10 Anatomical Plane

Identification

Label	Anatomical Plane
Metadata Type	Data Element
Identifier	DE-16340
OID	1.2.36.1.2001.1001.101.103.16340

Definition


Definition	Line describing the position of a vertical anatomical plane in the body.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodedText
Value Domain	<i>Not specified.</i>
	In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure ² with an appropriate object identifier (OID), and SHALL be publicly available.
	When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.

Usage

Examples	<ol style="list-style-type: none"> 1. Midline 2. Midclavicular 3. Midaxillary 4. Midscapular
-----------------	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	SPECIFIC LOCATION	0..1

² <http://www.hl7.org/oid/index.cfm>

3.11 RELATIVE LOCATION

Identification



Label	RELATIVE LOCATION
Metadata Type	Data Group
Identifier	DG-16341
OID	1.2.36.1.2001.1001.101.102.16341

Definition




Definition	Qualifier(s) to identify a non-specific location.
Definition Source	NEHTA
Synonymous Names	
Notes	An example is: 5cm (distance) inferior (aspect) to the tibial tuberosity (landmark). There may be more than one relative location required to provide a cross reference.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Anatomical Site (ANATOMICAL LOCATION)	0..*
	Result Group Anatomical Site (ANATOMICAL LOCATION)	0..*

Children

Data Type	Name	Occurrences
	Identified Landmark	0..1
	Aspect (Anatomical Location Aspect)	0..1
	Distance From Landmark	0..1

3.12 Identified Landmark

Identification

Label	Identified Landmark
Metadata Type	Data Element
Identifier	DE-16343
OID	1.2.36.1.2001.1001.101.103.16343

Definition


Definition	Identified anatomical landmark from which to specify the relative anatomical location.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	<i>Not specified.</i>
	In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure ³ with an appropriate object identifier (OID), and SHALL be publicly available.
	When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	RELATIVE LOCATION	0..1

³ <http://www.hl7.org/oid/index.cfm>

3.13 Anatomical Location Aspect

Identification

Label	Aspect
Metadata Type	Data Element
Identifier	DE-16345
OID	1.2.36.1.2001.1001.101.103.16345

Definition

Definition	Qualifier to identify which direction the anatomical location is in relation to the identified landmark.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodedText
Value Domain	<i>Not specified.</i>
	In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure ⁴ with an appropriate object identifier (OID), and SHALL be publicly available.
	When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated.

Usage


Examples	<ol style="list-style-type: none"> 1. Medial to: Relative location medial to the landmark. 2. Lateral to: Relative location lateral to the landmark. 3. Superior to: Relative location superior to the landmark. 4. Inferior to: Relative location inferior to the landmark. 5. Anterior to: Relative location anterior to the landmark. 6. Posterior to: Relative location posterior to the landmark. 7. Below: Relative location below the landmark. 8. Above: Relative location above the landmark. 9. Inferolateral to: Relative location inferior and lateral to the landmark. 10. Superolateral to: Relative location superior and lateral to the landmark. 11. Inferomedial to: Relative location inferior and medial to the landmark.
-----------------	--

⁴ <http://www.hl7.org/oid/index.cfm>

12 Superomedial to: Relative location superior and medial to the landmark.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	RELATIVE LOCATION	0..1

3.14 Distance From Landmark

Identification

Label	Distance From Landmark
Metadata Type	Data Element
Identifier	DE-16346
OID	1.2.36.1.2001.1001.101.103.16346

Definition


Definition	Distance of location from the identified landmark.
Definition Source	NEHTA
Synonymous Names	
Data Type	Quantity

Usage

Examples	
-----------------	--

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	RELATIVE LOCATION	0..1

3.15 Anatomical Location Description

Identification

Label	Description
Metadata Type	Data Element
Identifier	DE-16319
OID	1.2.36.1.2001.1001.101.103.16319

Definition



Definition	Description of the anatomical location.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Anatomical Site (ANATOMICAL LOCATION)	0..*
	Result Group Anatomical Site (ANATOMICAL LOCATION)	0..*

3.16 Visual Markings/Orientation

Identification

Label	Visual Markings/Orientation
Metadata Type	Data Element
Identifier	DE-16407
OID	1.2.36.1.2001.1001.101.103.16407

Definition



Definition	Description of any visual markings used to orientate the viewer.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	<ol style="list-style-type: none"> 1. External reference points 2. Special sutures 3. Ink markings
-----------------	---

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Anatomical Site (ANATOMICAL LOCATION)	0..*
	Result Group Anatomical Site (ANATOMICAL LOCATION)	0..*

3.17 Anatomical Location Image

Identification

Label	Image
Metadata Type	Data Element
Identifier	DE-16199
OID	1.2.36.1.2001.1001.101.103.16199

Definition



Definition	An image or images used to identify a location.
Definition Source	NEHTA
Synonymous Names	
Context	This element is intended to be an image, e.g. a photo of the anatomical site such as a wound on the leg.
Context Source	NEHTA
Data Type	EncapsulatedData

Usage

Examples	
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Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Anatomical Site (ANATOMICAL LOCATION)	0..*
	Result Group Anatomical Site (ANATOMICAL LOCATION)	0..*

Appendix A. Known Issues

This appendix lists known issues with this specification at the time of publishing. NEHTA is working on solutions to these issues, and we encourage comments to further assist with the development of these solutions.

Reference	Description
Data Hierarchy	This DCM has not yet been fully mapped to HL7 CDA. Mapping to CDA may reveal inconsistencies, in the data hierarchy requiring normative change.
Image Identifier Data Element	The example and reference in the context of this data element requires review.
Subject Position Data Element	This data element is a candidate for terminology. In the future its data type is to be changed to <i>Codeable Text</i> .
Examination Requested Name Data Element	This data element is a candidate for terminology. In the future its data type is to be changed to <i>Codeable Text</i> .
Normal Status data components	The definitions for <i>Imaging Examination Result Value Normal Status</i> and <i>Imaging Examination Result Value Normal Status Values</i> are poor and will be addressed.
Reference Range Details data components	The definitions for these data components are poor and will be addressed. There is no method provided to group reference ranges, nor is one provided to identify the source of a reference range.
Undefined Value Domains	The following data elements lack a defined value domain: <i>Imaging Examination Result Name</i> , <i>Imaging Modality</i> , <i>Imaging Examination Result Status</i> , <i>Imaging Examination Result Group Name</i> , <i>Individual Imaging Examination Result Name</i> , <i>Imaging Examination Result Value</i> , <i>Imaging Examination Result Value Reference Range Meaning</i> , <i>Radiological Diagnosis</i> , <i>Image View Name</i> , <i>Numerical Identifier</i> , <i>Anatomical Plane</i> , <i>Identified Landmark</i> , and <i>Anatomical Location Aspect</i> . NEHTA is in the process of developing national code sets for these items. In the meantime, you are free to use your own code set(s), providing any code set used SHALL be registered, i.e. registered through the HL7 code set registration procedure with an appropriate object identifier (OID), and SHALL be publicly available. Note that when national standard code set(s) do become available, they SHALL be used and the non-standard code sets SHALL be deprecated.
Undefined Data Structures	The following data elements lack a defined data structure: <i>Examination Procedure</i> . A free-text data element is currently used as an interim solution.

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Appendix B. Specification Guide for Use

B.1 Overview

Each Detailed Clinical Model (DCM) and Structured Content Specification (SCS) is designed to be a shared basis for data interpretation. It specifies rigorous business and technical definitions of data which systems may need to share. It is intended to be a logical specification of the data to be persisted within or communicated between systems. It is also the foundation for conformance, compliance and accreditation testing of implemented systems. NEHTA's CDA implementation guides are guides to the implementation of HL7 CDA R2 messages based upon these DCMs and SCSs.

Each DCM specifies all of the data components required for any use of a clinical concept, for instance an entry in a medical record such as a procedure or an imaging test. As such, they are maximal data sets. DCMs are building blocks which are trimmed to size for use in the construction of SCSs.

Each SCS specifies the data for a single type of clinical document or information exchange, such as a discharge summary. It is assembled using DCMs that have been constrained to eliminate data components not relevant to the particular context. For example, *Procedure* in a discharge summary uses only some of the data components required by *Procedure* in a specialist report.

B.2 The Structured Content Specification Metamodel

The NEHTA Structured Content Specification Metamodel (see Figure 1) is used to specify the overall structure of a Structured Content Specification.

A DCM can be regarded as a data group with no parent.

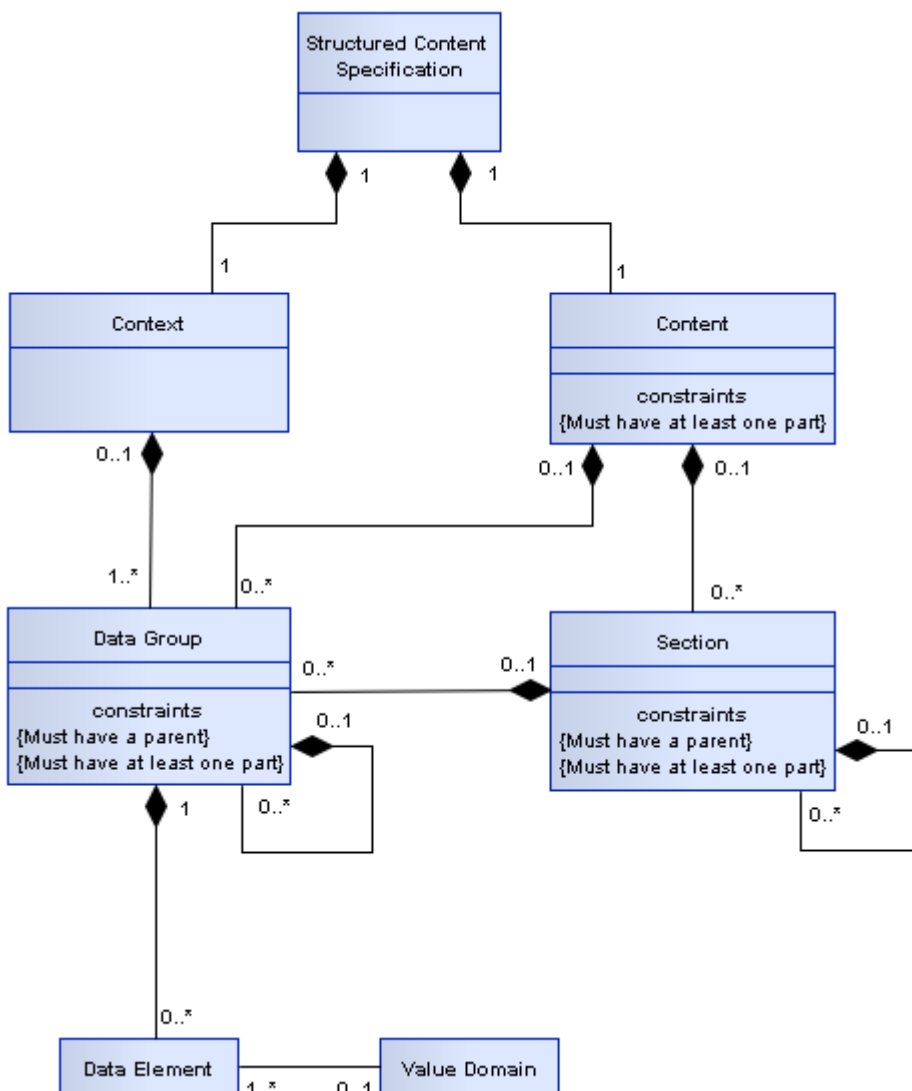


Figure 1: SCS Metamodel

There are two main components used to organise information within an SCS as follows:

Context: This contains information related to the overall context of the document.

Content: This contains information that changes between different SCSs, but is always structured as shown, and consists of the following components:

- Section
- Data Group
- Data Element
- Value Domain

These components are described in more detail below.

Context

The purpose of the context is to identify and classify the document and to provide subjects of care and involved healthcare providers with the information related to the relevant healthcare events.

Content

Content contains a collection of personal information and health information pertinent to a subject of care which is derived from the healthcare event described in the document. The detail is organised into one or more data groups which are optionally grouped into sections.

Section

A section is composed of other sections, data groups, or both. It is an organising container that gives the reader a clue as to the expected content. The primary purpose of a section is to organise information in a manner that is suitable for the primary purpose for which it is collected, and to provide a way to navigate through the data components within the document, thereby enabling more efficient querying. It is recommended that the section support safe reuse for secondary purposes, e.g. clinical coding or inclusion in a summarised form in an electronic health record. A section is context-specific to the document in which it resides.

Data Group

Each data group is used to represent one concept. A data group consists of other data groups or data elements (or both). Some data groups are reused across DCMs.

Every instance of a data group **SHALL** have at least one child data component instantiated.

Participation

Participation is a special case of a data group that is based on a data group template, which is reused throughout the DCMs and SCSs. Participations are an amalgam of the Actors (see below) operating within a defined healthcare domain and the Roles they are playing within that domain.

A Participant has been defined to align with the concepts of the NEHTA interoperability framework [NEHT2007b]. It equates to an *Entity* that is related to the action described in an SCS as an *Actor*. A participant can be a human, an organisation or an IT system.

[NEHT2011v] defines the full Participation specification.

Choice

Choice represents a decision to be made at run-time between a disjunctive mandatory set of data groups defined at design-time, i.e. one and only one member of the set is chosen for each instance of the choice.

For example, at design time a Healthcare Provider provides a service but it is not until run-time that a decision can be made as to whether the provider is a person or an organisation. Hence when a Healthcare Provider Participant is instantiated, it will contain either an instance of the *Person* data group or an instance of the *Organisation* data group.

Data Element

A data element is the smallest named unit of information in the model that can be assigned a value. For example, *Date Time of Observation* and *Observation Note*. Data elements are bound to data types (see [Data Types Legend](#)). Some data elements are reused in different data groups.

Whilst all data elements are constrained by their data type, some data elements are further constrained by value domains (see [Value Domain](#) below).

Value Domain

A value domain constrains the permissible values for a data element. The values are often a subset of values based on a generic data type.

Value domains are reusable components and therefore, the same value domain can be referred to by different data elements in different contexts. Value domains are often specified as a reference set. A reference set (or a subset) is a constrained list of SNOMED CT-AU, AMT or LOINC concepts that are appropriate to a particular context. It is noted that many of these reference sets have been developed specifically for the context in which they appear. It is recommended that an assessment of fitness for purpose be undertaken before using any of the reference sets in another context.

Value domains constrain by either specifying a lower or upper bound (or both) on the range of permissible values or else by specifying a finite set of prescribed values. Such a set of prescribed values can be specified directly within the definition of the data element, or in a separate but associated specification or else by reference to one or more vocabulary/terminology reference sets. The table below provides some examples of value domains.

Table 1: Value Domain Examples

Data Element	Data Type	Example of Value Domain										
Sex	CodedText	[SA2006a] and [SA2006b] derive their values from METeOR 270263 which includes values such as: <table border="1" data-bbox="616 1281 1343 1509"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Male</td> </tr> <tr> <td>2</td> <td>Female</td> </tr> <tr> <td>3</td> <td>Intersex or Indeterminate</td> </tr> <tr> <td>9</td> <td>Not Stated/Inadequately Described</td> </tr> </tbody> </table>	Value	Meaning	1	Male	2	Female	3	Intersex or Indeterminate	9	Not Stated/Inadequately Described
Value	Meaning											
1	Male											
2	Female											
3	Intersex or Indeterminate											
9	Not Stated/Inadequately Described											
Diagnosis	CodeableText	A SNOMED CT-AU reference set which references concepts such as 'Bronchitis' (Concept ID: 32398004).										
Therapeutic Good Identification	CodeableText	An AMT reference set which references concepts such as 'Ibuprofen Blue (Herron) (ibuprofen 200 mg) tablet: film-coated, 1 tablet' (Concept ID: 54363011000036107).										
Individual Pathology Test Result Name	CodeableText	A LOINC subset which references concepts such as 'Cholesterol [Moles/volume] in Serum or Plasma' (ID: 14647-2).										






B.3 Icon Legend

These legends describe all icons that are used within the various NEHTA information specifications.

Metadata Types Legend

The following table explains each of the icons used to represent the metadata types within DCMs and SCSs.


Table 2: Metadata Types Legend

Icon	Metadata Types
	Structured Document
	Section
	Data Group
	Participation
	Choice

Data Types Legend

The following table explains each of the icons used to represent the data types bound to each data element in the SCSs. These data types are a profile of the **ISO 21090-2011** data types as specified in [\[NEHT2010c\]](#).

Table 3: Data Types Legend

Icon	Data type	Explanation
	Boolean (ISO 21090: BL)	A primitive data type, sometimes called the logical data type, having one of two values: <i>true</i> and <i>false</i> . Many systems represent true as <i>non-zero</i> (often 1, or -1) and false as <i>zero</i> .
		<p>Usage/Examples</p> <ul style="list-style-type: none"> An actual value entered by a user might be “yes” or could be chosen by a mouse click on an icon such as <input checked="" type="checkbox"/>.



CodeableText
(ISO 21090: CD)

Coded text *with* exceptions; a flexible data type to support various ways of holding text, both free text and coded text. Commonly used to support compliance for early adopters of the Structured Content Specifications. While it is recommended that the values in this data type come from the bound value domain, it allows other value domains to also be used (with or without translations to the bound value domain) or free text alternatives. This is a recognition that it may not be possible to define an entire value domain for a complex concept (e.g. *Diagnosis*) or that there may be competing code sets in existence. Note that within exchange specifications or message profiles this data type **MAY** be constrained to mandate compliance with the bound value domain.

Usage/Examples

- AIHW Separation Mode specifies the status at separation of a person from an organisation. An early adopter **MAY** have a similar concept (coded or otherwise) that maps to this data element but does not strictly comply with the AIHW values.
- A SNOMED CT-AU coded/complex expression that embodies single or multiple concepts. The SNOMED CT-AU concepts behind these CodeableText components are specified in the Structured Content Specification value domains.



CodedText
(ISO 21090: CD)

Coded text *without* exceptions; text with code mappings. Values in this data type **SHALL** come from the bound value domain, with no exceptions. Often used for reference sets with only a small number of applicable values, e.g. Gender and Document Status.

Usage/Examples

[\[SA2006b\]](#) specifies the following value domain representing a type of address:

Value	Meaning
1	Business
2	Mailing or Postal
3	Temporary Accommodation
4	Residential (permanent)
9	Not Stated/Unknown/Inadequately Described








DateTime
(ISO 21090: TS)

Used for specifying a single date or time (or both). Has the ability to indicate a level of precision, but not whether the date or time is estimated. String representations of known dates **SHALL** conform to the nonextended format within the **ISO 21090-2011** standard, i.e. YYYYMMDDHHMMSS.UUUU[+]-ZZzz.

Usage/Examples

- Partial dates: 2008, 20081001.
- To indicate 1:20 pm on May the 31st, 1999 for a time zone which is 5 hours behind Coordinated Universal Time (UTC): 19990531132000-0500.

	Duration (ISO 21090: PQ.TIME)	The period of time during which something continues. Consists of a value and a unit which represents the time value, e.g. hours, months. Compound durations are not allowed, e.g. 10 days 3 weeks 5 hours.
		Usage/Examples
		<ul style="list-style-type: none"> • 3 hours • 6 months • 1 year
	Any (ISO 21090: ANY)	Represents a data element where the data type to be used is conditional on another data component. The values that can be required will vary considerably depending on the context. Note that this is an abstract data type that is the basis for all data types and SHOULD NOT be used in an actual implementation.
	EncapsulatedData (ISO 21090: ED)	Data that is primarily intended for human interpretation or for further machine processing outside the scope of this specification. This includes unformatted or formatted written language, multimedia data, or structured information as defined by a different standard (e.g. XML signatures).
		Usage/Examples
		<ul style="list-style-type: none"> • JPEG images • HTML documents • [RFC1521] MIME types
	Integer (ISO 21090: INT)	The mathematical data type comprising the exact integral values (according to [NEHT2010c]).
		Usage/Examples
		<ul style="list-style-type: none"> • 1 • -50 • 125
	Link (ISO 21090: TEL)	This is a general link, reference or pointer to an object, data or application that exists logically or is stored electronically in a computer system.
		Usage/Examples
		<ul style="list-style-type: none"> • URL (Uniform Resource Locator) – the World Wide Web address of a site on the internet, such as the URL for the Google internet search engine – <i>http://www.google.com</i>. • An absolute or relative path within a file or directory structure – e.g. in the Windows® operating system, the “link” or absolute path to a particular letter could be <i>C:\Documents and Settings\GuestUser\MyDocuments\letter.doc</i>

	Quantity (ISO 21090: PQ)	Used for recording many real world measurements and observations. Includes the magnitude value and the units.
Usage/Examples		
<ul style="list-style-type: none"> • 100 centimetres • 25.5 grams 		
	QuantityRatio (ISO 21090: RTO)	The relative magnitudes of two <i>Quantity</i> values (usually expressed as a quotient).
Usage/Examples		
<ul style="list-style-type: none"> • 25 mg/500 ml • 200 mmol per litre 		
	QuantityRange (ISO 21090: IVL)	Two <i>Quantity</i> values that define the minimum and maximum values, i.e. lower and upper bounds. This is typically used for defining the valid range of values for a particular measurement or observation. Unbounded quantity ranges can be defined by not including a minimum and/or a maximum quantity value.
Usage/Examples		
<ul style="list-style-type: none"> • -20 to 100 Celsius • 30-50 mg • >10 kg 		
	Real (ISO 21090: REAL)	A computational approximation to the standard mathematical concept of real numbers. These are often called floating-point numbers.
Usage/Examples		
<ul style="list-style-type: none"> • 1.075 • -325.1 • 3.14157 		
	Text (ISO 21090: ST)	Character strings (with optional language). Unless otherwise constrained by an implementation, can be any combination of alpha, numeric or symbols from the Unicode character set. Sometimes referred to as free text.
Usage/Examples		
<p>“The patient is a 37 year old man who was referred for cardiac evaluation after complaining of occasional palpitations, racing heart beats and occasional dizziness.”</p>		
	TimeInterval (ISO 21090: TS)	An interval in time, with (optionally) a start date/time and (optionally) an end date/time and/or a duration/width.
Usage/Examples		
<ul style="list-style-type: none"> • 01/01/2008 – 31/12/2008 • 1:30 a.m. – 6:00 p.m., duration/width = 16.5 hours 		



UniqueIdentifier A general unique value to identify a physical or virtual object or concept.

(ISO 21090: II) In using this data type, the attributes of the UniqueIdentifier data type **SHOULD** be populated from the identifiers as defined in AS 4846 (2006) [SA2006a] and AS 5017 (2006) [SA2006b] as follows:

- *root*: a globally unique object identifier that identifies the combination of geographic area, issuer and type. If no such globally unique object identifier exists, it **SHALL** be created.
- *extension*: a unique identifier within the scope of the root that is directly equivalent to the identifier designation element.
- *identifierName*: a human readable name for the namespace represented by the root that is populated with the issuer or identifier type values, or a concatenation of both, as appropriate. The content of this attribute is not intended for machine processing and **SHOULD NOT** be used for that purpose.
- *identifierScope*: the geographic span or coverage that applies to or constrains the identifier. It is directly equivalent to the geographic area element. The content of this attribute is not intended for machine processing and **SHOULD NOT** be used as such.

Also, the following constraints apply on the UniqueIdentifier data type:

1. The *root* attribute **SHALL** be used.
2. For an entity identifier, the *root* attribute **SHALL** be an OID that consists of a node in a hierarchically-assigned namespace, formally defined using the ITU-T's ASN.1 standard.
3. For an entity identifier, the *root* attribute **SHALL NOT** be a UUID.
4. The *extension* attribute **SHALL** be used.

Usage/Examples

IHIs, HPI-Is, HPI-Os and patient hospital medical record numbers are examples of identifiers that **MAY** be carried by this data type.

Keywords Legend

Where used in this document and in DCMs and SCSs, the keywords **SHALL**, **SHOULD**, **MAY**, **SHALL NOT** and **SHOULD NOT** are to be interpreted as described in [RFC2119].

The following table defines these keywords.

Table 4: Keywords Legend

Keyword	Interpretation
SHALL	This word, or the term 'required', means that the statement is an absolute requirement of the specification.
SHOULD	This word, or the adjective 'recommended', means that there MAY exist valid reasons in particular circumstances to ignore a particular component, but the full implications SHALL be understood and carefully weighed before choosing a different course.

MAY	This word, or the adjective 'optional', means that a component is truly optional. One implementer may choose to include the component because a particular implementation requires it, or because the implementer determines that it enhances the implementation, while another implementer may omit the same component. An implementation that does not include a particular option SHALL be prepared to interoperate with another implementation that does include the option, perhaps with reduced functionality. In the same vein, an implementation that does include a particular option SHALL be prepared to interoperate with another implementation that does not include the option (except of course, for the feature the option provides).
SHALL NOT	This phrase means that the statement is an absolute prohibition of the specification.
SHOULD NOT	This phrase, or the phrase 'not recommended' means that there MAY exist valid reasons in particular circumstances when the particular behaviour is acceptable or even useful, but the full implications SHOULD be understood and the case carefully weighed before implementing any behaviour described with this label.

Obligation Legend

Obligation in DCMs or SCSs specifies whether or not a data component **SHALL** be populated in the logical record architecture of a message. NEHTA intends that all data components will be implemented.

Implementation guides specify the rules and formats for implementing and populating data components in specific messaging formats.

The following table defines the obligations.

Table 5: Obligations Legend

Keyword	Interpretation
ESSENTIAL	Indicates that the data component is considered a mandatory component of information and SHALL be populated. Usage/Examples: The Participant component for a Subject of Care SHALL include an Entity Identifier data component in order to hold the IHI.
OPTIONAL	Indicates that the data component is not considered a mandatory component of information and MAY be populated. Usage/Examples: This is only needed when a DCM incorrectly asserts that a data component is ESSENTIAL . It will be used with a note stating that the DCM needs revision.
PROHIBITED	Indicates that the data component is considered a forbidden component of information and SHALL NOT be populated. Usage/Examples: Within a Participation data group depicting a Subject of Care, the Participation Healthcare Role SHALL NOT be completed.

CONDITIONAL	<p>Indicates that a data component is considered ESSENTIAL only on satisfaction of a given condition. Individual data components specify the obligation of the data component when the condition is not met.</p> <p>When a condition is met, the data component is considered to be ESSENTIAL and SHALL be populated.</p> <p>When a condition is not met, the data component may be considered as PROHIBITED, or the data component may be considered OPTIONAL.</p> <p>Usage/Examples:</p> <p>Within a Pathology Result Report, the <i>Specimen Detail</i> data group is ESSENTIAL if the requested test is to be performed on a specimen, otherwise it SHALL NOT be populated.</p>
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Where **ESSENTIAL** child data components are contained within **OPTIONAL** parent data components, the child data components only need to be populated when the parent is populated.

B.4 Information Model Specification Parts Legends

This section illustrates the format and parts used to define each section, data group and data element within NEHTA's information model specifications and identifies when each part is applicable.

Data Hierarchy

The top-level component contains a data hierarchy. Each row contains information about a single data component. The entries are nested to represent inclusion of one component in another. Each entry contains at least three occupied cells. The left-most cell contains an icon to indicate the entry's data type. The next cell to the right contains the label and description of the component (if the label is different from the name, the name is displayed in brackets after the label). The next cell to the right contains the multiplicity range for the data component.

The right-hand side of the data hierarchy may contain one or more columns under the heading "Core Requirement". Each column contains information for one document exchange scenario. A cell that is empty indicates that the data component on that row is **OPTIONAL** to implement. That is, software that creates documents made in conformance with this specification **MAY** exclude the data component; and software that reads documents made in conformance with this specification **MAY** ignore the data component. All other components **SHALL** be implemented.

In an SCS, a component may be prohibited, that is, it occurs in the referenced DCM but it **SHALL NOT** be included in documents created according to the SCS. This is represented by a multiplicity range of 0..0. The text of the entry is also in a ~~strike through~~ font and it has a grey background.

Chapter Name

Each section, data group, data element, value domain or choice has its own eponymous chapter. The chapter name is used in all data hierarchies.

Identification Section Legend

The following table illustrates the layout of the Identification section and describes the various parts of the section.

Table 6: Identification Section Legend

Label	A suggested display name for the component. (Source NEHTA.)
Metadata Type	The type of the component, e.g. section, data group or data element. (Source NEHTA.)
Identifier	A NEHTA assigned internal identifier of the concept represented by the component. (Source NEHTA.)
OID	An object identifier that uniquely identifies the concept represented by the data component. (Source NEHTA.)
External Identifier	An identifier of the concept represented by the data component that is assigned by an organisation other than NEHTA. (Source NEHTA.)

Definition Section Legend

The following table illustrates the layout of the Definition section and describes the various parts of the section.

Table 7: Definition Section Legend

Definition	The meaning, description or explanation of the data component. (Source NEHTA.)
Definition Source	The authoritative source for the Definition statement.
Synonymous Names	A list of any names the data component MAY also be known as. (Source NEHTA.)
Scope	Implementers MAY prefer to use synonymous names to refer to the component in specific contexts.
Scope Source	Situations in which the data component may be used, i.e. the extent and capacity within which this data component may be used, including the circumstances under which the collection of specified data is required or recommended.
Context	For example, Medication Instruction (data group) has a scope which includes all prescribable therapeutic goods, both medicines and non-medicines.
Context	This attribute is not relevant to data elements or value domains. (Source NEHTA.)
Context	The authoritative source for the Scope statement.
Context	The environment in which the data component is meaningful, i.e. the circumstance, purpose and perspective under which this data component is defined or used.

Assumptions	For example, Street Name has a context of Address. (Source NEHTA.) Suppositions and notions used in defining the data component. (Source NEHTA.)
Assumptions Source	The authoritative source for the Assumptions statement.
Notes	Informative text that further describes the data component, or assists in the understanding of how the data component can be used. (Source NEHTA.)
Notes Source	The authoritative source for the Notes statement.
Data Type	The data type of the data element, e.g. DateTime or Text. (Source NEHTA.) The data type is applicable only to data elements.
Value Domain	The valid data types are specified in the Data Types Legend . The name and identifier of the terminologies, code sets and classifications to define the data element value range, or a statement describing what values to use in the absence of a defined value domain for the related data element. In the absence of national standard code sets, the code sets used SHALL be registered code sets, i.e. registered through the HL7 code set registration procedure with an appropriate object identifier (OID), and SHALL be publicly available. When national standard code sets become available, they SHALL be used and the non-standard code sets SHALL be deprecated. (Source NEHTA.) The Value Domain is applicable only to CodedText and CodeableText data elements.

Value Domain Section Legend

The following table illustrates the layout of the Value Domain section and describes the various parts of the section.

Table 8: Value Domain Section Legend

Source	The name of the terminology or vocabulary from which the value domain's permissible values are sourced, e.g. SNOMED CT-AU, LOINC.
Version Number	Version number of the value domain source.
Permissible Values	List of permissible values in the value domain.

Usage Section Legend

The following table illustrates the layout of the Usage section and describes the various parts of the section.

Table 9: Usage Section Legend

Examples	One or more demonstrations of the data that is catered for by the data element. (Source NEHTA.)
-----------------	---

	<p>Where a data element has an associated value domain, examples representative of that domain are used where possible. Where the value domain is yet to be determined, an indicative example is provided.</p> <p>Implementation guides MAY contain specific examples for how data elements SHALL be populated and how they relate to each other.</p> <p>The Value Domain is applicable only to CodedText and CodeableText data elements.</p>
Conditions of Use	Prerequisites, provisos or restrictions for use of the component. (Source NEHTA.)
Conditions of Use Source	The authoritative source for the Conditions of Use statement.
Misuse	Incorrect, inappropriate or wrong uses of the component. (Source NEHTA.)
Default Value	A common denomination, or at least a usable denomination, from the Value Domain where available or applicable, typically assigned at the creation of an instance of the component. (Source NEHTA.)

Relationships Section Legend

The Relationships section specifies the cardinality and conditionality between parent and child data components. Note that if no components in either table have any conditions, then the condition column will be omitted for that table.

The following table illustrates the layout of the Parent relationships table. Note that the occurrences and conditions in the relationships described by this table are from the parent to the child component, i.e. from the component listed in the table to the component described by the section.

Table 11: Parent Legend

Data Type	Name	Occurrences (child within parent)	Condition
The icon illustrating the metadata type or data type.	Parent Component Name	The minimum and maximum number of instances of the component described on this page that SHALL occur.	The conditions that SHALL be met to include the data element. Only applicable for elements with a conditional obligation.

The following table illustrates the layout of the Children relationships table.

Table 10: Children Legend

Data Type	Name	Occurrences	Condition
The icon illustrating the metadata type or data type.	Child Component Name	The minimum and maximum number of instances of the component described on this page that SHALL occur.	The conditions that SHALL be met to include this child data element. Only applicable for elements with a conditional obligation.

Appendix C. Change History

C.1 Changes Introduced in this Version

Preliminary Pages

Added the section “Included Detailed Clinical Models” to provide identification of the version of each DCM included in this specification.

Corrected “Australian Institute of Health & Welfare” to “Australian Institute of Health and Welfare”.

Chapter 1 Introduction

This chapter has been revised through editorial review, a number of editorial and typographical errors have been corrected.

Added footnote to 1.1 Purpose and Scope to provide a reference defining the concept “Level 4 (semantic) interoperability”.

Chapter 2 Imaging Examination Result Detailed Clinical Model

Added a sentence identifying the version of the DCM.

Corrected formatting of data component names in text throughout the chapter.

Added standard examples text for all data components of type *DateTime*.

Corrected “echocardiograms” to “echocardiograms” in 2.2 Use.

Corrected “must” to “shall” in 2.2 Use.

The Imaging Examination Result UML Class Diagram has been moved to this chapter and updated to reflect changes to the included data components; the explanative text has been slightly reworded.

Primarily to support the Consolidated View in the PCEHR the following data components (sourced from the openEHR Reference Model) have been added:

- a. [Imaging Examination Result Instance Identifier](#)
 - b. [LINK](#)
 - i. [Link Nature](#)
 - ii. [Link Role](#)
 - iii. [Link Target](#)
 - c. [Detailed Clinical Model Identifier](#)
-

The following data components have been renamed:

- a. *Result Value* to [Imaging Examination Result Value](#) (Label: Result Value)
- b. *Result Value Normal Status* to [Imaging Examination Result Value Normal Status](#) (Label: Result Value Normal Status)
- c. *Result Value Reference Range Details* to [IMAGING EXAMINATION RESULT VALUE REFERENCE RANGE DETAILS](#) (Label: Result Value Reference Range Details)
- d. *Result Value Reference Range Meaning* to [Imaging Examination Result Value Reference Range Meaning](#) (Label: Result Value Reference Range Meaning)
- e. *Result Value Reference Range* to [Imaging Examination Result Value Reference Range](#) (Label: Result Value Reference Range)

The data types of the following data components have been changed:

- a. [Imaging Examination Result Group Name](#) from *Coded Text* to *Codeable Text*.
- b. [Individual Imaging Examination Result Name](#) from *Coded Text* to *Codeable Text*.
- c. [DICOM Study Identifier](#) from *Link* to *Unique Identifier*.

Corrected presentation of examples for:

- a. [Imaging Modality](#)
- b. [Individual Imaging Examination Result Name](#)
- c. [Imaging Examination Result Value](#)
- d. [Imaging Examination Result Value Reference Range Meaning](#)

The structure of the tables within the relationships sections of each data component has been modified to remove the condition column and change the title of the “Occurrences” column in the Parents table to “Occurrences (child within parent)”.

All instances of “have a fixed value of” have been replaced with “have an implementation-specific value equivalent to”.

Reworded the context of [Imaging Modality](#).

Revised the definition and added a note to [ANATOMICAL LOCATION](#).

Corrected OID and identifier of [Imaging Examination Result Group Name](#) and [Individual Imaging Examination Result Name](#).

Corrected the article to “the” in the definition of [Imaging Examination Result Value](#).

Included [Imaging Examination Result Value Normal Status Values](#) amended the definition of [Imaging Examination Result Value Normal Status](#) in line with the inclusion.

Corrected “etc” to “and other such clinical” in [IMAGING EXAMINATION RESULT VALUE REFERENCE RANGE DETAILS](#).

Removed the note, included the default value, and amended the list of examples for [Imaging Examination Result Value Reference Range Meaning](#).

Removed the example from [Imaging Examination Result Value Reference Range](#).

Changed the label of [ANATOMICAL LOCATION](#) changed from “Anatomical Site” to “Result Group Anatomical Site”.

Corrected “Conclusion” to “conclusion ” in the definition of [Radiological Diagnosis](#).

Corrected presentation of the condition-of-use statement in [Examination Result Representation](#).

Inserted “that is” in the definition of [Examination Comment](#).

Reworded the notes of [Requester Order Identifier](#) and [RECEIVING IMAGING SERVICE](#).

Removed a comma (,) to the definition of [Examination Requested Name](#).

Reworded the context, corrected case, and corrected instances of “1nformation” to “information” in [Receiver Order Identifier](#).

Corrected the case of the synonymous names, replaced “ID” with “identifier” and replaced “used/consumed” with “used or consumed” in [Report Identifier](#).

Reworded the note of [IMAGE DETAILS](#).

Replaced “used/associated” with “used or associated” in the assumptions of [Image Identifier](#).

Moved the list of examples from the definition of [Image View Name](#).

Corrected “positon” to “position” in the definition of [Subject Position](#).

Corrected “date/time” to “date and, optionally, time” in the definition of [Image DateTime](#).

Reworded the definition and notes of [INFORMATION PROVIDER](#).

Added “the” to the note and replaced “procedure” with “information” in the conditions of use of [SUBJECT](#).

Chapter 3 Anatomical Location Data Group

Added a sentence identifying the version of the data group.

Corrected “specifying” to “specifying” in 3.2 Misuse.

Corrected “occurence” to “occurrences” in 3.2 Misuse.

Revised the definition of [ANATOMICAL LOCATION](#).

The structure of the tables within the relationships sections of each data component has been modified to remove the condition column and change the title of the “Occurrences” column in the Parents table to “Occurrences (child within parent)”.

Corrected the article to “the” in the definition of:

- a. [Anatomical Location Name](#)
- b. [Identified Landmark](#)
- c. [Anatomical Location Description](#)
- d. [Side](#)
- e. [Laterality Reference Set](#)

Corrected presentation of examples for:

- a. [Side](#)
- b. [Numerical Identifier](#)
- c. [Anatomical Plane](#)
- d. [Visual Markings/Orientation](#)

Corrected “Bilateral” to “Bilateral” in the examples of [Side](#).

Replaced “Identify the specific anatomical site out of multiple sites” with “An ordinal number that identifies the specific anatomical site from multiple sites” in the definition of [Numerical Identifier](#).

Inserted an “a” and replaced “Qualifiers” with “Qualifier(s)” in the definition of [RELATIVE LOCATION](#).

Corrected “medial” to “lateral” in the examples of [Anatomical Location Aspect](#).

Replaced “Image” with “An image” in the definition of [Anatomical Location Image](#).

Chapter 4 UML Class Diagram

Chapter 4 removed and the content moved to Chapter 2.

Appendix A Known Issues

Added an entry for subject position.

Added an entry for examination requested name.

Added an entry for the definitions of the normal status data components.

Added an entry for the reference range details data components.

Corrected the entry for undefined value domains to include all applicable data components.

Added an entry for undefined data structures to indicate the data elements that lack a defined data structure.

Appendix B Guide for Use

This appendix has revised through editorial review, a number of editorial and typographical errors have been corrected.

In 'Value Domain' in B.2 “To Be Advised” replaced with “Individual Pathology Test Result Name”.

Added 'Obligation Legend' in B.3.

Reworked 'Data Hierarchy' in B.4 to explain 'Core Requirement'.

Reworked 'Relationships Section Legend' in B.4 to include further explanative text, and improved tables.

Appendix C Change History

This is a new appendix included to provide detailed information of the changes between the previous version of this specification and the current version of this specification.

Reference List

This chapter has been moved to after the appendices.

Added entry for reference cited in footnote added to section 1.1.

Added entry for ISO 13606-3:2009.

Added entry for NEHTA Interoperability Framework.

Corrected the titles of AS 4846 and AS 5017.

Reference List

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