nehta

Detailed Clinical Model Specification

Pathology Test 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	29 May 2007	Initial public release
2.0	23 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. Pathology Test Result, version 2.1

[1] http://dcm.nehta.org.au/ckm

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Acknowledgements

NEHTA would like to thank the following organisations and individuals for their contribution to these data specifications:

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

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Table of Contents

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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) interoperability[1] 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.

[1] Level 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*.

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

2 Pathology Test Result Detailed Clinical Model

This chapter describes version 2.1 of the Pathology Test Result Detailed Clinical Model.

2.1 Purpose

To record the findings and interpretation of pathology tests performed on tissues and body fluids. This is typically done in a laboratory, but may be done in other environments, such as at the point of care.

2.2 Use

Use to record any pathology test result, including the result of a test on a specimen taken as part of a composite procedure or operation.

Multi-analyte panels can be represented using templates or specialised DCMs.

More complex tests, such as histopathology or microbiology, should be represented using specialised DCMs where additional report content is required.

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

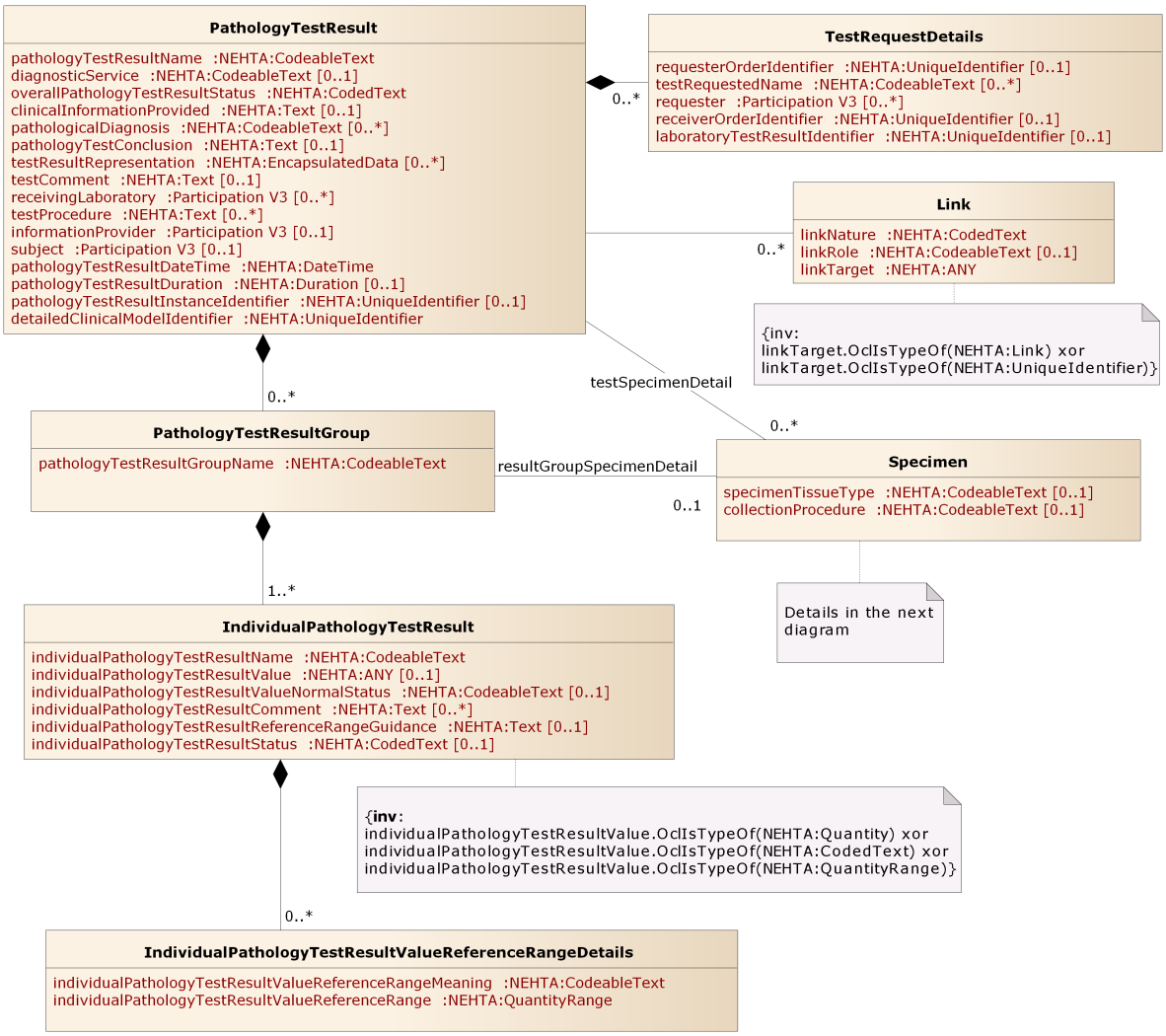
2.3 Misuse

Not to be used for reporting on non-pathology test results e.g. diagnostic imaging, ECG or respiratory function tests.

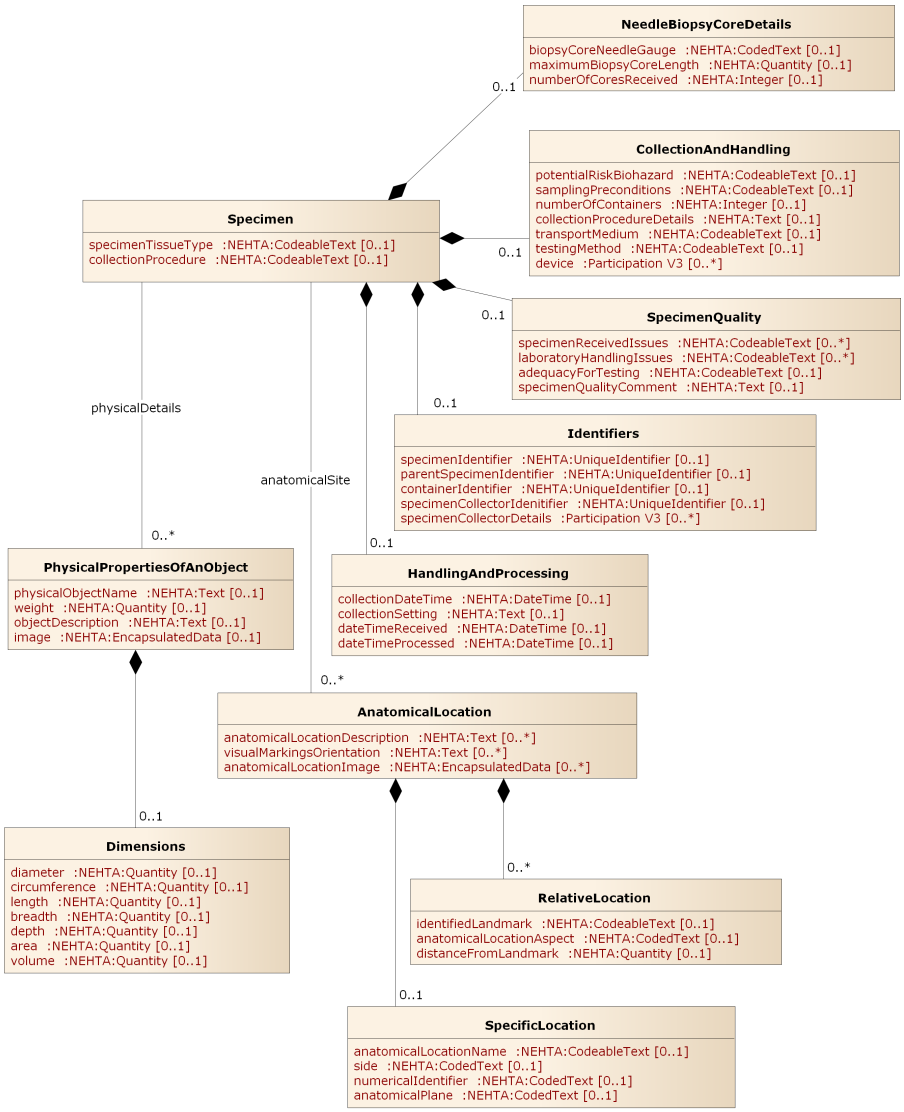
Not to be used to represent an entire cumulative report. This *Pathology Test Result* DCM represents only one of the result sets that is usually viewed as a vertical in a cumulative test report. A cumulative report is a view that is constructed from the results represented by multiple DCMs.

This DCM is suitable for representation of general pathology test results, but is not intended to cover full synoptic reports. For these, additional specialising DCMs are required to represent the data.

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.



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 PATHOLOGY TEST RESULT

Identification

Label	PATHOLOGY TEST RESULT
Metadata Type	Data Group
Identifier	DG-16144
OID	1.2.36.1.2001.1001.101.102.16144

Definition

Definition	Record of the findings and interpretation of pathology tests performed on tissues and body fluids.
Definition Source	NEHTA
Synonymous Names	Lab Test Pathology Biochemistry Haematology Microbiology Immunology
Notes	This data group may be used to record a single valued test, but will often be specialised or templated to represent multiple value or 'panel' tests. This DCM also acts as the parent for specialisations appropriate for more specific laboratory tests, e.g. microbiology, histopathology.

Data Hierarchy

PATHOLOGY TEST RESULT						
	Test Result Name (Pathology Test Result Name)					1..1
	Diagnostic Service					0..1
	Test Specimen Detail (SPECIMEN)					0..*
		Specimen Tissue Type				0..1
		Collection Procedure				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..*
			Physical Details (PHYSICAL PROPERTIES OF AN OBJECT)			0..*
				Name (Physical Object Name)		0..1
				Weight		0..1
				DIMENSIONS		0..1
					Diameter	0..1
					Circumference	0..1
					Length	0..1
					Breadth	0..1
					Depth	0..1
					Area	0..1
					Volume	0..1
				Description (Object Description)		0..1
				Image		0..1
			NEEDLE BIOPSY CORE DETAILS			0..1

				Biopsy Core Needle Gauge	0..1
				Maximum Biopsy Core Length	0..1
				Number of Cores Received	0..1
			COLLECTION AND HANDLING		0..1
				Potential Risk / Biohazard	0..1
				Sampling Preconditions	0..1
				Number of Containers	0..1
				Collection Procedure Details	0..1
				Transport Medium	0..1
				Testing Method	0..1
				DEVICE	0..*
			HANDLING AND PROCESSING		0..1
				Date and Time of Collection (Collection DateTime)	0..1
				Collection Setting	0..1
				Date and Time of Receipt (DateTime Received)	0..1
				Date and Time Processed (DateTime Processed)	0..1
			SPECIMEN QUALITY		0..1
				Specimen Received Issues	0..*
				Laboratory Handling Issues	0..*
				Adequacy for Testing	0..1
				Comment (Specimen Quality Comment)	0..1
			IDENTIFIERS		0..1
				Specimen Identifier	0..1
				Parent Specimen Identifier	0..1

				Container Identifier		0..1
				Specimen Collector Identifier		0..1
				SPECIMEN COLLECTOR DETAILS		0..*
		Overall Test Result Status (Overall Pathology Test Result Status)				1..1
		Clinical Information Provided				0..1
		Result Group (PATHOLOGY TEST RESULT GROUP)				0..*
			Result Group Name (Pathology Test Result Group Name)			1..1
			Result (INDIVIDUAL PATHOLOGY TEST RESULT)			1..*
				Result Name (Individual Pathology Test Result Name)		1..1
				Result Value (Individual Pathology Test Result Value)		0..1
				Result Value Normal Status (Individual Pathology Test Result Value Normal Status)		0..1
				Result Value Reference Range Details (INDIVIDUAL PATHOLOGY TEST RESULT VALUE REFERENCE RANGE DETAILS)		0..*
					Result Value Reference Range Meaning (Individual Pathology Test Result Value Reference Range Meaning)	1..1
					Result Value Reference Range (Individual Pathology Test Result Value Reference Range)	1..1
				Result Comment (Individual Pathology Test Result Comment)		0..*
				Reference Range Guidance (Individual Pathology Test Result Reference Range Guidance)		0..1
				Result Status (Individual Pathology Test Result Status)		0..1
			Result Group Specimen Detail (SPECIMEN)			0..1
				Specimen Tissue Type		0..1
				Collection Procedure		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..*
				Physical Details (PHYSICAL PROPERTIES OF AN OBJECT)			0..*
					Name (Physical Object Name)		0..1
					Weight		0..1
					DIMENSIONS		0..1
						Diameter	0..1
						Circumference	0..1
						Length	0..1
						Breadth	0..1
						Depth	0..1
						Area	0..1
						Volume	0..1
					Description (Object Description)		0..1
					Image		0..1
				NEEDLE BIOPSY CORE DETAILS			0..1

					Biopsy Core Needle Gauge	0..1
					Maximum Biopsy Core Length	0..1
					Number of Cores Received	0..1
				COLLECTION AND HANDLING		0..1
					Potential Risk / Biohazard	0..1
					Sampling Preconditions	0..1
					Number of Containers	0..1
					Collection Procedure Details	0..1
					Transport Medium	0..1
					Testing Method	0..1
					DEVICE	0..*
				HANDLING AND PROCESSING		0..1
					Date and Time of Collection (Collection DateTime)	0..1
					Collection Setting	0..1
					Date and Time of Receipt (DateTime Received)	0..1
					Date and Time Processed (DateTime Processed)	0..1
				SPECIMEN QUALITY		0..1
					Specimen Received Issues	0..*
					Laboratory Handling Issues	0..*
					Adequacy for Testing	0..1
					Comment (Specimen Quality Comment)	0..1
				IDENTIFIERS		0..1
					Specimen Identifier	0..1
					Parent Specimen Identifier	0..1

					Container Identifier	0..1
					Specimen Collector Identifier	0..1
					SPECIMEN COLLECTOR DETAILS	0..*
		Pathological Diagnosis				0..*
		Conclusion (Pathology Test Conclusion)				0..1
		Test Result Representation				0..*
		Test Comment				0..1
		RECEIVING LABORATORY				0..*
		TEST REQUEST DETAILS				0..*
			Requester Order Identifier			0..1
			Test Requested Name			0..*
			REQUESTER			0..*
			Receiver Order Identifier			0..1
			Laboratory Test Result Identifier			0..1
		Test Procedure				0..*
		INFORMATION PROVIDER				0..1
		SUBJECT				0..1
		Pathology Test Result DateTime				1..1
		Pathology Test Result Duration				0..1
		Pathology Test Result Instance Identifier				0..1
		LINK				0..*
			Link Nature			1..1
			Link Role			0..1

			Link Target	1..1
		Detailed Clinical Model Identifier		1..1

2.6 Pathology Test Result Name

Identification

Label	Test Result Name
Metadata Type	Data Element
Identifier	DE-11017
OID	1.2.36.1.2001.1001.101.103.11017

Definition

Definition	Identification of the pathology test performed, sometimes including specimen type.
Definition Source	NEHTA
Notes	The test name can refer to a single test (e.g. HbA1c) or to a test group such as electrolytes, FBC or coagulation tests.
Data Type	CodeableText
Value Domain	Test Result Name Values

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	1..1

2.7 Test Result Name Values

Identification

Label	Test Result Name Values
Metadata Type	Value Domain
Identifier	VD-11017
OID	1.2.36.1.2001.1001.101.104.11017
External Identifier	SNOMED CT-AU Concept Id: 2021000036107

Definition

Definition	The set of values for the pathology test requested by the healthcare provider, care team or organisation requested to be performed on the pathology specimen or subject of care.
Definition Source	NEHTA

Value Domain

Source	SNOMED CT-AU

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Test Result Name (Pathology Test Result Name)	1..1

2.8 Diagnostic Service

Identification

Label	Diagnostic Service
Metadata Type	Data Element
Identifier	DE-16149
OID	1.2.36.1.2001.1001.101.103.16149

Definition

Definition	The diagnostic service that performs the examination.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	Diagnostic Service Values

Usage

Examples	1. Microbiology 2. Haematology

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	0..1

2.9 Diagnostic Service Values

Identification

Label	Diagnostic Service Values
Metadata Type	Value Domain
Identifier	VD-16148
OID	1.2.36.1.2001.1001.101.104.16148
External Identifier	2.16.840.1.113883.12.74

Definition

Definition	The set of values for the type of high-level diagnostic service, e.g. biochemistry, haematology.
Definition Source	NEHTA

Value Domain

Source	HL7

Relationships

Parents

Data Type	Name	**Occurrences** (child within parent)
	Diagnostic Service	1..1

2.10 SPECIMEN

Identification

Label	Test Specimen Detail
Metadata Type	Data Group
Identifier	DG-16156
OID	1.2.36.1.2001.1001.101.102.16156

Definition

Definition	Details about specimens to which this test result refers.
Definition Source	NEHTA
Synonymous Names	
Notes	Do not include specimens described in *PATHOLOGY TEST RESULT GROUP*.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	0..*

Children

Data Type	Name	Occurrences
	Specimen Tissue Type	0..1
	Collection Procedure	0..1
	Anatomical Site (ANATOMICAL LOCATION)	0..*
	Physical Details (PHYSICAL PROPERTIES OF AN OBJECT)	0..*
	NEEDLE BIOPSY CORE DETAILS	0..1
	COLLECTION AND HANDLING	0..1
	HANDLING AND PROCESSING	0..1

Data Type	Name	Occurrences
	SPECIMEN QUALITY	0..1
	IDENTIFIERS	0..1

2.11 Overall Pathology Test Result Status

Identification

Label	Overall Test Result Status
Metadata Type	Data Element
Identifier	DE-16155
OID	1.2.36.1.2001.1001.101.103.16155

Definition

Definition	The status of the pathology test result as a whole.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodedText
Value Domain	Pathology Test Result Status Values

Usage

Examples	1. Interim 2. Final

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	1..1

2.12 Pathology Test Result Status Values

Identification

Label	Pathology Test Result Status Values
Metadata Type	Value Domain
Identifier	VD-16488
OID	1.2.36.1.2001.1001.101.104.16488

Definition

Definition	The set of values for the pathology test result status.
Definition Source	NEHTA

Value Domain

Source	NEHTA (outsourced from HL7 table 0085 - Observation result status codes interpretation, HL7 table 0123 - Result status and other sources).	
Permissible Values	Registered	No result yet available.
	Interim	This is an initial or interim result: data may be missing or verification has not been performed.
	Final	The result is complete and verified by the responsible pathologist.
	Amended	The result has been modified subsequent to being Final, and is complete and verified by the responsible pathologist.
	Cancelled/Aborted	The result is unavailable because the test was not started or not completed.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Overall Test Result Status (Overall Pathology Test Result Status)	1..1

2.13 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 test request.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	0..1

2.14 PATHOLOGY TEST RESULT GROUP

Identification

Label	Result Group
Metadata Type	Data Group
Identifier	DG-16469
OID	1.2.36.1.2001.1001.101.102.16469

Definition

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

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	0..*

Children

Data Type	Name	Occurrences
	Result Group Name (Pathology Test Result Group Name)	1..1
	Result (INDIVIDUAL PATHOLOGY TEST RESULT)	1..*
	Result Group Specimen Detail (SPECIMEN)	0..1

2.15 Pathology Test Result Group Name

Identification

Label	Result Group Name
Metadata Type	Data Element
Identifier	DE-16428
OID	1.2.36.1.2001.1001.101.103.16428

Definition

Definition	The name of a group of pathology test results.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	Pathology Test Result Name Values

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result Group (PATHOLOGY TEST RESULT GROUP)	1..1

2.16 Pathology Test Result Name Values

Identification

Label	Pathology Test Result Name Values
Metadata Type	Value Domain
Identifier	VD-11017
OID	1.2.36.1.2001.1001.101.104.11017
External Identifier	SNOMED CT-AU Concept Id: 2021000036107

Definition

Definition	The set of values for the pathology test requested by the healthcare provider, care team or organisation requested to be performed on the pathology specimen or subject of care.
Definition Source	NEHTA

Value Domain

Source	SNOMED CT-AU

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result Group Name (Pathology Test Result Group Name)	1..1

2.17 INDIVIDUAL PATHOLOGY TEST RESULT

Identification

Label	Result
Metadata Type	Data Group
Identifier	DG-16489
OID	1.2.36.1.2001.1001.101.102.16489

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 pathology labs report as part of the clinical service; it is not confined to measurements. The result is identified by *Individual Pathology Test Result Name*.

Relationships

Parents

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

Children

Data Type	Name	Occurrences
	Result Name (Individual Pathology Test Result Name)	1..1
	Result Value (Individual Pathology Test Result Value)	0..1
	Result Value Normal Status (Individual Pathology Test Result Value Normal Status)	0..1
	Result Value Reference Range Details (INDIVIDUAL PATHOLOGY TEST RESULT VALUE REFERENCE RANGE DETAILS)	0..*

Data Type	Name	Occurrences
	Result Comment (Individual Pathology Test Result Comment)	0..*
	Reference Range Guidance (Individual Pathology Test Result Reference Range Guidance)	0..1
	Result Status (Individual Pathology Test Result Status)	0..1

2.18 Individual Pathology Test Result Name

Identification

Label	Result Name
Metadata Type	Data Element
Identifier	DE-16571
OID	1.2.36.1.2001.1001.101.103.16571

Definition

Definition	The name of an individual pathology test result.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	Pathology Test Result Name Values

Usage

Examples	1. Serum glucose level 2. Haemoglobin concentration 3. Hepatitis B surface antibody titre 4. Prothrombin Time

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result (INDIVIDUAL PATHOLOGY TEST RESULT)	1..1

2.19 Individual Pathology Test 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	Actual value of the result.
Definition Source	NEHTA
Synonymous Names	
Notes	Most result values will be numerical measurements, but others may be coded concepts and free text.
Data Type	CodeableText QuantityRange Quantity
Value Domain	Result Value Values

Usage

Examples	1. 140 2. ++ 3. Neg

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result (INDIVIDUAL PATHOLOGY TEST RESULT)	0..1

2.20 Result Value Values

Identification

Label	Result Value Values
Metadata Type	Value Domain
Identifier	VD-11023
OID	1.2.36.1.2001.1001.101.104.11023

Definition

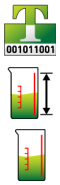
Definition	The set of values for the measured level/magnitude of the test result component.
Definition Source	NEHTA

Value Domain

Source	NEHTA

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result Value (Individual Pathology Test Result Value)	1..1

2.21 Individual Pathology Test 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	Individual Pathology Test Result Value Normal Status Values

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result (INDIVIDUAL PATHOLOGY TEST RESULT)	0..1

2.22 Individual Pathology Test 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)
	Result Value Normal Status (Individual Pathology Test Result Value Normal Status)	1..1

2.23 INDIVIDUAL PATHOLOGY TEST 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	Defines a range to be associated with any *Quantity* datum. Each such range is particular to the patient and context, e.g. sex, age, and any other factor that affects ranges.

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 PATHOLOGY TEST RESULT)	0..*

Children

Data Type	Name	Occurrences
	Result Value Reference Range Meaning (Individual Pathology Test Result Value Reference Range Meaning)	1..1

Data Type	Name	Occurrences
	Result Value Reference Range (Individual Pathology Test Result Value Reference Range)	1..1

2.24 Individual Pathology Test 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	*Not specified.* 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	1. Normal 2. Critical 3. 75th percentile
Default Value	Normal

[1] http://www.hl7.org/oid/index.cfm

Relationships

Parents

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

2.25 Individual Pathology Test 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	1. 60-400 U/L (male) 2. 40-150 U/L (female)

Relationships

Parents

Data Type	Name	**Occurrences** (child within parent)
	Result Value Reference Range Details (INDIVIDUAL PATHOLOGY TEST RESULT VALUE REFERENCE RANGE DETAILS)	1..1

2.26 Individual Pathology Test 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	Comments that 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	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result (INDIVIDUAL PATHOLOGY TEST RESULT)	0..*

2.27 Individual Pathology Test Result Reference Range Guidance

Identification

Label	Reference Range Guidance
Metadata Type	Data Element
Identifier	DE-16467
OID	1.2.36.1.2001.1001.101.103.16467

Definition

Definition	Additional advice on the applicability of the reference range.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result (INDIVIDUAL PATHOLOGY TEST RESULT)	0..1

2.28 Individual Pathology Test Result Status

Identification

Label	Result Status
Metadata Type	Data Element
Identifier	DE-11029
OID	1.2.36.1.2001.1001.101.103.11029

Definition

Definition	The status of the result value.
Definition Source	NEHTA
Synonymous Names	
Notes	Allows a report with more than one result to be issued and for each result to have a different status associated with it. The status of a result is included within the report to inform the requester or receiver whether it is final or there is more to expect, or if amendments have been made. This indicates whether the results are able to be acted upon by the clinician.
Data Type	CodedText
Value Domain	Pathology Test Result Status Values

Usage

Examples	1. Corrected/Amended 2. Final 3. Interim 4. Preliminary 5. Supplementary

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Result (INDIVIDUAL PATHOLOGY TEST RESULT)	0..1

2.29 SPECIMEN

Identification

Label	Result Group Specimen Detail
Metadata Type	Data Group
Identifier	DG-16156
OID	1.2.36.1.2001.1001.101.102.16156

Definition

Definition	Details about the individual specimen to which these result group test results refer, where testing of multiple specimens is required.
Definition Source	NEHTA
Synonymous Names	

Relationships

Parents

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

Children

Data Type	Name	Occurrences
	Specimen Tissue Type	0..1
	Collection Procedure	0..1
	Anatomical Site (ANATOMICAL LOCATION)	0..*
	Physical Details (PHYSICAL PROPERTIES OF AN OBJECT)	0..*
	NEEDLE BIOPSY CORE DETAILS	0..1
	COLLECTION AND HANDLING	0..1
	HANDLING AND PROCESSING	0..1
	SPECIMEN QUALITY	0..1

Data Type	Name	Occurrences
	IDENTIFIERS	0..1

2.30 Pathological Diagnosis

Identification

Label	Pathological Diagnosis
Metadata Type	Data Element
Identifier	DE-16402
OID	1.2.36.1.2001.1001.101.103.16402

Definition

Definition	Single word, phrase or brief description representing the diagnostic statement as asserted by the reporting pathologist.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	*Not specified.* 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	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	0..*

[2] http://www.hl7.org/oid/index.cfm

2.31 Pathology Test Conclusion

Identification

Label	Conclusion
Metadata Type	Data Element
Identifier	DE-16403
OID	1.2.36.1.2001.1001.101.103.16403

Definition

Definition	Concise and clinically contextualised narrative interpretation of the pathology test results.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	0..1

2.32 Test Result Representation

Identification

Label	Test Result Representation
Metadata Type	Data Element
Identifier	DE-16159
OID	1.2.36.1.2001.1001.101.103.16159

Definition

Definition	Rich text representation of the entire result as issued by the diagnostic service.
Definition Source	NEHTA
Synonymous Names	
Notes	The report is a verbatim copy of the report as issued. The results reported may also, or instead, be supplied in a machine-readable structured form. As some structured pathology information is unable to be stored and displayed correctly by receiving systems at this time, some structured pathology information (such as microbiology results) is sent in the same way as free text or images. Resistance to structured formatting has been expressed in some quarters. These concerns may be due to the perceived difficulty in ensuring the results are maintained in their entirety as intended by the reporting provider. The nature and intent of DCMs to constrain information and provide context may help to alleviate this problem. In the meantime, the NEHTA *Pathology Test Result* `data group` represents the non-numerical pathology results as a single data element. This is similar to the approach taken by NEHTA Pathology Result Report Structured Document Template [NEHT2009s], which is HL7 based.
Data Type	EncapsulatedData

Usage

Conditions of Use	Used for results unable to be sent and/or received as structured information. 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)
	PATHOLOGY TEST RESULT	0..*

2.33 Test Comment

Identification

Label	Test Comment
Metadata Type	Data Element
Identifier	DE-16468
OID	1.2.36.1.2001.1001.101.103.16468

Definition

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

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	0..1

2.34 RECEIVING LABORATORY

Identification

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

Definition

Definition	Details of the laboratory that has responsibility for the pathology test.
Definition Source	NEHTA
Synonymous Names	
Notes	Details of secondary laboratories may also be included. This does not have to be a person and, in particular, does not have to be a healthcare provider. Types of sources include: • the clinician; and • a device or software.

Usage

Conditions of Use	This is a reuse of the *PARTICIPATION* `data group`, which is described in Participation Data Specification [NEHT2011v]. The following constraints are additional to those specified in Participation Data Specification [NEHT2011v]. Constraints are explained in Appendix B, *Specification Guide for Use*. • Participation Type **SHALL** have an implementation-specific value equivalent to “Receiving Laboratory”. • 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)
	PATHOLOGY TEST RESULT	0..*

2.35 TEST REQUEST DETAILS

Identification

Label	TEST REQUEST DETAILS
Metadata Type	Data Group
Identifier	DG-16160
OID	1.2.36.1.2001.1001.101.102.16160

Definition

Definition	Details concerning a single pathology test requested.
Definition Source	NEHTA
Synonymous Names	
Notes	Usually there is one test request for each result, however, in some circumstances multiple test requests may be represented using a single *Pathology Test Result*.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	0..*

Children

Data Type	Name	Occurrences
	Requester Order Identifier	0..1
	Test Requested Name	0..*
	REQUESTER	0..*
	Receiver Order Identifier	0..1
	Laboratory Test Result Identifier	0..1

2.36 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. *Request Order Identifier* is equivalent to the Placer Order Identifier.
Data Type	UniqueIdentifier

Usage

Examples	

Relationships

Parents

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

2.37 Test Requested Name

Identification

Label	Test Requested Name
Metadata Type	Data Element
Identifier	DE-16404
OID	1.2.36.1.2001.1001.101.103.16404

Definition

Definition	Identification of the pathology test requested where the test requested differs from the test actually performed.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	Test Result Name Values

Usage

Examples	

Relationships

Parents

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

2.38 REQUESTER

Identification

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

Definition

Definition	Details of the clinician or organisation requesting the laboratory test.
Definition Source	NEHTA
Synonymous Names	
Scope	Generally only used when the recorder needs to make it explicit. Otherwise, composer/author/organisation of the enclosing Structured Document is assumed.
Scope Source	NEHTA
Notes	This can be a person or an organisation. Types of sources include: • the clinician; and • a healthcare provider or organisation.

Usage

Conditions of Use	This is a reuse of the *PARTICIPATION* `data group`, which is described in Participation Data Specification [NEHT2011v]. The following constraints are additional to those specified in Participation Data Specification [NEHT2011v]. Constraints are explained in Appendix B, *Specification Guide for Use*. • 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)
	TEST REQUEST DETAILS	0..*

2.39 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 test order by the order filler, usually by the laboratory information system (LIS).
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.
Context Source	NEHTA
Assumptions	The laboratory information system has functionality to assign an identifier to each request upon receipt. *Receiver Order Identifier* is usually equivalent to the DICOM Accession Number and the Filler Order Identifier.
Assumptions Source	NEHTA
Data Type	UniqueIdentifier

Usage

Examples	

Relationships

Parents

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

2.40 Laboratory Test Result Identifier

Identification

Label	Laboratory Test Result Identifier
Metadata Type	Data Element
Identifier	DE-11018
OID	1.2.36.1.2001.1001.101.103.11018

Definition

Definition	The identifier given to the laboratory test result of a pathology investigation.
Definition Source	NEHTA
Synonymous Names	Lab Number
Notes	Assigning an identification code to a result allows the result to be linked to a request in the laboratory.
Data Type	UniqueIdentifier

Usage

Examples	

Relationships

Parents

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

2.41 Test Procedure

Identification

Label	Test Procedure
Metadata Type	Data Element
Identifier	DE-16632
OID	1.2.36.1.2001.1001.101.105.16632

Definition

Definition	Additional structured details of pathology test 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)
	PATHOLOGY TEST RESULT	0..*

2.42 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 laboratory test information.
Definition Source	NEHTA
Synonymous Names	
Notes	This does not have to be a person and, in particular, does not have to be a healthcare provider. Types of sources include: • the subject of care; • a subject of care agent, e.g. parent, guardian; • the clinician; and • a device or software.

Usage

Conditions of Use	This **SHALL NOT** be used unless the provider of the information is not the *Composer/Author* of the enclosing Structured Document. This is a reuse of the *PARTICIPATION* `data group`, which is described in Participation Data Specification [NEHT2011v]. The following constraints are additional to those specified in Participation Data Specification [NEHT2011v]. Constraints are explained in Appendix B, *Specification Guide for Use*. • 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)
	PATHOLOGY TEST RESULT	0..1

2.43 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 laboratory 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
Notes	An example of use is: When the *Subject of Care* is the recipient of a donor organ, the *SUBJECT* of a *Pathology Test Result* could be the person from whom the organ was extracted.

Usage

Conditions of Use	This **SHALL NOT** be used unless the subject of the information is not the *Subject of Care* of the enclosing Structured Document. This is a reuse of the *PARTICIPATION* `data group`, which is described in Participation Data Specification [NEHT2011v]. The following constraints are additional to those specified in Participation Data Specification [NEHT2011v]. Constraints are explained in Appendix B, *Specification Guide for Use*. • 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)
	PATHOLOGY TEST RESULT	0..1

2.44 Pathology Test Result DateTime

Identification

Label	Pathology Test Result DateTime
Metadata Type	Data Element
Identifier	DE-16605
OID	1.2.36.1.2001.1001.101.103.16605

Definition

Definition	The date and, optionally, time of the *Pathology Test Result* observation.
Definition Source	NEHTA
Synonymous Names	
Notes	If the *Pathology Test Result Duration* is non-zero, it **SHALL** be the time at which the *Pathology Test Result* observation was completed, i.e. the date (and time) of the trailing edge of the *Pathology Test Result Duration*.
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)
	PATHOLOGY TEST RESULT	1..1

2.45 Pathology Test Result Duration

Identification

Label	Pathology Test Result Duration
Metadata Type	Data Element
Identifier	DE-16581
OID	1.2.36.1.2001.1001.101.103.16581

Definition

Definition	The duration over which the *Pathology Test Result* observation was taken.
Definition Source	NEHTA
Synonymous Names	
Data Type	Duration

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	0..1

2.46 Pathology Test Result Instance Identifier

Identification

Label	Pathology Test Result Instance Identifier
Metadata Type	Data Element
Identifier	DE-16714
OID	1.2.36.1.2001.1001.101.103.16714

Definition

Definition	A globally unique identifier for each instance of a *Pathology Test Result* observation.
Definition Source	NEHTA
Synonymous Names	
Data Type	UniqueIdentifier

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	0..1

2.47 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)
	PATHOLOGY TEST RESULT	0..*

Children

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

2.48 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	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

2.49 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

		two might be defining the same care plan, act or episode, or both might be related milestones.
	LINK-E0, is a related documentation	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.

Relationships

Parents

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

2.50 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	1. unspecified link 2. suggests 3. endorses 4. evidence for 5. outcome 6. is documented by 7. excerpts

Relationships

Parents

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

2.51 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 *Link Role*. 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	Values **SHOULD** be from Termlist LINK_ROLE in ISO 13606-3:2009 [ISO2009a]. Values **MAY** be from any suitable terminology. 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:

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 *Link Nature Values*, 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 *Link Role* `data element`, the appropriate corresponding value **SHALL** be used from *Link Nature Values*.
Conditions of Use Source	ISO 13606-3:2009

Relationships

Parents

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

2.52 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 *Link Nature* `data element` (and, if present, the *Link Role* `data element`).
Definition Source	NEHTA
Synonymous Names	
Data Type	Link UniqueIdentifier

Usage

Examples	

Relationships

Parents

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

2.53 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 *Pathology Test Result* concept represented by this DCM.
Definition Source	NEHTA
Synonymous Names	
Data Type	UniqueIdentifier

Usage

Examples	
Default Value	1.2.36.1.2001.1001.101.102.16144
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)
	PATHOLOGY TEST RESULT	1..1

3 Specimen Data Group

This chapter describes version 2.0 of the Specimen Data Group.

3.1 Purpose

To record details of a laboratory specimen. Will often be used in different contexts e.g. within an Instruction DCM to describe the specimen that has to be taken, or describing the specimen which accompanies the laboratory request. It may occur within an Action DCM e.g. describing specimens taken as part of a surgical procedure. It will finally be used within a *Pathology Test Result* DCM to describe the specimen being reported.

3.2 Use

Generally used within the *Pathology Test Result* DCM and other laboratory related Instruction and Action DCMs.

3.3 SPECIMEN

Identification

Label	Test Specimen Detail
Metadata Type	Data Group
Identifier	DG-16156
OID	1.2.36.1.2001.1001.101.102.16156

Definition

Definition	Details of a specimen.
Definition Source	NEHTA
Synonymous Names	Laboratory Specimen Sample Collection
Notes	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	PATHOLOGY TEST RESULT	0..*

Children

Data Type	Name	Occurrences
	Specimen Tissue Type	0..1
	Collection Procedure	0..1
	Anatomical Site (ANATOMICAL LOCATION)	0..*
	Physical Details (PHYSICAL PROPERTIES OF AN OBJECT)	0..*
	NEEDLE BIOPSY CORE DETAILS	0..1
	COLLECTION AND HANDLING	0..1
	HANDLING AND PROCESSING	0..1

Data Type	Name	Occurrences
	SPECIMEN QUALITY	0..1
	IDENTIFIERS	0..1

3.4 Specimen Tissue Type

Identification

Label	Specimen Tissue Type
Metadata Type	Data Element
Identifier	DE-11008
OID	1.2.36.1.2001.1001.101.103.11008

Definition

Definition	The type of specimen to be collected.
Definition Source	NEHTA
Synonymous Names	
Notes	The categorisation of the sample taken from an individual and submitted for pathology investigation.
Data Type	CodeableText
Value Domain	*Not specified.* 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 is the actual specimen being submitted to the laboratory for analysis.
Conditions of Use Source	NEHTA
Examples	1. Venous blood 2. Prostate tissue, left base 3. Urine 4. Sputum 5. Scraping 6. Catheter tip 7. Single core (yellow-tan) liver tissue

[1] http://www.hl7.org/oid/index.cfm

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Test Specimen Detail (SPECIMEN)	0..1
	Result Group Specimen Detail (SPECIMEN)	0..1

3.5 Collection Procedure

Identification

Label	Collection Procedure
Metadata Type	Data Element
Identifier	DE-16111
OID	1.2.36.1.2001.1001.101.103.16111

Definition

Definition	The method of collection to be used.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	*Not specified.* 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	1. Venepuncture 2. Biopsy 3. Resection

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Test Specimen Detail (SPECIMEN)	0..1
	Result Group Specimen Detail (SPECIMEN)	0..1

[2] http://www.hl7.org/oid/index.cfm

3.6 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	The anatomical site from where the specimen was taken.
Definition Source	NEHTA
Synonymous Names	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Test Specimen Detail (SPECIMEN)	0..*
	Result Group Specimen Detail (SPECIMEN)	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..*

3.7 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

Children

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

3.8 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

3.9 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

3.10 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	1. Right 2. Left 3. Bilateral

Relationships

Parents

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

3.11 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

Relationships

Parents

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

3.12 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	*Not specified.* 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

Conditions of Use	This **SHALL** be an ordinal number between first and eighteenth.
Conditions of Use Source	NEHTA
Examples	1. First, as in 'first rib'. 2. Second, as in 'second toe'. 3. Third, as in 'third lumbar vertebra'.

[3] http://www.hl7.org/oid/index.cfm

Relationships

Parents

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

3.13 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	*Not specified.* 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	1. Midline 2. Midclavicular 3. Midaxillary 4. Midscapular

Relationships

Parents

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

[4] http://www.hl7.org/oid/index.cfm

3.14 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..*

Children

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

3.15 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	*Not specified.* 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	

Relationships

Parents

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

[5] http://www.hl7.org/oid/index.cfm

3.16 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	*Not specified.* 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. 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.

[6] 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

3.17 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

3.18 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	

Relationships

Parents

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

3.19 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	1. External reference points 2. Special sutures 3. Ink markings

Relationships

Parents

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

3.20 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	

Relationships

Parents

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

3.21 PHYSICAL PROPERTIES OF AN OBJECT

Identification

Label	Physical Details
Metadata Type	Data Group
Identifier	DG-16166
OID	1.2.36.1.2001.1001.101.102.16166

Definition

Definition	Record of physical details, such as weight and dimensions, of a body part, device, lesion or specimen.
Definition Source	NEHTA
Synonymous Names	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Test Specimen Detail (SPECIMEN)	0..*
	Result Group Specimen Detail (SPECIMEN)	0..*

Children

Data Type	Name	Occurrences
	Name (Physical Object Name)	0..1
	Weight	0..1
	DIMENSIONS	0..1
	Description (Object Description)	0..1
	Image	0..1

3.22 Physical Object Name

Identification

Label	Name
Metadata Type	Data Element
Identifier	DE-16326
OID	1.2.36.1.2001.1001.101.103.16326

Definition

Definition	The object concerned.
Definition Source	NEHTA
Synonymous Names	
Notes	May be a body part, device or specimen.
Data Type	Text

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Physical Details (PHYSICAL PROPERTIES OF AN OBJECT)	0..1

3.23 Weight

Identification

Label	Weight
Metadata Type	Data Element
Identifier	DE-16327
OID	1.2.36.1.2001.1001.101.103.16327

Definition

Definition	The weight of the object.
Definition Source	NEHTA
Synonymous Names	
Data Type	Quantity

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Physical Details (PHYSICAL PROPERTIES OF AN OBJECT)	0..1

3.24 DIMENSIONS

Identification

Label	DIMENSIONS
Metadata Type	Data Group
Identifier	DG-16328
OID	1.2.36.1.2001.1001.101.102.16328

Definition

Definition	The dimensions of the object.
Definition Source	NEHTA
Synonymous Names	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Physical Details (PHYSICAL PROPERTIES OF AN OBJECT)	0..1

Children

Data Type	Name	Occurrences
	Diameter	0..1
	Circumference	0..1
	Length	0..1
	Breadth	0..1
	Depth	0..1
	Area	0..1
	Volume	0..1

3.25 Diameter

Identification

Label	Diameter
Metadata Type	Data Element
Identifier	DE-16329
OID	1.2.36.1.2001.1001.101.103.16329

Definition

Definition	The diameter of the object.
Definition Source	NEHTA
Synonymous Names	
Data Type	Quantity

Usage

Examples	

Relationships

Parents

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

3.26 Circumference

Identification

Label	Circumference
Metadata Type	Data Element
Identifier	DE-16330
OID	1.2.36.1.2001.1001.101.103.16330

Definition

Definition	The circumference of the object.
Definition Source	NEHTA
Synonymous Names	
Data Type	Quantity

Usage

Examples	

Relationships

Parents

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

3.27 Length

Identification

Label	Length
Metadata Type	Data Element
Identifier	DE-16331
OID	1.2.36.1.2001.1001.101.103.16331

Definition

Definition	The length of the object.
Definition Source	NEHTA
Synonymous Names	
Data Type	Quantity

Usage

Examples	

Relationships

Parents

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

3.28 Breadth

Identification

Label	Breadth
Metadata Type	Data Element
Identifier	DE-16332
OID	1.2.36.1.2001.1001.101.103.16332

Definition

Definition	The measure or dimension of the object from side to side.
Definition Source	NEHTA
Synonymous Names	
Data Type	Quantity

Usage

Examples	

Relationships

Parents

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

3.29 Depth

Identification

Label	Depth
Metadata Type	Data Element
Identifier	DE-16333
OID	1.2.36.1.2001.1001.101.103.16333

Definition

Definition	The depth of the object.
Definition Source	NEHTA
Synonymous Names	
Data Type	Quantity

Usage

Examples	

Relationships

Parents

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

3.30 Area

Identification

Label	Area
Metadata Type	Data Element
Identifier	DE-16334
OID	1.2.36.1.2001.1001.101.103.16334

Definition

Definition	The amount of two-dimensional space; typically a measure of the outermost surface of an object.
Definition Source	NEHTA
Synonymous Names	
Data Type	Quantity

Usage

Examples	

Relationships

Parents

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

3.31 Volume

Identification

Label	Volume
Metadata Type	Data Element
Identifier	DE-16335
OID	1.2.36.1.2001.1001.101.103.16335

Definition

Definition	The volume of the object.
Definition Source	NEHTA
Synonymous Names	
Data Type	Quantity

Usage

Examples	

Relationships

Parents

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

3.32 Object Description

Identification

Label	Description
Metadata Type	Data Element
Identifier	DE-16621
OID	1.2.36.1.2001.1001.101.103.16621

Definition

Definition	A description of other physical characteristics of the object.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	
Misuse	This data element **SHALL NOT** be used to record characteristics that might affect the quality of a test interpretation; use *Specimen Received Issues* in the *Specimen* `data group` for that purpose.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Physical Details (PHYSICAL PROPERTIES OF AN OBJECT)	0..1

3.33 Image

Identification

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

Definition

Definition	A picture of the object.
Definition Source	NEHTA
Synonymous Names	
Data Type	EncapsulatedData

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Physical Details (PHYSICAL PROPERTIES OF AN OBJECT)	0..1

3.34 NEEDLE BIOPSY CORE DETAILS

Identification

Label	NEEDLE BIOPSY CORE DETAILS
Metadata Type	Data Group
Identifier	DG-16161
OID	1.2.36.1.2001.1001.101.102.16161

Definition

Definition	Details of the needle used to take the needle biopsy.
Definition Source	NEHTA
Synonymous Names	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Test Specimen Detail (SPECIMEN)	0..1
	Result Group Specimen Detail (SPECIMEN)	0..1

Children

Data Type	Name	Occurrences
	Biopsy Core Needle Gauge	0..1
	Maximum Biopsy Core Length	0..1
	Number of Cores Received	0..1

3.35 Biopsy Core Needle Gauge

Identification

Label	Biopsy Core Needle Gauge
Metadata Type	Data Element
Identifier	DE-16163
OID	1.2.36.1.2001.1001.101.103.16163

Definition

Definition	The diameter of the core obtained via needle biopsy expressed using the needle gauge used to take the specimen.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodedText
Value Domain	*Not specified.* 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	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	NEEDLE BIOPSY CORE DETAILS	0..1

[7] http://www.hl7.org/oid/index.cfm

3.36 Maximum Biopsy Core Length

Identification

Label	Maximum Biopsy Core Length
Metadata Type	Data Element
Identifier	DE-16164
OID	1.2.36.1.2001.1001.101.103.16164

Definition

Definition	The length of the core obtained by needle biopsy.
Definition Source	NEHTA
Synonymous Names	
Data Type	Quantity

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	NEEDLE BIOPSY CORE DETAILS	0..1

3.37 Number of Cores Received

Identification

Label	Number of Cores Received
Metadata Type	Data Element
Identifier	DE-16165
OID	1.2.36.1.2001.1001.101.103.16165

Definition

Definition	The number of needle biopsy cores received.
Definition Source	NEHTA
Synonymous Names	
Data Type	Integer

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	NEEDLE BIOPSY CORE DETAILS	0..1

3.38 COLLECTION AND HANDLING

Identification

Label	COLLECTION AND HANDLING
Metadata Type	Data Group
Identifier	DG-16167
OID	1.2.36.1.2001.1001.101.102.16167

Definition

Definition	Collection and handling requirements.
Definition Source	NEHTA
Synonymous Names	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Test Specimen Detail (SPECIMEN)	0..1
	Result Group Specimen Detail (SPECIMEN)	0..1

Children

Data Type	Name	Occurrences
	Potential Risk / Biohazard	0..1
	Sampling Preconditions	0..1
	Number of Containers	0..1
	Collection Procedure Details	0..1
	Transport Medium	0..1
	Testing Method	0..1
	DEVICE	0..*

3.39 Potential Risk / Biohazard

Identification

Label	Potential Risk / Biohazard
Metadata Type	Data Element
Identifier	DE-16169
OID	1.2.36.1.2001.1001.101.103.16169

Definition

Definition	Any risk or biohazard associated with collecting or handling the specimen.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	*Not specified.* 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	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	COLLECTION AND HANDLING	0..1

[8] http://www.hl7.org/oid/index.cfm

3.40 Sampling Preconditions

Identification

Label	Sampling Preconditions
Metadata Type	Data Element
Identifier	DE-16171
OID	1.2.36.1.2001.1001.101.103.16171

Definition

Definition	Any conditions to be met before the sample should be taken.
Definition Source	NEHTA
Synonymous Names	
Notes	Can also be used to document any known deviations from collection or handling instructions, or any special instructions on the handling or immediate processing of the sample.
Data Type	CodeableText
Value Domain	*Not specified.* 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	1. centrifuge on receipt 2. fasting 3. full bladder 4. sterile field 5. patient was not fasted

[9] http://www.hl7.org/oid/index.cfm

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	COLLECTION AND HANDLING	0..1

3.41 Number of Containers

Identification

Label	Number of Containers
Metadata Type	Data Element
Identifier	DE-16526
OID	1.2.36.1.2001.1001.101.103.16526

Definition

Definition	The total number of containers holding this specimen.
Definition Source	NEHTA
Synonymous Names	
Data Type	Integer

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	COLLECTION AND HANDLING	0..1

3.42 Collection Procedure Details

Identification

Label	Collection Procedure Details
Metadata Type	Data Element
Identifier	DE-16527
OID	1.2.36.1.2001.1001.101.103.16527

Definition

Definition	Additional detailed description of method of sample collection.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	

Relationships

Parents

Data Type	Name	**Occurrences** (child within parent)
	COLLECTION AND HANDLING	0..1

3.43 Transport Medium

Identification

Label	Transport Medium
Metadata Type	Data Element
Identifier	DE-16173
OID	1.2.36.1.2001.1001.101.103.16173

Definition

Definition	Any special preservative or transport medium requirements.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	*Not specified.* 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*[10] 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)
	COLLECTION AND HANDLING	0..1

[10] http://www.hl7.org/oid/index.cfm

3.44 Testing Method

Identification

Label	Testing Method
Metadata Type	Data Element
Identifier	DE-11025
OID	1.2.36.1.2001.1001.101.103.11025

Definition

Definition	The test method used to arrive at the result.
Definition Source	NEHTA
Synonymous Names	
Notes	The method used has a critical impact in the comparability of results. A decision on diagnosis can be affected by the method used, based on the likelihood of false or true positives and negatives related to sensitivities and specificities of tests. This is associated with the result observable name. The method is chosen by the performing pathologist or pathology laboratory. This may be recorded or reported at the overall test level or for an individual result.
Data Type	CodeableText
Value Domain	Testing Method Reference Set

Usage

Conditions of Use	To be used to describe method used, especially in cases where the method has a bearing on the result interpretation.
Conditions of Use Source	NEHTA
Examples	1. 54826005 - Chromatography measurement 2. 117259009 - Microscopy

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	COLLECTION AND HANDLING	0..1

3.45 Testing Method Reference Set

Identification

Label	Testing Method Reference Set
Metadata Type	Value Domain
Identifier	VD-11025
OID	1.2.36.1.2001.1001.101.104.11025
External Identifier	SNOMED CT-AU Concept Id: 3021000036100

Definition

Definition	The set of values for the specific method(s) used by the laboratory to perform the analyses and produce the reported test results.
Definition Source	NEHTA

Value Domain

Source	SNOMED CT-AU

Relationships

Parents

Data Type	Name	**Occurrences** (child within parent)
	Testing Method	1..1

3.46 DEVICE

Identification

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

Definition

Definition	Details of the device used to perform the test.
Definition Source	NEHTA
Synonymous Names	
Scope	Generally only used when the recorder needs to make it explicit. Otherwise, device of the enclosing Structured Document is assumed.
Scope Source	NEHTA

Usage

Conditions of Use	This **SHALL NOT** be used unless the device is different to the *Device* of the enclosing Structured Document. This is a reuse of the *PARTICIPATION* `data group`, which is described in Participation Data Specification [NEHT2011v]. The following constraints are additional to those specified in Participation Data Specification [NEHT2011v]. Constraints are explained in Appendix B, *Specification Guide for Use*. • Participation Type **SHALL** have an implementation-specific value equivalent to “Device”. • PERSON OR ORGANISATION OR DEVICE **SHALL** be instantiated as a DEVICE.
Conditions of Use Source	NEHTA

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	COLLECTION AND HANDLING	0..*

3.47 HANDLING AND PROCESSING

Identification

Label	HANDLING AND PROCESSING
Metadata Type	Data Group
Identifier	DG-16528
OID	1.2.36.1.2001.1001.101.102.16528

Definition

Definition	Workflow of specimen processing or handling.
Definition Source	NEHTA
Synonymous Names	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Test Specimen Detail (SPECIMEN)	0..1
	Result Group Specimen Detail (SPECIMEN)	0..1

Children

Data Type	Name	Occurrences
	Date and Time of Collection (Collection DateTime)	0..1
	Collection Setting	0..1
	Date and Time of Receipt (DateTime Received)	0..1
	Date and Time Processed (DateTime Processed)	0..1

3.48 Collection DateTime

Identification

Label	Date and Time of Collection
Metadata Type	Data Element
Identifier	DE-11013
OID	1.2.36.1.2001.1001.101.103.11013

Definition

Definition	The date and time that the collection has been ordered to take place or has taken place.
Definition Source	NEHTA
Synonymous Names	Collected Date/Time
Notes	This provides a point in time reference for linking of result data to request data, and a point in time reference within a health record that the clinician may refer to.
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)
	HANDLING AND PROCESSING	0..1

3.49 Collection Setting

Identification

Label	Collection Setting
Metadata Type	Data Element
Identifier	DE-16529
OID	1.2.36.1.2001.1001.101.103.16529

Definition

Definition	Identification of the setting at which the specimen was collected from a subject of care.
Definition Source	NEHTA
Synonymous Names	
Notes	The specimen is often collected by a healthcare provider, but may be collected directly by the patient or carer at home. This specifies the specimen collection location within the healthcare environment. It enables the laboratory to ask questions about the collection of the specimen, if required. The specimen collection setting may provide additional information relevant to the analysis of the result data.
Data Type	Text

Usage

Examples	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	HANDLING AND PROCESSING	0..1

3.50 DateTime Received

Identification

Label	Date and Time of Receipt
Metadata Type	Data Element
Identifier	DE-11014
OID	1.2.36.1.2001.1001.101.103.11014

Definition

Definition	The date and time that the sample was received at the laboratory.
Definition Source	NEHTA
Synonymous Names	Received Date/Time
Notes	This provides a point in time reference for linking of result data to request data, and a point in time reference within a health record that the clinician may refer to.
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)
	HANDLING AND PROCESSING	0..1

3.51 DateTime Processed

Identification

Label	Date and Time Processed
Metadata Type	Data Element
Identifier	DE-16176
OID	1.2.36.1.2001.1001.101.103.16176

Definition

Definition	The date and time that the specimen was processed by the laboratory.
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)
	HANDLING AND PROCESSING	0..1

3.52 SPECIMEN QUALITY

Identification

Label	SPECIMEN QUALITY
Metadata Type	Data Group
Identifier	DG-16530
OID	1.2.36.1.2001.1001.101.102.16530

Definition

Definition	An assessment of the quality of the specimen received by pathology services, especially regarding the suitability of the specimen for testing or analysis.
Definition Source	NEHTA
Synonymous Names	
Notes	Assessment of quality is important for proper analysis to be done by the pathology laboratory. If a tissue sample is crushed or too small, assessment will not be optimal, so an indication of the quality of the sample must be given. This data group provides an indication of whether the specimen is suitable for the required laboratory testing.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Test Specimen Detail (SPECIMEN)	0..1
	Result Group Specimen Detail (SPECIMEN)	0..1

Children

Data Type	Name	Occurrences
	Specimen Received Issues	0..*
	Laboratory Handling Issues	0..*
	Adequacy for Testing	0..1
	Comment (Specimen Quality Comment)	0..1

3.53 Specimen Received Issues

Identification

Label	Specimen Received Issues
Metadata Type	Data Element
Identifier	DE-16178
OID	1.2.36.1.2001.1001.101.103.16178

Definition

Definition	Specific issue with a received specimen.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	*Not specified.* 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*[11] 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. Haemolysed: The specimen was haemolysed. 2. Lipaemic: The specimen was lipaemic. 3. Incorrect transport medium: An incorrect preservative was used when transporting the specimen. 4. Insufficient sample: An insufficient sample was given to undertake measurement.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	SPECIMEN QUALITY	0..*

[11] http://www.hl7.org/oid/index.cfm

3.54 Laboratory Handling Issues

Identification

Label	Laboratory Handling Issues
Metadata Type	Data Element
Identifier	DE-16182
OID	1.2.36.1.2001.1001.101.103.16182

Definition

Definition	Issue arising with handling or processing of the specimen within the laboratory.
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	*Not specified.* 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*[12] 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. Handling error: An error arose when handling the specimen. 2. Age: The specimen was too old to analyse accurately. 3. Laboratory accident: An accident occurred with the sample in the laboratory. 4. Technical failure: The specimen could not be analysed for technical reasons.

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	SPECIMEN QUALITY	0..*

[12] http://www.hl7.org/oid/index.cfm

3.55 Adequacy for Testing

Identification

Label	Adequacy for Testing
Metadata Type	Data Element
Identifier	DE-16183
OID	1.2.36.1.2001.1001.101.103.16183

Definition

Definition	Is the specimen adequate for testing?
Definition Source	NEHTA
Synonymous Names	
Data Type	CodeableText
Value Domain	*Not specified.* 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*[13] 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. Satisfactory: The specimen is of sufficient quality to allow reporting. 2. Unsatisfactory - processed: The specimen is unsatisfactory but has been processed. 3. Unsatisfactory - not processed: The specimen is unsatisfactory and has not been processed.

Relationships

Parents

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

[13] http://www.hl7.org/oid/index.cfm

3.56 Specimen Quality Comment

Identification

Label	Comment
Metadata Type	Data Element
Identifier	DE-16181
OID	1.2.36.1.2001.1001.101.103.16181

Definition

Definition	An additional text comment on the quality of the received specimen.
Definition Source	NEHTA
Synonymous Names	
Data Type	Text

Usage

Examples	

Relationships

Parents

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

3.57 IDENTIFIERS

Identification

Label	IDENTIFIERS
Metadata Type	Data Group
Identifier	DG-16186
OID	1.2.36.1.2001.1001.101.102.16186

Definition

Definition	Sample identifications.
Definition Source	NEHTA
Synonymous Names	

Relationships

Parents

Data Type	Name	Occurrences (child within parent)
	Test Specimen Detail (SPECIMEN)	0..1
	Result Group Specimen Detail (SPECIMEN)	0..1

Children

Data Type	Name	Occurrences
	Specimen Identifier	0..1
	Parent Specimen Identifier	0..1
	Container Identifier	0..1
	Specimen Collector Identifier	0..1
	SPECIMEN COLLECTOR DETAILS	0..*

3.58 Specimen Identifier

Identification

Label	Specimen Identifier
Metadata Type	Data Element
Identifier	DE-11012
OID	1.2.36.1.2001.1001.101.103.11012

Definition

Definition	Unique identifier of the specimen, normally assigned by the laboratory.
Definition Source	NEHTA
Synonymous Names	
Notes	The assignment of an identification code to a specimen allows the tracking of the specimen through receipt, processing, analysis, reporting and storage within the laboratory. This identifier may be placed on several vials of the same specimen type collected at the same time, as in the case of blood vials.
Data Type	UniqueIdentifier

Usage

Conditions of Use	Each specimen **SHOULD** have an identifier.
Conditions of Use Source	NEHTA
Examples	

Relationships

Parents

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

3.59 Parent Specimen Identifier

Identification

Label	Parent Specimen Identifier
Metadata Type	Data Element
Identifier	DE-16187
OID	1.2.36.1.2001.1001.101.103.16187

Definition

Definition	Unique identifier of the parent specimen where the specimen is split into sub-samples.
Definition Source	NEHTA
Synonymous Names	
Data Type	UniqueIdentifier

Usage

Examples	

Relationships

Parents

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

3.60 Container Identifier

Identification

Label	Container Identifier
Metadata Type	Data Element
Identifier	DE-16188
OID	1.2.36.1.2001.1001.101.103.16188

Definition

Definition	Unique identifier given to the container in which the specimen is transported or processed.
Definition Source	NEHTA
Synonymous Names	
Data Type	UniqueIdentifier

Usage

Examples	

Relationships

Parents

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

3.61 Specimen Collector Identifier

Identification

Label	Specimen Collector Identifier
Metadata Type	Data Element
Identifier	DE-16534
OID	1.2.36.1.2001.1001.101.103.16534

Definition

Definition	Identifier of the person or agency responsible for collecting the specimen.
Definition Source	NEHTA
Synonymous Names	
Data Type	UniqueIdentifier

Usage

Examples	

Relationships

Parents

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

3.62 SPECIMEN COLLECTOR DETAILS

Identification

Label	SPECIMEN COLLECTOR DETAILS
Metadata Type	Data Group
Identifier	DG-10296
OID	1.2.36.1.2001.1001.101.102.10296

Definition

Definition	The person or organisation responsible for collecting the specimen.
Definition Source	NEHTA
Synonymous Names	
Notes	This can be a person or an organisation. Types of sources include: • the clinician; and • a healthcare provider or organisation

Usage

Conditions of Use	This is a reuse of the *PARTICIPATION* `data group`, which is described in Participation Data Specification [NEHT2011v]. The following constraints are additional to those specified in Participation Data Specification [NEHT2011v]. Constraints are explained in Appendix B, *Specification Guide for Use*. • Participation Type **SHALL** have an implementation-specific value equivalent to "Specimen Collector Details". • 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)
	IDENTIFIERS	0..*

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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.
Undefined Value Domains	The following data elements lack a defined value domain: *Pathology Test Result Name*, *Pathology Test Result Group Name*, *Individual Pathology Test Result Name*, *Individual Pathology Test Result Value Reference Range Meaning*, *Pathological Diagnosis*, *Test Requested Name*, *Specimen Tissue Type*, *Collection Procedure*, *Numerical Identifier*, *Anatomical Plane*, *Identified Landmark*, *Anatomical Location Aspect*, *Biopsy Core Needle Gauge*, *Potential Risk / Biohazard*, *Sampling Preconditions*, *Transport Medium*, *Specimen Received Issues*, *Laboratory Handling Issues*, and *Adequacy for Testing*. 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: *Test Procedure*. A free-text data element is currently used as an interim solution.
Pathology Test Result Group Data Group	The definition for this data group is poor and will be addressed.
Individual Pathology Test Result Data Group	The definition for this data group is poor and will be addressed.
Individual Pathology Test Result Value Data Element	The definition for this data element is poor and will be addressed.
Normal Status data components	The definitions for *Individual Pathology Test Result Normal Status* and *Individual Pathology Test Result Normal Status Values* 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.

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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.

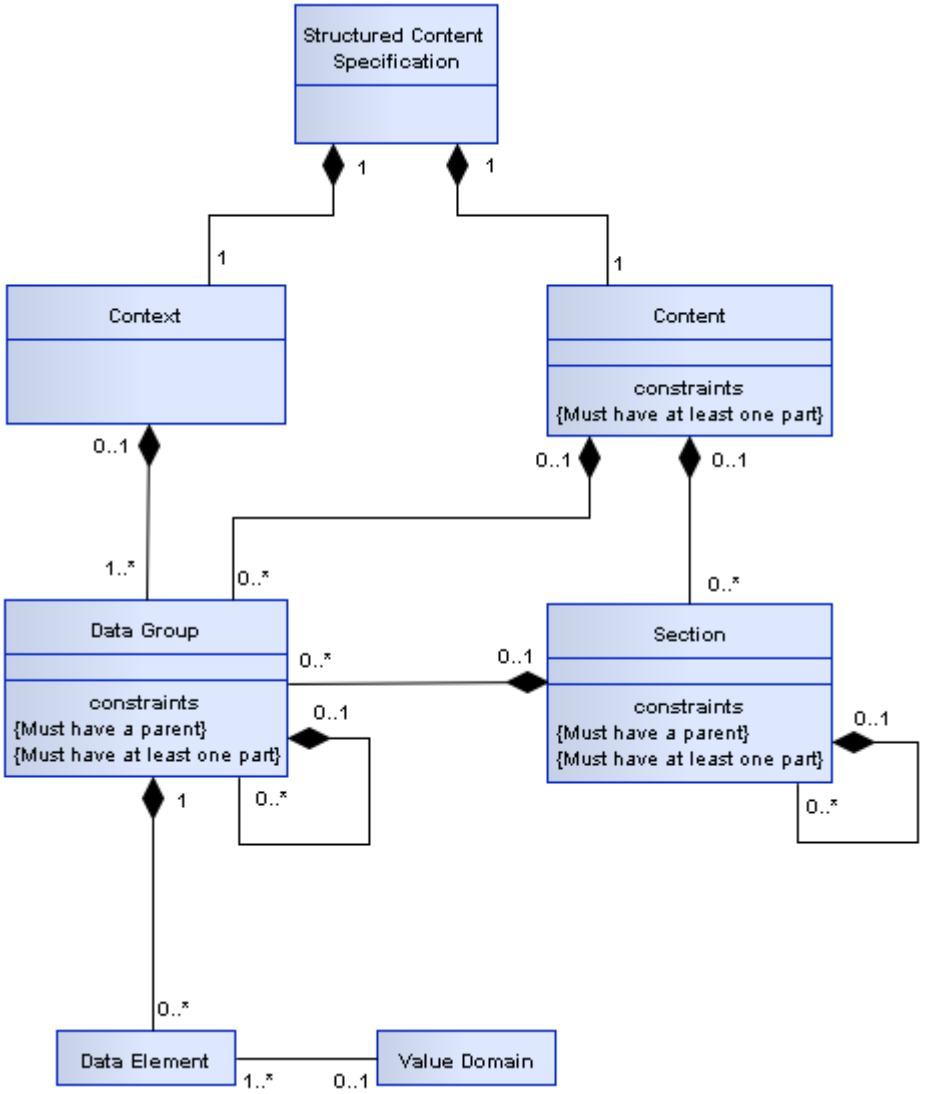

Figure 1: SCS Metamodel

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, *DateTime 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

<table>
<tr><th>Data Element</th><th>Data Type</th><th>Example of Value Domain</th></tr>
<tr><td>Sex</td><td>CodedText</td><td>[SA2006a] and [SA2006b] derive their values from METeOR 270263 which includes values such as:
<table><tr><th>Value</th><th>Meaning</th></tr><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></table></td></tr>
<tr><td>Diagnosis</td><td>CodeableText</td><td>A SNOMED CT-AU reference set which references concepts such as ‘Bronchitis’ (Concept ID: 32398004).</td></tr>
<tr><td>Therapeutic Good Identification</td><td>CodeableText</td><td>An AMT reference set which references concepts such as ‘Ibuprofen Blue (Herron) (ibuprofen 200 mg) tablet: film-coated, 1 tablet’ (Concept ID: 54363011000036107).</td></tr>
<tr><td>Individual Pathology Test Result Name</td><td>CodeableText</td><td>A LOINC subset which references concepts such as ‘Cholesterol [Moles/volume] in Serum or Plasma’ (ID: 14647-2).</td></tr>
</table>

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: *true* and *false*. Many systems represent true as *non-zero* (often 1, or -1) and false as *zero*. **Usage/Examples** • An actual value entered by a user might be “yes” or could be chosen by a mouse click on an icon such as ☑.

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** • 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** • 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** • 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** • 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 – *http://www.google.com*. • 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 *C:\Documents and Settings\GuestUser\MyDocuments\letter.doc*

 Quantity (ISO 21090: PQ)	Used for recording many real world measurements and observations. Includes the magnitude value and the units. **Usage/Examples** • 100 centimetres • 25.5 grams
 QuantityRatio (ISO 21090: RTO)	The relative magnitudes of two *Quantity* values (usually expressed as a quotient). **Usage/Examples** • 25 mg/500 ml • 200 mmol per litre
 QuantityRange (ISO 21090: IVL)	Two *Quantity* 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** • -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** • 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** “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.”
 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** • 01/01/2008 – 31/12/2008 • 1:30 a.m. – 6:00 p.m., duration/width = 16.5 hours

UniqueIdentifier (ISO 21090: II)	A general unique value to identify a physical or virtual object or concept. 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	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. When a condition is met, the data component is considered to be **ESSENTIAL** and **SHALL** be populated. When a condition is not met, the data component may be considered as **PROHIBITED**, or the data component may be considered **OPTIONAL**. **Usage/Examples:** Within a Pathology Result Report, the *Specimen Detail* `data group` is **ESSENTIAL** if the requested test is to be performed on a specimen, otherwise it **SHALL NOT** be populated.

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.) For data groups used in a particular context, the definition **MAY** be a refinement of the generic data group definition.
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.) Implementers **MAY** prefer to use synonymous names to refer to the component in specific contexts.
Scope	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. For example, Medication Instruction (data group) has a scope which includes all prescribable therapeutic goods, both medicines and non-medicines. This attribute is not relevant to data elements or value domains. (Source NEHTA.)
Scope Source	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.

	For example, Street Name has a context of Address. (Source NEHTA.)
Assumptions	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. The valid data types are specified in the Data Types Legend.
Value Domain	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.)

	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. Implementation guides **MAY** contain specific examples for how data elements **SHALL** be populated and how they relate to each other. The Value Domain is applicable only to CodedText and CodeableText data elements.
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

Removed “Data Types in NEHTA Specifications... ” from the list of related documents.
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 Pathology Test 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 two commas (,) to 2.1 Purpose.
Added two commas (,) to the 3rd paragraph of 2.2 Use.
Paragraph structure of 2.2 Use and 2.3 Misuse improved.
Added “is” to the 3rd paragraph of 2.3 Misuse.
Added “of” to the definition of PATHOLOGY TEST RESULT and corrected the case of the synonymous names.
Amended definition, removed synonymous names, added a note, and removed Usage in toto from, SPECIMEN.
Primarily to support the Consolidated View in the PCEHR the following data components (sourced from the openEHR Reference Model) have been added: a. Pathology Test 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. *PATHOLOGY TEST SPECIMEN DETAIL* to SPECIMEN

b. *Result Value* to Individual Pathology Test Result Value (Label: Result Value).

c. *Result Value Normal Status* to Individual Pathology Test Result Value Normal Status (Label: Result Value Normal Status).

d. *Result Comment* to Individual Pathology Test Result Comment (Label: Result Comment).

e. *Reference Range Guidance* to Individual Pathology Test Result Reference Range Guidance (Label: Reference Range Guidance).

f. *Result Value Reference Range Details* to INDIVIDUAL PATHOLOGY TEST RESULT VALUE REFERENCE RANGE DETAILS (Label: Result Value Reference Range Details)

g. *Result Value Reference Range Meaning* to Individual Pathology Test Result Value Reference Range Meaning (Label: Result Value Reference Range Meaning)

h. *Result Value Reference Range* to Individual Pathology Test Result Value Reference Range (Label: Result Value Reference Range).

i. *RESULT GROUP SPECIMEN DETAIL* (Label: Result Specimen Detail) to SPECIMEN (Label: Result Group Specimen Detail).

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

a. Individual Pathology Test Result Value Reference Range from *Quantity* to *Quantity Range*

b. Individual Pathology Test Result Name from *Coded Text* to *Codeable Text*

c. Pathology Test Result Group Name from *Coded Text* to *Codeable Text*

Corrected presentation of examples for:

a. Diagnostic Service

b. Individual Pathology Test Result Name

c. Individual Pathology Test Result Value

d. Individual Pathology Test 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)”.

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

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

Added Test Result Name Values to Pathology Test Result Name.

Replaced text external identifier with an OID in Diagnostic Service Values.

Added Pathology Test Result Name Values to Pathology Test Result Group Name.

Corrected the presentation of the list of permissible values for Pathology Test Result Status Values.

Reworded the note in Individual Pathology Test Result Value to remove term “multimedia images”.

Added Individual Pathology Test Result Value Normal Status Values and amended the definition of Individual Pathology Test Result Value Normal Status in line with the inclusion.
Replaced “which” with “that” and “etc” with “and other such clinical” in INDIVIDUAL PATHOLOGY TEST RESULT VALUE REFERENCE RANGE DETAILS.
Removed the note, included the default value,and amended the list of examples for Individual Pathology Test Result Value Reference Range Meaning.
Added Pathology Test Result Status Values and amended the definition of Individual Pathology Test Result Status in line with the inclusion.
Replaced “'Result group'” with “result group” in SPECIMEN, and removed the erroneous example in the notes.
In Test Result Representation: a. moved the 2nd sentence of the definition to the conditions of use b. corrected “are” to “is” in the 1st paragraph of notes c. corrected “non numerical” to “non-numerical” in the 2nd paragraph of notes d. corrected “single test result report data element” to “single data element” in the 2nd paragraph of notes e. replaced “has chosen to represent” with “represents” in the 2nd paragraph of notes
Inserted “that is” in the definition of Test Comment.
Reworded the notes and replaced “with” with “that has” in the definition of RECEIVING LABORATORY.
Replaced “ID” with “identifier” in the definition and reworded the notes of Requester Order Identifier.
Inserted “the” and removed the comma (,) from the definition of Test Requested Name and added Test Result Name Values.
In Receiver Order Identifier: a. corrected “ID” to “identifier” in the definition b. corrected “Laboratory Information System” to “laboratory information system” in the definition c. corrected all instances of “1nformation” to “information” d. reworded the context e. corrected “Usually” to “usually” in the assumptions
Reworded the notes of Laboratory Test Result Identifier.
Corrected the OID and identifier of Test Procedure and removed a note.
Reworded the notes of INFORMATION PROVIDER.
Replaced “is” with “ **SHALL** be” in the Note of Pathology Test Result DateTime.

Chapter 3 Test Specimen Detail Data Group

Added a sentence identifying the version of the data group.
Corrected formatting of data component names in text throughout the chapter.
Added standard examples text for all data components of type *DateTime*.

Corrected “e.g” to “e.g.” in 3.1 Purpose.
Inserted “the” in 3.2 Use.
Corrected the case of the synonymous names and removed usage in toto from SPECIMEN.
Amended the set of examples in Specimen Tissue Type.
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 f. NEEDLE BIOPSY CORE DETAILS
Corrected presentation of examples for: a. Side b. Numerical Identifier c. Anatomical Plane d. Visual Markings/Orientation
Corrected “Bilalteral” 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.
Corrected “dimenstions” to “dimensions”, removed the second instance of “device”, and added a comma (,) in the definition of PHYSICAL PROPERTIES OF AN OBJECT.
Inserted “the” at the beginning of the definition for: a. Weight b. Diameter c. Circumference d. Length e. Depth f. Volume
Inserted “of the object” in the definition of Breadth.
Replaced the comma (,) with a semi-colon (;) in the definition of Area.
Corrected the definition from specimen to object description and added a misuse statement to Object Description.

Corrected the definition from specimen to object in Image.
Moved examples from the definition to usage in Sampling Preconditions.
In Testing Method: a. inserted a “the” in the definition b. added a comma (,) to the 1st paragraph of notes c. replaced “and/or” with “or” in the 2nd paragraph of notes d. replaced “whole” with “the overall” in the 3rd paragraph of notes
Replaced “handling/processing” with “handling or processing” in the definition of HANDLING AND PROCESSING.
Inserted “the” in the definition of Collection DateTime.
Added a comma (,) to the 2nd paragraph of notes and amended the condition of use to use a normative keyword in Specimen Identifier.
Removed the comma (,) from the definition of Parent Specimen Identifier.

Chapter 4 UML Class Diagram

Chapter 4 removed and the content moved to Chapter 2.

Appendix A Known Issues

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.
Added entries for the definitions of the normal status data components, *Pathology Test Result* `data group`, *Individual Pathology Test Result* `data group` and *Individual Pathology Test Result Value* `data element`.
Added an entry for the reference range details data components.

Appendix B Guide for Use

This appendix has been 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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