Structured Document Template

Pathology Result Report

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Document Information

Acknowledgements

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- Royal Australian College of General Practitioners
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- Australian Institute of Health and Welfare
- Royal College of Pathologists of Australia
- Collaborative Centre for eHealth

Change History

Version	Date	Author	Comments
0.01	2008-06-30	Dean Meston	Initial public release
0.04	2008-08-27	Eleanor Royle	Updates after internal gating process

List of Acronyms

Acronym	Definition
AIHW	Australian Institute of Health and Welfare
ANSI	American National Standards Institute
CII	Clinical Information Initiative
EHR	Electronic Health Record
HL7	Health Level Seven
ICT	Information and Communication Technology
LIS	Laboratory Information System
METeOR	METadata On-line Registry (http://meteor.aihw.gov.au)
NATA	National Association of Testing Authorities
NEHTA	National E-Health Transition Authority
ISO	International Standards Organisation
SEHR	Shared Electronic Health Record
UML	Unified Modelling Language

Glossary

Term	Definition
Healthcare Provider	Any person or organisation who is involved in or associated with the delivery of healthcare to a client, or caring for client wellbeing.
Pathology Report	A set of one or more results and any associated interpretation usually generated in response to a request for pathology. A report may include results previously reported and in some instances results from another request.

Table of Contents

1 Introduction

1.1 Purpose and Scope

This document forms part of a suite of data specifications that NEHTA is developing for the Australian health informatics community. Included within the suite are:

a. specifications that outline data elements designed for storage and capture of clinical information for specific domains,

b. structured document templates for organising these data elements to form clinical communications for a given purpose and

c. interchange formats that bind the structured document template to particular messaging formats.

Pathology is considered to be an integral part of medicine as the speciality delivers a vast amount of clinical information. It is therefore recognised as a priority area for information and terminology development within the NEHTA work program.

The specifications used within the pathology results reporting community form a 'package' which, as delivered by NEHTA, is intended to describe how NEHTA's specifications are to be adopted and used in conjunction with one another and to provide enough supporting material to inform adoption and implementation across the e-health community.

These documents, together with terminologies, are provided as specifications for the content of a clinical information exchange between a pathology laboratory and an authorised clinician; i.e. a Pathology Result Report.

The clinical information specifications for pathology results reporting consist of:

- Structured Document Template - Pathology Results Report [STD-PRR]
- Interchange Format - Pathology Results Report and HL7 v2.4 [IF-PRR]

This document is the Structured Document Template - Pathology Results Report specification. It describes the data elements proposed for use in communicating pathology results.

The Interchange Format specification describes how HL7 can be used to encode and send pathology results data elements between a sender and a recipient.

Together they form one component of a solution proposed for the pathology result reporting community. Other components such as the infrastructure for electronic messaging are covered in alternate specifications.

1.2 Intended Audience

All documentation included in the Pathology Results Report Package is intended to be read and understood by:

1. Software development teams (Vendors - both Laboratory Information Systems and Clinical Information Systems, Jurisdictions)
   a. To plan, architect or implement:
      - clinical applications, infrastructure components or messaging interfaces
      - facilitating semantic interoperability
   b. To support NEHTA-defined terminology in:
      - clinical interfaces and messaging interfaces
      - generating value domains for data elements
      - creating or receiving electronic information exchanges containing clinical content

- writing queries over clinical (EHR) data
- implementing data constraint checks
- designing term mappings

2. IT-aware clinicians
   - To evaluate the clinical suitability of NEHTA-endorsed standards.
3. Researchers
   - To explore certain aspects of NEHTA-endorsed standards.

The documents are reasonably technical in nature and expect the audience to be familiar with the language of health data specifications and have some familiarity with health information standards and specifications such as [HL7 v2.4], and [AS 4700.2 - 2007][1].

1.3 Definition of Pathology Report

A Pathology Report is defined in [AS 4700.2 - 2004][2] as:

"*a set of one or more results and any associated interpretation usually generated in response to a request for Pathology. A report may include results previously reported and in some instances results from another request*".

The essence of a pathology report is the intent and facilitation of transferring pathology information in whole or in part from one healthcare provider or organisation to another healthcare provider or organisation.

The pathology report can take several forms:

- Report from a laboratory to the requesting clinician, whether they be in general practice or hospital setting.
- Report from a reference laboratory to a requesting laboratory, the report may also be sent to the original requesting clinician.
- Report from a laboratory to a shared electronic record.
- Report from a laboratory to a notification system or registry for notifiable or infectious disease.

The common factor is that it is a communication of the results of a pathology investigation(s) on a subject of care.

1.4 Background

1.4.1 Packaged Solution Approach

NEHTA's work program for 2008 - 2009 is focused on the delivery of four 'packages'; i.e solutions for the following domains:

- Pathology
- Discharge Summary
- Referral
- E-Medication Management

The specifications included within a package:

- are consistent with NEHTA's vision for a secure environment which enables the safe exchange of clinical information between health care providers;
- form building blocks, which will drive the incremental development of an electronic information exchange environment that supports the broader e-health community;
- support the concept of a shared electronic health record;

1. All standards and specifications are listed in the Reference section of this document.
2. [AS 4700.2 - 2004], section 4.11, page 9.

- improve interoperability of information exchanged between health organisations;
- improve the quality of information being exchanged; and
- enable industry partners to determine if the specifications meet the requirements of the e-health community through early adoption trials.

1.4.2 Clinical Data Specifications

Data Specifications outline the data elements, which are proposed for use in clinical communications. Some of these data elements require terminology as a value domain which in turn may be drawn from terminology reference sets. Data elements on their own are simply granular pieces of information. Alone they do not provide a great sense of context or meaning. They may be grouped together based on their relationship to one another.

Clinical data specifications have been developed:

- To provide specifications suitable for implementation by end users, i.e. specifications determined by clinicians etc.;
- Specifically to suit the Australian model for shared EHRs;
- To define collections of related information, i.e. event summaries, data groups, data elements;
- In a way that allows for expansion and extension as electronic systems mature;
- To present data specifications in a way that are 'human readable', (with information enhanced by the hierarchical structure);
- To ensure that computer system engineers and vendors can implement the data specifications in a consistent way;
- To incorporate 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.

1.4.3 Structured Document Template

The Structured Document Template outlines the allowable content of the information to be exchanged for a Pathology Result Report and structures the content in a manner that delivers context and meaning. It provides an information framework on which to achieve semantic interoperability, independent of any messaging format.

Figure 1 below shows the relationship of a Structured Document Instance in an EHR environment. The EHR environment in this diagram is essentially a document management system. An instance of a structured document is therefore equivalent to an attested (authorised) document which is uploaded into the EHR.

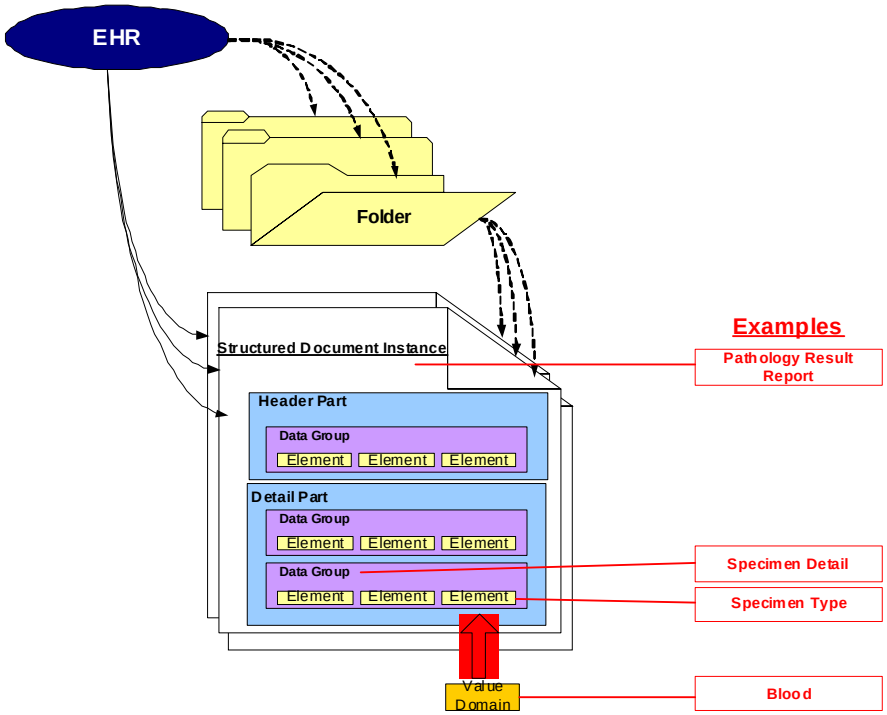

Figure 1 Structured Document Instance in an EHR Environment

While an EHR is referred to in this document, there is no implication of how and when this will be achieved as these issues are being dealt with through other projects.

Whilst it is possible to implement the Structured Document Template using messaging formats that do not support structured documents, doing so may result in some loss of context and meaning. It therefore follows that clinical safety and quality advice should be sought when implementing in a non supporting environment. Specific messaging format implementation guides should be referred to for more information in this respect.

1.5 Document Map

This document is one of a series of documents used for clinical communications within the pathology domain as shown in the document map below.

This document is a structured specification for pathology results reporting and pathology notification reporting. The diagram below demonstrates where this Structured Document Template sits in the pathology results reporting package.

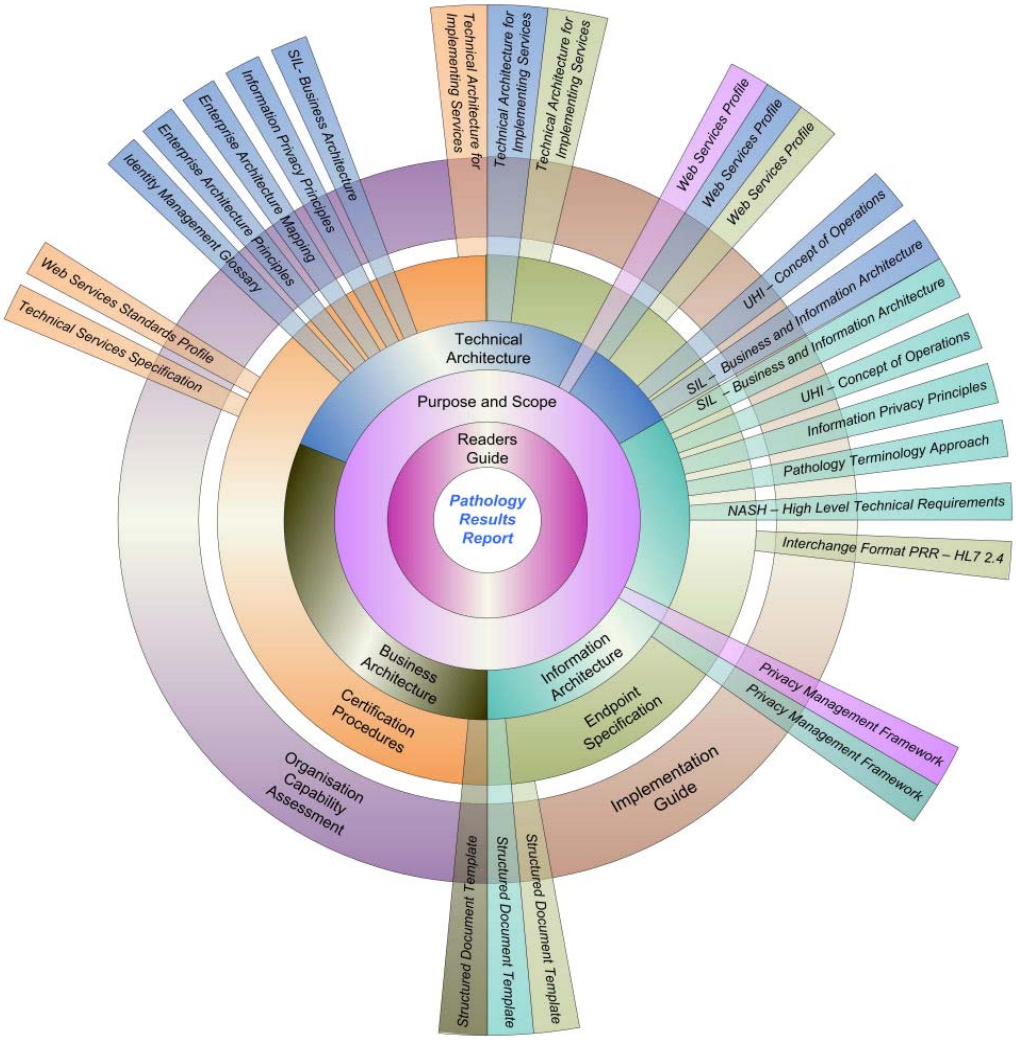

Figure 2 Pathology Domain Document Roadmap

The diagram is a ripple (rather than a target). The Readers' Guide, (which is the highest level overview), is the central ring and the most detailed specifications for implementation are on the outer ring.

Business sponsors and implementers need to read the documents in the inner level to gain an overview of the Pathology Results Reporting solution. Technical developers need to read the detailed documents in the outer level so that they know how to deliver the solution.

The radiating bars show the supporting documentation. So at the bottom of the diagram, you can see the Structured Document template radiating from the two ripples. It has been used as a supporting document for the Business Architecture, Information Architecture and Endpoint Specification documents.

For a description of each document delivered in the package, see the Readers' Guide [PATH-PRR-RG].

1.6 The NEHTA Structured Document Metamodel

The NEHTA Structured Document Template metamodel is used to specify the overall structure of a Structured Document Template. Figure 3 below shows the high level metamodel.

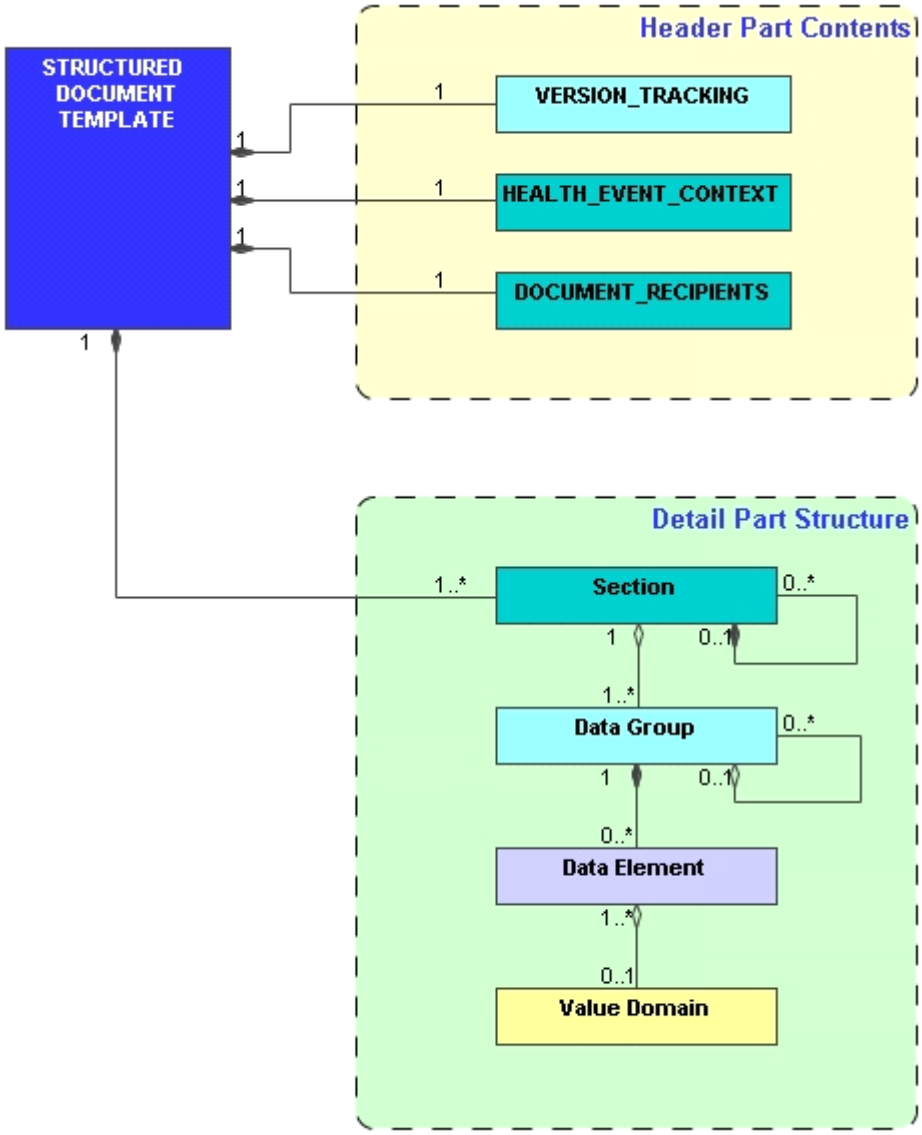

Figure 3 Structured Document Metamodel

There are two main components used to organise the information within a structured document template as follows:

1. Header Part, which always comprises the Version Tracking data group, and a Health Event Context Section and a Document Recipients Section.
2. Detail Part. The information contained within this part changes between different structured document templates, but is always structured as shown, and consists of the following subcomponents:
    - Section
    - Data Group
    - Data Element
    - Value Domain.

These components and subcomponents are described in more detail below. The data groups contained in the Header Part are described later in the document.

1.6.1 Header Part

The purpose of the header is to identify and classify the document and provide information on authentication, the healthcare event that the document relates to, the healthcare client and the involved healthcare providers. It always contains the Version Tracking data group, and a Health Event Context Section and a Document Recipients Section as shown in Figure 3 in all types of NEHTA Structured Document Templates.

1.6.2 Detail Part

The detail contains the clinical report. This is a collection of health information pertinent to a subject of care which is derived from the healthcare event described in the document. The detail may be organised into one or more sections, each of which contain one or more data groups and/or possible data elements.

1.6.3 Section

The contents of the structured document detail part may be subdivided into one or more sections. A section is an organising container. Its purpose is to organise information in the manner that is suitable for the primary purpose for which it is collected and that is useful for navigation by healthcare providers, to give a reader a clue as to the expected content. It should also support safe re-use for secondary purposes. A section also provides a way to navigate through the data items within the structured document, thereby enabling more efficient querying to be made. A section is context specific to the document in which it resides.

1.6.4 Data Group

A data group is a composite data structure (a collection of data groups and/or data elements that can be treated as a single block) for holding related items of information. Values of all the component data elements are often required to provide unambiguous meaning in a given context. A data group 'organises' the data it holds. A data group can only be assigned values through the data elements that are contained within it. A data group is capable of existing independently of the document in which it resides.

1.6.5 Data Element

A data element is the smallest named unit of information in the model that can be assigned a value. Data elements are bound to datatypes (see datatypes in Section 4.3).

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

1.6.6 Value Domain

A value domain constrains the permissible values for a data element. The values may be a subset of values based on a generic datatype.

Value domains are reusable components and therefore, the same value domain can be referred to by different data elements in different contexts. However, it should be noted that many of the reference sets used within this document have been developed specifically for the context in which they appear. An assessment of fitness for purpose should therefore be undertaken before using any of the reference sets in another context.

Value domains constrain by either specifying a lower and/or upper bound on the range of permissible values or else specify 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. Table 1 (below) shows examples of value domains.

Data element	Datatype	Example of Value Domain
Severity	Coded Text	'mild', 'disabling', 'life threatening'
Diagnosis	Codeable Text	a SNOMED CT reference set which references concepts, such as 'Bronchitis' (Concept ID: 32398004)

Table 1 Value Domain Examples

1.7 Using the Structured Document Template

The following sections are included to facilitate an understanding of how the Structured Document Template - Pathology Results Report can be used in pathology reporting.

1.7.1 Intended Use

The Structured Document Template - Pathology Results Report forms the basis of a pathology report. The report is generated by a Laboratory Information System after a pathology test(s) has been completed.

The report conveys results of pathology testing from a specimen collected from the subject of care at a particular point in time to a clinician authorised to receive these results.

1.7.2 Inappropriate Use

The Structured Document Template - Pathology Results Report should not form the basis of a referral. There is a specific Referral Structured Document Template to be used for this purpose.

The template does not specify a particular data formatting protocol to be used to encode the data elements, nor does it specify a communication protocol to send the results report between sender and recipient.

1.8 The Pathology Results Report Generation Processes and Life Cycle

The Pathology Results Report is generated by a Laboratory Information System when the pathology laboratory has completed the necessary testing associated with a request for pathology services on a subject of care.

The results are authorised by a scientist, a pathologist or automated instrumentation, then the report is produced.

The pathology laboratory may cancel the report if there are any detected inaccuracies or problems with the report.

The pathology laboratory may also send an amended report to update results or correct inaccurate results.

The Pathology Results Report is then stored by the requesting clinician for consultation with the subject of care and ongoing health records management.

2 Use Case Documentation

The Use Cases described in this section are used in conjunction with the Structured Document Template - Pathology Results Report (SDT-PRR). Together they provide specifications through which the production of a Pathology Results Report can adhere. The Pathology Results Report is issued by a Laboratory Information System (LIS) to an authorised Clinician. An authorised Clinician is either the Requesting Clinician or a Clinician nominated by the Requesting Clinician on behalf of the Subject of Care.

The Use Cases also cover the possible variations which may occur in the reporting process such as the possibility that the Report may be amended due to further results being made available or following the correction of earlier released results.

The following Use Cases are described here:

- Create Result
- Amend Result
- Receive Result

There are three types of acknowledgement associated with the receipt of a Pathology Results Report:

- Message receipt acknowledgement
- Message processed by receiving system acknowledgement
- Message contents read by a Clinician acknowledgement

The ‘Message receipt acknowledgement’ and the ‘Message processed by receiving system acknowledgment’ is handled through the Web Service architecture described in the NEHTA architecture documentation.[1]

2.1 Structured Document Template Role

Pathology data stored within the Laboratory and Clinical Information Systems must be of sufficient detail that each system can capture, store and retrieve accurate pathology results. The Structured Document Template can assist system developers with the design of these systems by outlining common data terminology and a common data structure.

This role is strengthened by gathering pathology related information into the described structure. This will ensure interoperability between information systems because both sending and receiving systems will have a common understanding of the information that will be transferred between them.

It will also enable increased utilisation of the transferred information by the receiving systems because the information may be placed in the recipient’s Clinical Information System (CIS).

1. For an overview of the different types of documentation, see the NEHTA Readers Guide, [NEHTA-RG] in the References.

2.2 Activity Diagram

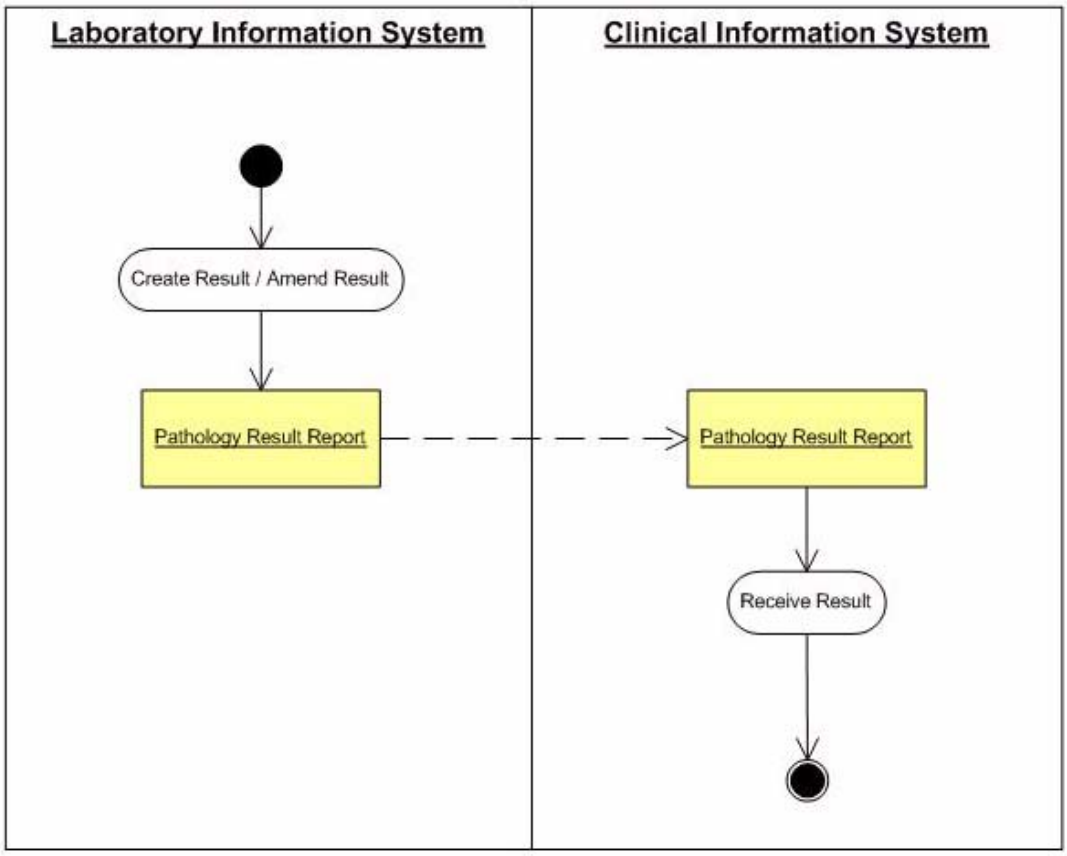

Figure 4 Structured Document Template Activity diagram

2.3 Definitions

Property name	Brief description
Unique identifier	A unique identifier to be used to distinguish the use case from others within the system or project boundary.
Name	The name of the use case.
Brief Description	A brief description of the primary goal, role and purpose of the use case.
Pre-Condition/s	A pre-condition of a use case is a state that must be present prior to a use case being performed.
Triggers	Trigger events are the events that occur which result in the use case being initiated and are distinctly separate from the pre-conditions.
Flow of Events	A stepped granular description of what occurs during the use case (not how specific problems are solved by the system). The description should be understandable by the business user or customer. Where the flow of events become cluttered due to complex behaviour, sub-flows can be used to improve clarity and manage the complexity.

Table 1 Definitions

Property name	Brief description
Alternate Flow of Events	An alternate list of steps which may occur in a use case based on a decision point or transaction that may occur. Alternate flows of the use case may be used when the level of granularity required does not warrant separation of the decision points into separate use cases.
Exceptions	An exception is an event that may occur which will prevent the use case from executing completely. The number and level of detail specified in handling exception points is determined by the level of detail required to be contained in the use case.
Policies	A policy is a special requirement or constraint on the use case. Examples of policy include legal and regulatory requirements, application standards, and quality attributes of the system to be built including usability, reliability, performance or supportability requirements.
Post-Conditions	A post-condition of a use case is a list of possible states the system can be in immediately after a use case has finished.
Extension Points	A list of locations within the flow of events of the use case at which additional behaviour can be inserted using the extend relationship
Relationships	The relationships, such as communicates-associations, include-, generalisation-, and extend-relationships in which the use case participates.
Notes	Any other relevant notes, documents or files which add value to the understanding of the use case.

Table 1 Definitions

2.4 Use Case Actors

2.4.1 Clinical Information System (CIS)

Description:	The information system used by clinicians to support the clinical care of the patient. This system should support functions of receiving pathology results.
Aliases:	GP Desktop Software, Hospital CIS
Inherits:	None
Actor Type:	System, Primary

2.4.2 Laboratory Information System (LIS)

Description:	The information system used by the laboratory worker and pathologist to support the provision of pathology services.
Aliases:	Laboratory System, Pathology System
Inherits:	None
Actor Type:	System, Primary

2.4.3 Laboratory Worker

Description:	An individual who performs pathology investigations analysing specimens within a Laboratory environment and interacts with the LIS to store information necessary for the provision of pathology services and is authorised to create and send Pathology Results Reports.
Aliases:	Scientist, Pathology Staff.
Inherits:	None
Actor Type:	Person, Primary

2.4.4 Clinician

Description:	The individual physician providing care to an Individual.
Aliases:	Specialist, Hospital Doctor, GP, Clinical Pathologist.
Inherits:	None
Actor Type:	Person, Primary

2.4.5 Pathologist

Description:	An individual who reviews pathology investigations of analysed specimens within a Laboratory environment and interacts with the LIS to store information necessary for the provision of pathology services and is authorised to create and send Pathology Results Reports.
Aliases:	May be domain specific; e.g Haematologist, Microbiologist, Anatomical Pathologist, Immunologist, Cystopathologist, Chemical Pathologist etc.

Inherits:	Clinician
Actor Type:	Person, Primary

2.4.6 Requester

Description:	A Clinician who has requested a pathology investigation/s for an individual, results of which will be used in the clinical care of the individual.
Aliases:	Requesting Doctor, Requesting Clinician.
Inherits:	Clinician
Actor Type:	Person, Primary

2.5 Use Case - Create Result

Unique Identifier	UC-SDTPRR-1
Brief Description	Information from a LIS is used in conjunction with Terminology to populate Data Elements in conformance with the SDT-PRR to create one or more Results Reports from pathology investigations.
Pre-Condition/s	The LIS is capable of creating an electronic message which complies with the SDT-PRR.
Trigger/s	Initiated by a Laboratory Worker during or at the completion of pathology testing on a received specimen from a Subject Of Care.
Flow of Events	1. The Laboratory Worker creates the report after the pathology tests have been performed. 2. The Laboratory Worker uses existing processes within the LIS to initiate a Pathology Results Report. 3. The pathologist authorises the Pathology Results Report. 4. The LIS creates a message suitable for electronic communication, based on the SDT-PRR and the Interchange Format - Pathology Results Report (IF-PRR). 5.The electronic communication containing the pathology report is transferred to a CIS for processing.
Alternate Flow of Events	
Exception/s	
Policy/ies	
Post-Condition/s	The CIS is capable of receiving and processing the message generated by the LIS
Extension Point/s	Amend Result
Relationship/s	
Note/s	

2.5.1 Use Case Diagram

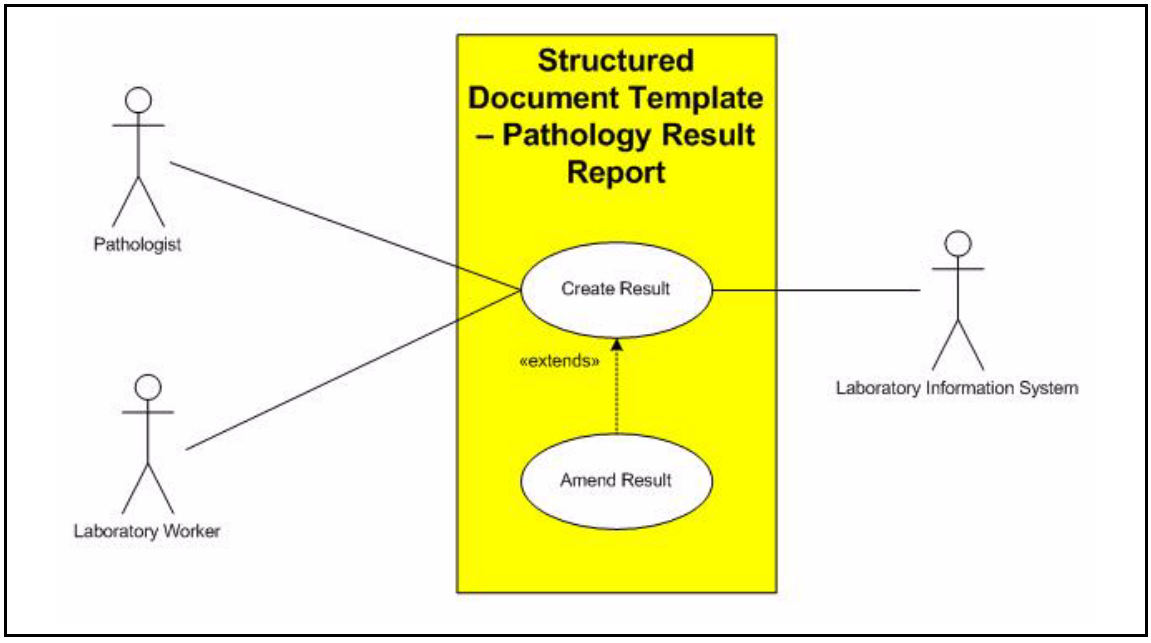

Figure 5 Use Case: Create Result; Amend Result

2.5.2 Use Case - Amend Result

Unique Identifier	UC-SDTPRR-2
Brief Description	An LIS is used to amend pathology results and generate and send an amended Pathology Results Report message which complies with the SDT-PRR and IF-PRR.
Pre-Condition/s	The LIS has functionality to amend existing results and is capable of creating an electronic message which complies with the SDT-PRR.
Trigger/s	Results are amended in a LIS by the laboratory worker or pathologist and requires information to be transferred to a CIS.
Flow of Events	1. Pathology results are amended within the LIS. 2. The LIS creates an electronic message detailing the information and transfers this information to the CIS / Notification Information System.
Alternate Flow of Events	
Exception/s	
Policy/ies	
Post-Condition/s	
Extension Point/s	
Relationship/s	
Note/s	

2.5.3 Use Case Diagram

Refer to Figure 5 on page 20

2.6 Use Case - Receive Result

Unique Identifier	UC-SDTPRR-3
Brief Description	Information transferred from a LIS is processed by the CIS.
Pre-Condition/s	The CIS has the functionality to process and store result messages which comply with the SDT-PRR and IF-PRR.
Trigger/s	An electronic pathology result is received in the CIS for processing.
Flow of Events	1. Electronic message detailing a pathology result is received. 2. Information processed by the receiving system.
Alternate Flow of Events	
Exception/s	
Policy/ies	
Post-Condition/s	
Extension Point/s	
Relationship/s	
Note/s	

2.6.1 Use Case Diagram

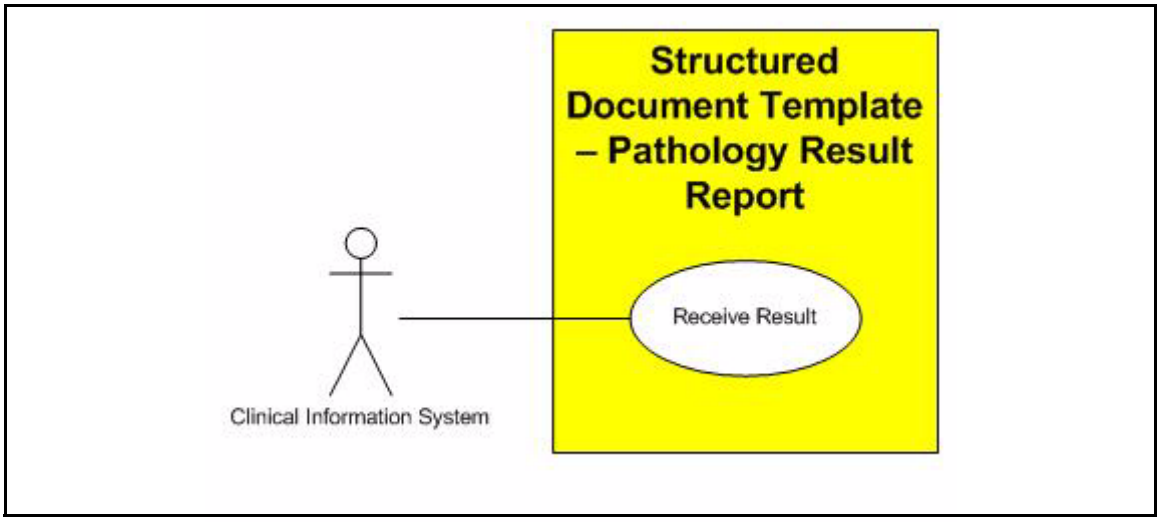

Figure 6 Use Case: Receive Result

3 UML Diagrams

The following pages contain stylised UML class diagrams that represent the standardised content for a Pathology Results Report.

3.1 About the UML Diagrams

In a number of cases, relationships are not explicitly represented in the diagram. Instead, they appear as attributes of 'type' Version Tracking, Health Event Context, Pathology Report To and Pathology Episode, where separate class diagrams express the structure of these types. In addition to the NEHTA data specifications published in PDF format, the UML models are also documented in a browseable HTML format[1], allowing readers to move seamlessly from one information model to another.

3.2 Pathology Results Report UML Legend

Note that all participants in this specification are reuses of the two data groups defined in the Participant Data Group Specification. This specification is based on A54846 and AS5017.

3.3 Pathology Result Report - High Level Overview

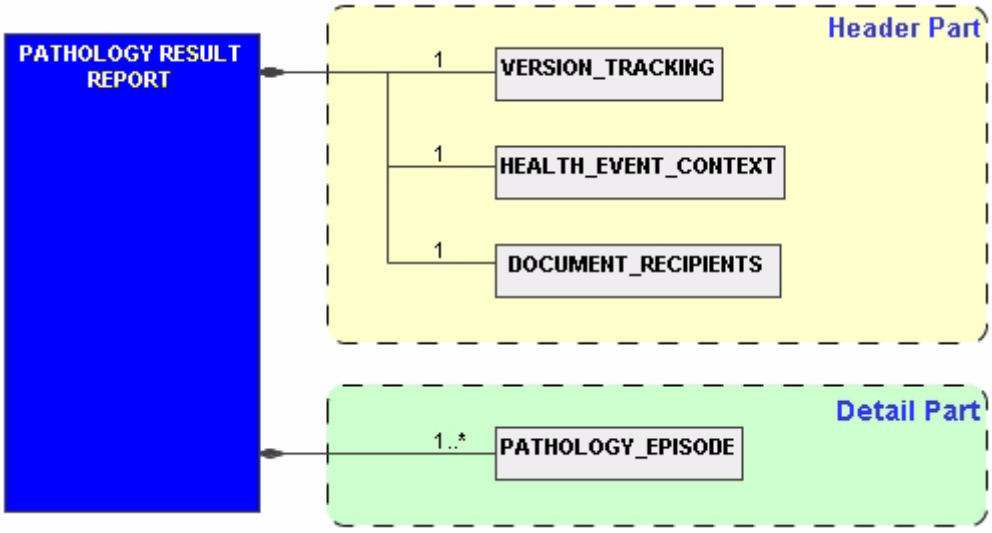

Figure 7 Pathology Result Report - High Level Overview

1. The browseable UML Models are available in the NEHTA Data Group Library [NEHTA-LIB].

3.4 Pathology Episode

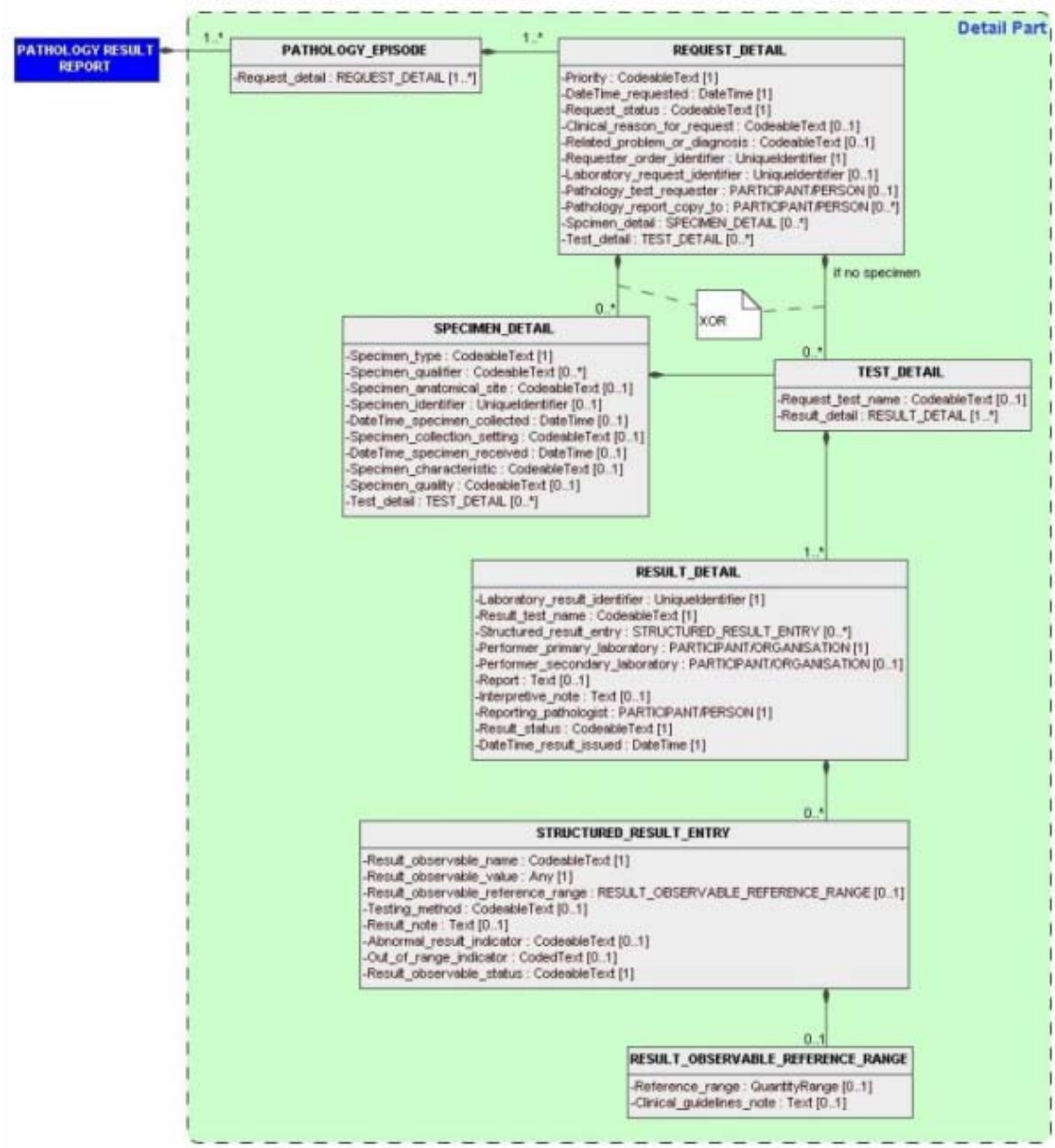

Figure 8 Pathology Episode

3.5 Pathology Result Report

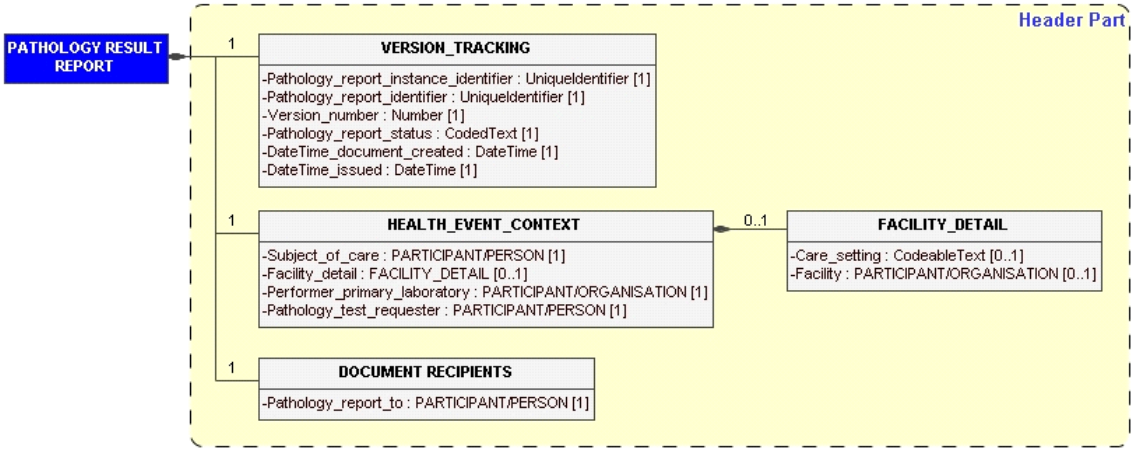

Figure 9 Pathology Result Report

3.6 Participant

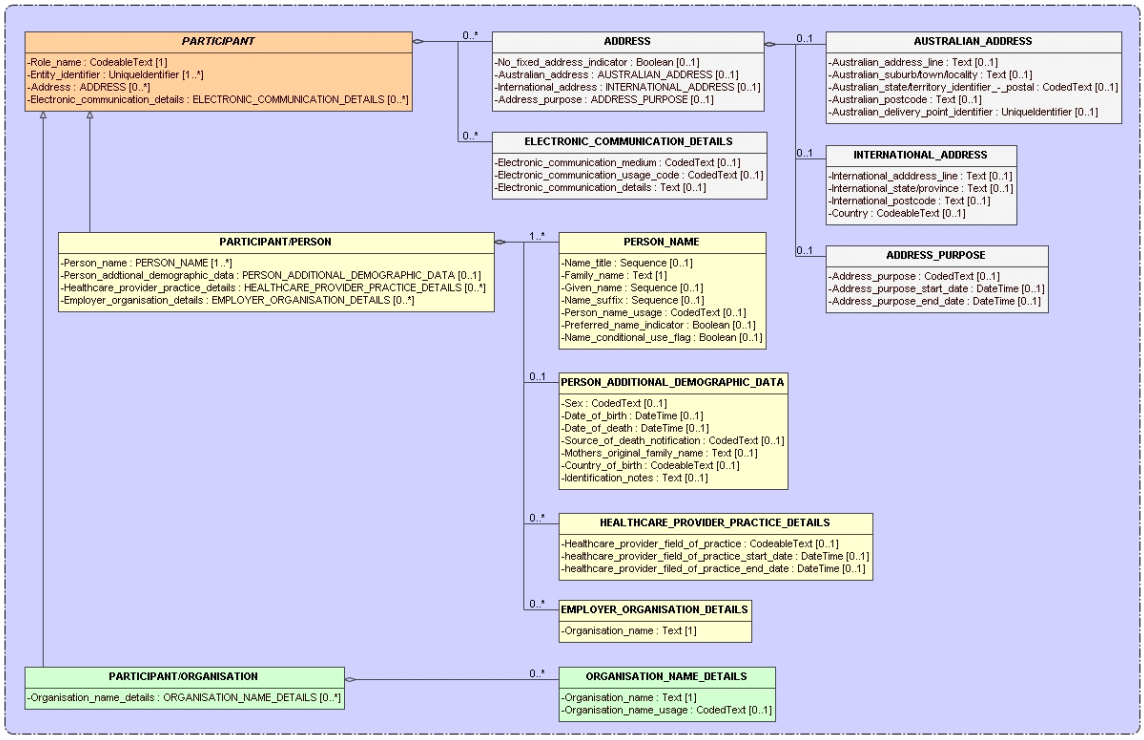

Figure 10 Participant

4 Data Specifications Icon Legend

4.1 Obligation Legend

Essential: !	Indicates that the data item is considered to be a core component of information and required in order for the entry to make sense, e.g. Alert without an Alert description does not make sense.
Desirable: ✓	Indicates that the data item is considered worthy of being supplied where the data is known. The data item is deemed important in terms of providing additional or supplementary information in conjunction with essential data items. The data item should be supplied to provide as much context as possible for users to make informed decisions and/or to support various implementation requirements such as efficient indexing, querying and electronic decision support.
Optional: 0	Indicates that the data item may be supplied if required within a context and if the data is available, but it is not necessary for the data entry to make sense. It is recognised that for more complex or specialised healthcare provider settings, some items deemed optional may be viewed essential to them.
Conditional: *a→b*	Indicates that the data item is required on the condition of some other data item(s) being supplied, or based on the value(s) of another data item(s).

Table 2 Obligation Legend

4.2 Metadata Types Legend

Icon	Metadata types
	Structured Document
	Section
	Packages
	Data Group
	Data Element
	Value Domain

Table 3 Metadata Types

*NOTE: See 1.6 for explanation of each of these metadata types.

4.3 Datatypes Legend

Icon	Datatype	Explanation
T	Text	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).
T010	Coded Text	Coded text *without* exceptions; text with code mappings.
T/T010	CodeableText	Coded text with exceptions; flexible datatype to support various ways of holding text, both free text and coded text.
	DateTime	Used for specifying a single date and/or time. Has the ability to indicate a level of precision, as well as an indication that the date/time is estimated. String representations of known dates should conform to standard [ISO 8601- 2004].
	Duration	The period of time during which something continues. **Usage / Examples** (1) 3 hours (2) 6 months (3) 1 year
123	Integer	Integer is the mathematical datatype comprising the exact integral values (according to ISO 11404). **Usage / Examples** (1) 1 (2) 50 (3) 125
010	Real Number	The real datatype is a computational approximation to the standard mathematical concept of real numbers. These are often called floating point numbers. **Usage / Examples** (1) 1.075
	Boolean	A value of true or false. **Usage / Example** Example (1) An actual value entered by the user might be 'yes' or could be chosen by a mouse click on an icon such as ☑

Table 4 Datatypes Legend

Icon	Datatype	Explanation
ID	UniqueIdentifier	A general unique identifier to identify a physical or virtual object or concept.
	TimeInterval	Two Date/Time values that define the initial and later points in time. **Usage / Examples** Example (1) 12:00 – 18:00. Example (2) 1:30 a.m. – 6:00 p.m.
	Quantity	Used for recording many real world measurements and observations. Provides not only for a magnitude value to be recorded, but also for units and precision. **Usage / Examples** Example (1) 100 centimetres Example (2) 25.5 grams
	QuantityRange	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. **Usage / Examples** Example (1) Temperature range of -20 to 100 °C Example (2) 30-50 mg of a prescribed drug.
	EncapsulatedData	Used to specify how to supply metadata such as the type of data encapsulated (such as JPEG images, HTML, etc. using RFC 1521 MIME types), whether the data is in-line or passed by reference, what character set is used to encode the data, any low resolution 'thumbnail' representation included, any compression algorithm or integrity check information included.
	Link	This is a general link, reference or pointer to an object, data, or application that exists logically or stored electronically in a computer system. **Usage / Examples** Example (1) 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'*. Example (2) An absolute or relative path within a file/ directory structure – e.g. in Windows operating system, the 'link' or absolute path to a particular letter (Word document) may be - *'C:\Documents and Settings\guestUser\My Documents\Letter.doc'*.

Table 4 Datatypes Legend

Icon	Datatype	Explanation
A/B	Ratio	The relative magnitudes of two Quantity values (usually expressed as a quotient). **Usage / Examples** Example (1) 60 kms per hour Example (2) 200 mls : 1 litre
any	Dynamic	Represents a data element where no specific datatype can be specified. The values that can be required will vary considerably depending on the context e.g. Result Observable Value in Pathology Results Report.
a,b,c...	Sequence	Ordered collection of items. **Usage / Example** Example (1) A person's given names, e.g. 'David Phillip Andrew' would be held as 3 items grouped in order to form a single entity.
{b,a,c..	Set	Unordered collection of items with values that must be unique within the set.
	Participant	Note - this is not a data type but is included here to explain the icon. The participant data group exists to define the individuals and organisations who are operating within a defined healthcare domain and the roles that they are playing within that domain. It also provides relevant supporting demographic information. The participant data group is used extensively throughout all NEHTA Structured Document Templates (SDT).

Table 4 Datatypes Legend

*NOTE: For further detail on these datatypes refer to the DataTypes in NEHTA Specifications document.

4.4 Other Legend

Icon	Explanation
	'Choice data group' - a single data group to be chosen from a set of data groups. Data groups of the same hierarchical depth within a hierarchical data group that make up a 'choice set' are indicted using this icon.
	Multiple occurrence.**
	Externally sourced specification.
	Externally sourced Data Group specification.

Table 5 Other Legend

**NOTE: All data items are considered optional unless otherwise categorised.

5 Data Hierarchy

The Data Hierarchy provides a visual representation of the content and locigcal layout of the entire document. Individual data elements associated with participants are not displayed in the data hierarchy providing a more easily read overview. Individual data elements and their hierarchical structure can be found in the *Data Specification - Participant* document.

5.1 Pathology Result Report Header

PATHOLOGY RESULT REPORT

PATHOLOGY RESULT REPORT HEADER

VERSION TRACKING !

ID Pathology Report Instance Identifier !

ID Pathology Report Identifier !

123 Version Number !

T010 Pathology Report Status !

DateTime Document Created !

DateTime Issued !

HEALTH EVENT CONTEXT !

SUBJECT OF CARE (PARTICIPANT.PERSON) !

FACILITY DETAIL ✓

T/T010 Care Setting ✓

FACILITY (PARTICIPANT.ORGANISATION) 0

PERFORMER PRIMARY LABORATORY (PARTICIPANT.ORGANISATION) !

PATHOLOGY TEST REQUESTER (PARTICIPANT.PERSON) !

DOCUMENT RECIPIENTS !

PATHOLOGY REPORT TO !

5.2 Pathology Result Report Detail

PATHOLOGY RESULT REPORT DETAIL				
PATHOLOGY EPISODE				! ↻
REQUEST DETAIL				! ↻
T/T010 Priority				!
DateTime Requested				!
T/T010 Request Status				!
T/T010 Clinical Reason For Request				✓
T/T010 Related Problem Or Diagnosis				✓
ID Requester Order Identifier				!
ID Laboratory Request Identifier				✓
PATHOLOGY TEST REQUESTER (PARTICIPANT.PERSON)				0
PATHOLOGY REPORT COPY TO (PARTICIPANT.PERSON)				0 ↻
SPECIMEN DETAIL				✓ ↻
T/T010 Specimen Type				!
T/T010 Specimen Qualifier				a→b ↻
T/T010 Specimen Anatomical Site				a→b
ID Specimen Identifier				a→b
DateTime Specimen Collected				✓
T/T010 Specimen Collection Setting				0
DateTime Specimen Received				✓
T/T010 Specimen Characteristic				0
T/T010 Specimen Quality				0
TEST DETAIL				a→b ↻
TEST DETAIL (IF NO SPECIMEN)				a→b ↻

- Request Test Name — !
- RESULT DETAIL — ! ↷
  - ID Laboratory Result Identifier — !
  - Result Test Name — !
  - STRUCTURED RESULT ENTRY — 0 ↷
    - Result Observable Name — !
    - any Result Observable Value — !
    - RESULT OBSERVABLE REFERENCE RANGE — 0
      - Result Observable Reference Range — 0
      - Clinical Guideline Note — 0
    - Testing Method — ✓
    - Result Note — 0
    - Abnormal Result Indicator — ✓
    - Out Of Range Indicator — ✓
    - Result Observable Status — !
  - PERFORMER PRIMARY LABORATORY (PARTICIPANT.ORGANISATION) — !
  - PERFORMER SECONDARY LABORATORY (PARTICIPANT.ORGANISATION) — 0
  - Report — 0
  - Interpretive Note — 0
  - REPORTING PATHOLOGIST (PARTICIPANT.PERSON) — !
  - Result Status — !
  - DateTime Result Issued — !

6 Data Specifications

6.1 PATHOLOGY RESULT REPORT

Identification

Name	PATHOLOGY RESULT REPORT
Metadata Type	Structured Document
Identifier	ES-32001
Version	1.0

Definition

Definition	The logical structure and allowable content of the information to be exchanged to communicate the results of one or more pathology episodes. A pathology episode is defined as one or more requested pathology tests, where the request meets the following conditions: • It was directed to a single primary performing laboratory (does not exclude the ability for this lab to forward a component of the request to a secondary laboratory) • From a unique requestor (who must be a healthcare provider - individual) • For a unique patient • The request was made at a single point in time (this does not exclude the ability to modify the request at a later point in time but does mean that a later request to the same lab from the same requestor for the same patient which is not specifically sent through as an amendment to the initial request will result in a different pathology result report).
Definition Source	
Synonymous Names	Pathology Report; Results Report.
Notes	This version of the Pathology Results Report is limited to the pathology reporting from a laboratory to an authorised clinician. An authorised clinician may be the clinician who requested the pathology service on behalf of the subject of care, or it may be a clinician nominated by the requesting clinician.
Notes Source	

Hierarchical Structure

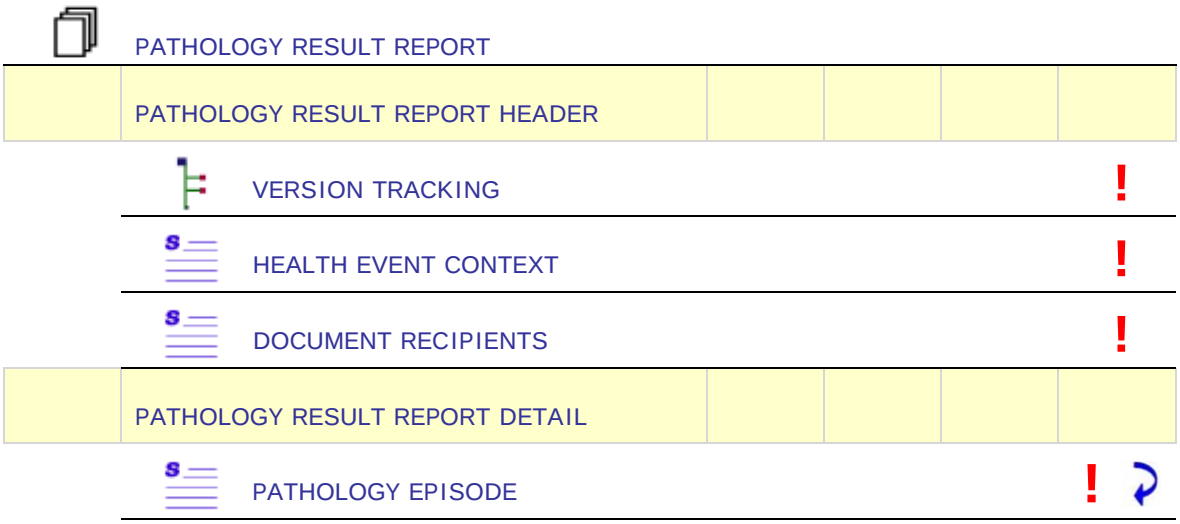

Figure 11 Hierarchical Structure of PATHOLOGY RESULT REPORT

Usage

Conditions of Use	Sent by a Laboratory Information System to notify an authorised clinician of the results of a pathology service. The report contains all of the relevant information required to interpret the results as the laboratory intended.
Conditions of Use Source	
Misuse	Using the Pathology Results Report as a notification to a registry.

Relationships

Children

Type	Name	Version	Obligation	Condition	Occurrence
	VERSION TRACKING	1.0	Essential		1
	HEALTH EVENT CONTEXT	1.0	Essential		1
	DOCUMENT RECIPIENTS	1.0	Essential		1
	PATHOLOGY EPISODE	2.0	Essential		1..*

Message Mapping

Source	Name
HL7 V2.4	A Pathology Result Report is constructed in HL7 V2.4 using the Pathology Observation Report Message (OUL ^R21^ OUL-R21)

6.2 VERSION TRACKING

Identification

Name	VERSION TRACKING
Metadata Type	Data Group
Identifier	DG-20201
Version	1.0

Definition

Definition	A data group that holds information that can be used in healthcare settings for correct identification and tracking of different versions of a Pathology Result Report that belong to the same logical set.
Definition Source	
Synonymous Names	
Notes	A Pathology Result Report may evolve over time after its initial creation. For example, interim results may be released and new content may be added as new results become available. There may also be a need to amend information in previously compiled reports when discrepancies between the documented contents and facts are discovered. When a new version of the Pathology Results Report is generated it needs to be correctly linked to the previous version(s) to enable grouping into a logical set. This functionality is provided by three member data elements of this data group, as follows: • **Pathology Report Instance Identifier** - a unique identifier for every **instance** of the pathology results report as it moves through its life-cycle of creation, amendments, finalisation and distribution of the document in its various states to different recipients. It is assigned by the Laboratory Information System responsible for compiling and sending the pathology results report. It is assigned at the point of attestation of the document and therefore changes whenever the version number changes • **Pathology Report Identifier** - a unique identifier for the pathology result report regardless of its current state or recipient. This identifier stays the same through the report life-cycle of creation, amendments, finalisation and distribution of the document in its various states to different recipients. It is assigned by the Laboratory Information System responsible for compiling and sending the pathology results report.

Notes cont	• **Version Number** - a number used to differentiate between and order the revisions of a single pathology results report. This number increments as the contents of the report changes during its life-cycle. It is assigned by the Laboratory Information System responsible for compiling and sending the pathology result report. When used with the pathology report identifier it enables the retention of multiple copies of the pathology results report which are numbered appropriately. The remaining three member data elements (report status, datetime document created, datetime issued) provide information to support the functionality.
Notes Source	

Hierarchical Structure

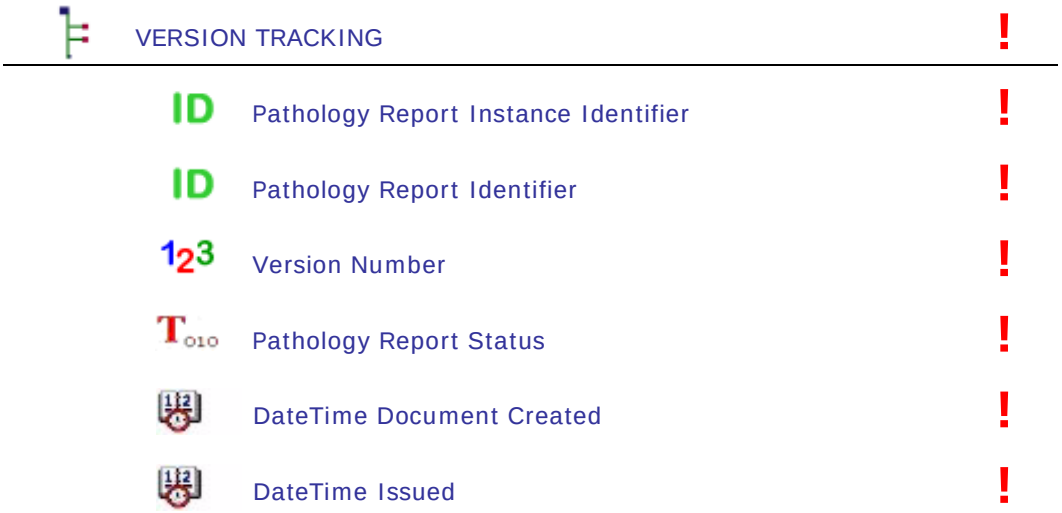

Figure 12 Hierarchical Structure of VERSION TRACKING

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	PATHOLOGY RESULT REPORT	1.0	Essential		1

Children

Type	Name	Version	Obligation	Condition	Occurrence
ID	Pathology Report Instance Identifier	1.0	Essential		1
ID	Pathology Report Identifier	1.0	Essential		1
123	Version Number	1.0	Essential		1
T010	Pathology Report Status	1.0	Essential		1
	DateTime Document Created	1.0	Essential		1
	DateTime Issued	1.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	Generally maps to MSH segment, although not all data elements can be represented

6.3 Pathology Report Instance Identifier

Identification

ID

Name	Pathology Report Instance Identifier
Metadata Type	Data Element
Identifier	DE-32039
Version	1.0

Definition

Definition	Unique identifier of an instance of a Pathology Results Report.
Definition Source	
Synonymous Names	Pathology Results Report Instance ID
Notes	Required for shared electronic health records/clinical information systems. A Pathology Results Report can have multiple instances as it passes through its life cycle of creation, revisions before it is first sent, and revised versions after it is first sent. The value of this data element enables systems to identify all instances of a Pathology Results Report uniquely, thus enabling efficient storage, query and audit trail of Pathology Results Report information about a subject of care. Note - this data element is intended for machine/system use only and hence need not be displayed on Pathology Results Reports. For use in the healthcare setting. It is recommended that the Pathology Results Report Instance Identifier value should be globally unique. The global uniqueness value of this Identifier can be achieved by concatenating the Pathology Report Identifier and Version Number.
Notes Source	
Datatype	UniqueIdentifier

Usage

Conditions of Use	To be used for system identification of Pathology Results Report instances.
Conditions of Use Source	
Misuse	Use of identifier for any other purposes.

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	VERSION TRACKING	1.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	No equivalent concept. Note - The Pathology Report Instance ID **is not equal to** MSH-10 Message Control ID as it is possible to send the same attested document multiple times. Can be inferred from MSH-13.

6.4 Pathology Report Identifier

Identification

ID

Name	Pathology Report Identifier
Metadata Type	Data Element
Identifier	DE-32038
Version	1.0

Definition

Definition	Unique identifier for the Pathology Results Report regardless of its current state or recipient.
Definition Source	
Synonymous Names	Set Identifier
Notes	Used in healthcare setting. Different versions of a Pathology Results Report related to a single pathology request may be generated. For example, new information may be added or contents may be changed after a Pathology Results Report has been sent. The Report Identifier value allows different versions of the Pathology Results Report to be logically grouped together as an integral set. This identifier stays the same through the report life-cycle of creation, amendments, finalisation and distribution of the document in its various states to different recipients. It is assigned by the Laboratory Information System responsible for compiling and sending the Pathology Result Report. The Pathology Report Identifier must be globally unique. Global uniqueness can be achieved through the use of a DCE UUID, or an Object Identifier (OID).
Notes Source	
Datatype	UniqueIdentifier

Usage

Conditions of Use	To be used for system identification of Pathology Result Report.
Conditions of Use Source	
Example/s	**1) XML:**<example xsi:type="II" root ="2.16.840.1.113883.19.5.34" extension="2345344" reliability="ISS" scope="OBS"/> **2) HL7 V2.4:**I 2.16.840.1.113883.19.5.34.2345344I

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	VERSION TRACKING	1.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	MSH-13: Sequence Number <NM> (concatenated with Version Number)

6.5 Version Number

Identification

Name	Version Number
Metadata Type	Data Element
Identifier	DE-32042
Version	1.0

Definition

Definition	Unique identifier of a version of Pathology Results Report which differentiates it from other versions within the same Pathology Results Report set.
Definition Source	
Synonymous Names	Pathology Results Report Version Number
Notes	It is common that different versions of a Pathology Results Report are authored and released. For example, a result report may be sent as interim report containing the results that are available at a particular point in time. A subsequent report will be issued replacing the interim report at a later stage. Report amendments may also be made. The Pathology Report Identifier allows different versions of a Pathology Results Report to be linked together for tracking and medico-legal purposes. The Version Number is used to uniquely identify each version of the Pathology Results Report document that belongs to the same set. The value of the Version Number is generated manually or automatically by algorithmic process, and is available for use within manual and/or an electronic system. The Pathology Results Report Version Number value should be unique within each Pathology Results Report set.
Notes Source	
Datatype	Integer

Usage

Conditions of Use	To be used for identification of versions of released Pathology Results Reports.
Conditions of Use Source	
Example/s	1) Version No = 1 2) Version No = 2
Misuse	Use of identifier for any other purposes.

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	VERSION TRACKING	1.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	MSH-13: Sequence Number <NM> (concatenated with Version ID)

6.6 Pathology Report Status

Identification

Name	Pathology Report Status
Metadata Type	Data Element
Identifier	DE-20404
Version	1.0

Definition

Definition	The status of the Pathology Results Report, in relation to itself and to other Pathology Results Reports within the same Pathology Results Report set.
Definition Source	
Synonymous Names	Report status
Notes	A document/package of information may assume different status values during and after the process of creation. In the context of a Pathology Results Report, its status in relation to previously created reports within the same Pathology Results Report set has critical clinical and medico-legal importance. For example, if a Pathology Results Report is first created and it is complete the status would be Final. Another status may be Interim in the case of a report that contains incomplete results or Amended in the case of a report that contains corrected information.
Notes Source	
Datatype	Coded Text
Value Domain	TBA

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) Final 2) Interim 3) Amended
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	VERSION TRACKING	1.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	No equivalent HL7 concept for the Report Status. Status is mapped at the OBR and OBX level for individual requests and results.

6.7 DateTime Document Created

Identification

Name	DateTime Document Created
Metadata Type	Data Element
Identifier	DE-32013
Version	1.0

Definition

Definition	The date or date and time in which the Pathology Results Report was originally created in the Laboratory Information System (ie; came into being).
Definition Source	
Synonymous Names	Report created date
Notes	The purpose of this data element is to convey information regarding the time and date in which a Pathology Results Report was created by the Laboratory Information System. For a Pathology Results Report this may be defaulted to the Specimen Collected DateTime.
Notes Source	
Datatype	DateTime

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	**1) User Interface Display:** 31/03/2004 13:10 **2) HL7 V2.4:** | 200403311310 |
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	VERSION TRACKING	1.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	No equivalent concept.

6.8 DateTime Issued

Identification

Name	DateTime Issued
Metadata Type	Data Element
Identifier	DE-32014
Version	1.0

Definition

Definition	The date or date and time in which the specific version of the Pathology Result Report was attested (authorised).
Definition Source	
Synonymous Names	
Notes	The purpose of this data element is to convey information regarding the time and date in which the specific version of the Pathology Result Report was attested by the Laboratory Information System. This date will be different between different versions of the report but remains consistent within a version.
Notes Source	
Datatype	DateTime

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) 31/03/2004 13:45
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	VERSION TRACKING	1.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	No equivalent concept.

6.9 HEALTH EVENT CONTEXT

Identification

Name	HEALTH EVENT CONTEXT
Metadata Type	Section
Identifier	DG-20202
Version	1.0

Definition

Definition	A data group that associates context specific information about a healthcare event/encounter or clinical interaction that describes the participant(s) in the event, including the nature of the clinical event/interaction, and the date and time of the event
Definition Source	
Synonymous Names	Visit Context; Encounter Context
Notes	Data elements/groups included within this data group provide information mainly about the subject of care and provider identification that is specific to the context of a healthcare event/ visit. They are not intended to carry clinical information. This is a data group for grouping contextually related data groups/ elements that are displayed within the beginning (header) sections of the Pathology Result Report. This data group name is not intended for display on a Pathology Result Report, but it is used as a grouping category in this specification template. For a Pathology Result Report, the health event context contains information about where the report was compiled.
Notes Source	

Hierarchical Structure

HEALTH EVENT CONTEXT	!
SUBJECT OF CARE (PARTICIPANT.PERSON)	!
FACILITY DETAIL	✓
PERFORMER PRIMARY LABORATORY (PARTICIPANT.ORGANISATION)	!
PATHOLOGY TEST REQUESTER (PARTICIPANT.PERSON)	!

Figure 13 Hierarchical Structure of HEALTH EVENT CONTEXT

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	Details of clinical information about a subject of care specific to a particular healthcare event/encounter

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	PATHOLOGY RESULT REPORT	1.0	Essential		1

Children

Type	Name	Version	Obligation	Condition	Occurrence
	SUBJECT OF CARE (PARTICIPANT .PERSON)	1.0	Essential		1
	FACILITY DETAIL	1.0	Desirable		1
	PATHOLOGY TEST REQUESTER	2.0	Essential		1
	PERFORMER PRIMARY LABORATORY (PARTICIPANT .ORGANISATION)	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	Maps to components of PID, PV1 and MSH segments

6.10 SUBJECT OF CARE

Identification

Name	SUBJECT OF CARE (PARTICIPANT.PERSON)
Metadata Type	Data Group (reuse of Participant.Person, please refer to the *Data Specification - Participant* for more detail).
Identifier	DG
Version	1.0

Definition

Definition	Details pertaining to the identification of the healthcare client (subject of care) who is the subject of the pathology results report.
Synonymous Names	Healthcare Client Individual
Notes	For full descriptions of the entire data hierarchy for a participant, including data element definitions and value domains, refer to the Participant Data Specification.

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	HEALTH EVENT CONTEXT	1.0	Essential		1

Children

Type	Name	Condition
T/T010	Role name	Role-name.description="Subject of care"
	ENTITY IDENTIFIER	**Must** contain the unique identifier used by the test requester to reference the subject of care. **Must** contain the identifier used by the performer primary laboratory to reference the subject of care. **Should** contain the subject of care's IHI if available.
	ADDRESS	**Must** contain an address for the subject of care and the address type. Preference is for the normal residential address to be given. **May** contain postal addresses.
	ELECTRONIC COMMUNICATION DETAILS	Not required.
	PERSON-NAME	**Must** contain name details (family name and given names).
	PERSON ADDITIONAL DEMOGRAPHIC DATA	**Must** contain the following details: • Date of birth • Sex
	HEALTHCARE PROVIDER PRACTICE DETAILS	Not permitted.
	EMPLOYER ORGANISATION DETAILS	Not permitted.

Message Mapping

Source	Name
HL7 V2.4	PID (Patient Identification Segment - entire)

6.11 FACILITY DETAIL

Identification

Name	FACILITY DETAIL
Metadata Type	Data Group
Identifier	
Version	1.0

Definition

Definition	A Data Group which contains details of the location of the patient and the context of the attendance at the time the specimen was collected.
Definition Source	
Synonymous Names	
Notes	Included to provide context to the reason for the pathology request.
Notes Source	

Hierarchical Structure

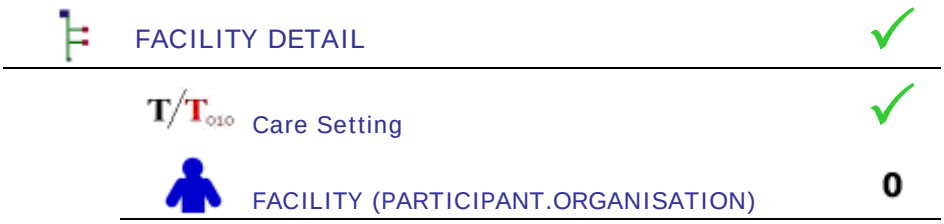

Figure 14 Hierarchical Structure of FACILITY DETAIL

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	HEALTH EVENT CONTEXT	1.0	Desirable		0..1

Children

Type	Name	Version	Obligation	Condition	Occurrence
T/T010	Care Setting	1.0	Desirable		0..1
	FACILITY (PARTICIPANT .ORGANISATION)	1.0	Optional		0..1

Message Mapping

Source	Name
HL7 V2.4	Maps to PV1 segment

6.12 Care Setting

Identification

Name	Care Setting
Metadata Type	Data Element
Identifier	DE-20411
Version	1.0

Definition

Definition	The broad category which defines where the patient was located at the time the specimen was collected.
Definition Source	
Synonymous Names	Healthcare Provider Organisation Service Type
Notes	
Notes Source	
Datatype	CodeableText
Value Domain	TBA

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) Accident and Emergency 2) ICU Ward
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	FACILITY DETAIL	1.0	Desirable		0..1

Message Mapping

Source	Name
HL7 V2.4	PVI-2: Patient Class <IS>
HL7 CDA	Clinical Document.componentOf EncompassingEncounter.code

6.13 FACILITY

Identification

Name	FACILITY (PARTICIPANT.ORGANISATION)
Metadata Type	Data Group (reuse of Participant.Organisation, please refer to the *Data Specification - Participant* for more detail).
Identifier	DG-32005
Version	1.0

Definition

Definition	Details pertaining to the identification of a Healthcare Organisation/Facility which is involved in or associated with the delivery of healthcare services to the subject of care, or caring for his/her wellbeing.
Definition Source	
Synonymous Names	Healthcare Provider Organisation; Healthcare Facility; Facility Details
Notes	For use in the healthcare setting. Captures identification of Healthcare Provider Organisation / Facility. For full descriptions of the entire data hierarchy for a participant, including data element definitions and value domains, refer to the Participant Data Specification.
Notes Source	

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	FACILITY DETAIL	1.0	Optional		0..1

Children

Type	Name	Condition
T/T010	Role Name	TBA
	ENTITY IDENTIFIER	**Must** contain an identifier which will enable the receiving system to recognise the facility. **Should** contain the facility's HPI-O if available.
	ADDRESS	**May** contain an address for the facility.
	ELECTRONIC COMMUNICATION DETAILS	Not required.
	ORGANISATION NAME DETAILS	**Must** contain the organisation's name.

Message Mapping

Source	Name
HL7 V2.4	No equivalent concept

6.14 PERFORMER PRIMARY LABORATORY

Identification

Name	PERFORMER PRIMARY LABORATORY (PARTICIPANT.ORGANISATION)
Metadata Type	Data Group (reuse of Participant.Organisation, please refer to the *Data Specification - Participant* for more detail).
Identifier	DG
Version	1.0

Definition

Definition	In the context of the Health Event Context the Performer Primary Laboratory is the organisation that is primarily responsible for coordinating and collating the Pathology Results Report.
Synonymous Names	Healthcare Provider Organisation
Notes	For full descriptions of the entire data hierarchy for a participant, including data element definitions and value domains, refer to the Participant Data Specification.

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	HEALTH EVENT CONTEXT	2.0	Essential		1
	PATHOLOGY EPISODE	2.0	Essential		1

Children

Type	Name	Condition
	Role.Name	TBA
	Entity Identifier	**Must** contain an identifier which will enable the receiving system to recognise the sender of the report. **Should** include a HPI-O IDENTIFIER if available.

Type	Name	Condition
	ADDRESS	Not required.
	ELECTRONIC COMMUNICATION DETAILS	**Must** contain an electronic delivery address; and **Should** contain telephone contact details.
	ORGANISATION	**Must** be specified.

Message Mapping

Source	Name
HL7 V2.4	MSH-4: Sending Facility <HD>

6.15 PATHOLOGY TEST REQUESTER

Identification

Name	PATHOLOGY TEST REQUESTER (PARTICIPANT.PERSON)
Metadata Type	Data Group (reuse of Participant.Person, please refer to the *Data Specification - Participant* for more detail).
Identifier	DG
Version	1.0

Description

Definition	In this context, this is the clinician who initiated the original request for the pathology investigation/s for a subject of care.
Synonymous Names	Healthcare Provider Individual
Notes	For full descriptions of the entire data hierarchy for a participant, including data element definitions and value domains, refer to the Participant Data Specification.

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	HEALTH EVENT CONTEXT	2.0	Desirable		0..1
	REQUEST DETAIL	2.0	Essential		1..*

Children

Type	Name	Condition
	Role-Name	TBA
	ENTITY IDENTIFIER	**Must** contain an identifier which will enable the receiving system to identify the individual healthcare provider who requested the test. **Should** include a HPI-I IDENTIFIER if available.

Type	Name	Condition
	ADDRESS	**Should** contain an address
	ELECTRONIC COMMUNICATION DETAILS	**Must** contain an electronic return message, delivery message; and **Must** contain telephone contact details.
	PERSON-NAME	**Must** contain name details
	PERSON-ADDITIONAL DEMOGRAPHIC DATA	Not Required.
	HEALTHCARE PROVIDER PRACTICE DETAILS	Optional.
	EMPLOYER ORGANISATION DETAILS	Optional.

Message Mapping

Source	Name
HL7 V2.4	No equivalent concept. In this context ORC/OBR segments allow a pathology test requester at the request/result level.

6.16 DOCUMENT RECIPIENTS

Identification

Name	DOCUMENT RECIPIENTS
Metadata Type	Section
Identifier	
Version	1.0

Description

Description	A section which contains details pertaining to the recipient of this version of the Pathology Result Report. A Pathology Results Report is provided to authorised Clinicians. An authorised clinician can be the clinician who requested the pathology service or a clinician nominated by the requesting clinician on behalf of the subject of care. Each version of a Pathology Result Report is addressed to a particular authorised clinician.
Synonymous Names	Healthcare Provider Individual
Notes	For full descriptions of the entire data hierarchy for a participant, including data element definitions and value domains, refer to the Participant Data Specification.

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	PATHOLOGY RESULT REPORT	1.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	Maps to MSH and PV1 segments

6.16 PATHOLOGY REPORT TO

Identification

Name	PATHOLOGY REPORT TO (PARTICIPANT.PERSON)
Metadata Type	Data Group (reuse of Participant.Person, please refer to the *Data Specification - Participant* for more detail.)
Identifier	DG
Version	1.0

Description

Description	Details pertaining to the recipient of this version of the Pathology Result Report. Pathology Result Reports are provided to authorised Clinicians. An authorised clinician can be the clinician who requested the pathology service or a clinician nominated by the requesting clinician on behalf of the subject of care. Each version of a Pathology Result Report is addressed to a particular authorised clinician.
Synonymous Names	Healthcare Provider Individual
Notes	For full descriptions of the entire data hierarchy for a participant, including data element definitions and value domains, refer to the Participant Data Specification.

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	DOCUMENT RECIPIENTS	1.0	Essential		1

Children

Type	Participant	Values
T/T010	Role-Name	TBA
	ENTITY IDENTIFIER	**Must** contain an identifier which will enable the receiving system to identify the individual healthcare provider who is to receive the report. **Should** include a HPI-I IDENTIFIER if available.
	ADDRESS	**Must** contain an address.
	ELECTRONIC COMMUNICATION DETAILS	**Must** contain an electronic return message, delivery message; and
	PERSON NAME	**Must** contain name details.
	PERSON ADDITIONAL DEMOGRAPHIC DATA	Not required.
	HEALTHCARE PROVIDER PRACTICE DETAILS	Optional.
	EMPLOYER ORGANISATION DETAILS	Optional.

Message Mapping

Source	Name
HL7 V2.4	MSH-6: Receiving Facility <HD> PVI-9: Consulting Doctor <XCN>

6.17 PATHOLOGY EPISODE

Identification

Name	PATHOLOGY EPISODE
Metadata Type	Section
Identifier	DG-11001
Version	2.0

Definition

Definition	A section that contains the details pertaining to the requests, specimens and results of pathology investigations regarding a particular pathology episode. A pathology episode is defined as one or more requested pathology tests, where the request meets the following conditions: • It was directed to a single primary performing laboratory (does not exclude the ability for this lab to forward a component of the request to a secondary laboratory) • From a unique requestor (who must be a healthcare provider - individual) • For a unique patient • The request was made at a single point in time (this does not exclude the ability to modify the request at a later point in time but does mean that a later request to the same lab from the same requestor for the same patient which is not specifically sent through as an amendment to the initial request will result in a different pathology result report).
Definition Source	
Synonymous Names	
Notes	The PATHOLOGY EPISODE data group is a high level grouping category for all data relating to a particular PATHOLOGY EPISODE.
Notes Source	

Hierarchical Structure

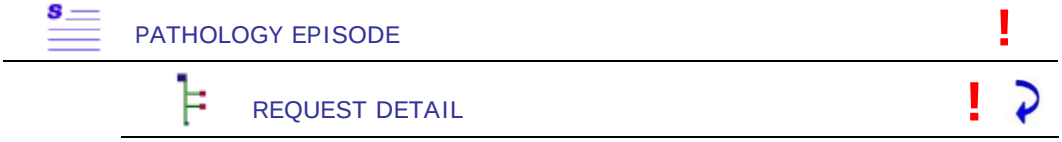

Figure 15 Hierarchical Structure PATHOLOGY EPISODE

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	PATHOLOGY RESULT REPORT	1.0	Essential		1..*

Children

Type	Name	Version	Obligation	Condition	Occurrence
	REQUEST DETAIL	2.0	Essential		1..*

6.18 REQUEST DETAIL

Identification

Name	REQUEST DETAIL
Metadata Type	Data Group
Identifier	DG-11002
Version	2.0

Definition

Definition	Details pertaining to a request/s for pathology services.
Definition Source	
Synonymous Names	Pathology Order, Diagnostic Investigation Request.
Notes	Relevant information is necessary for requesting pathology services.
Notes Source	

Hierarchical Structure

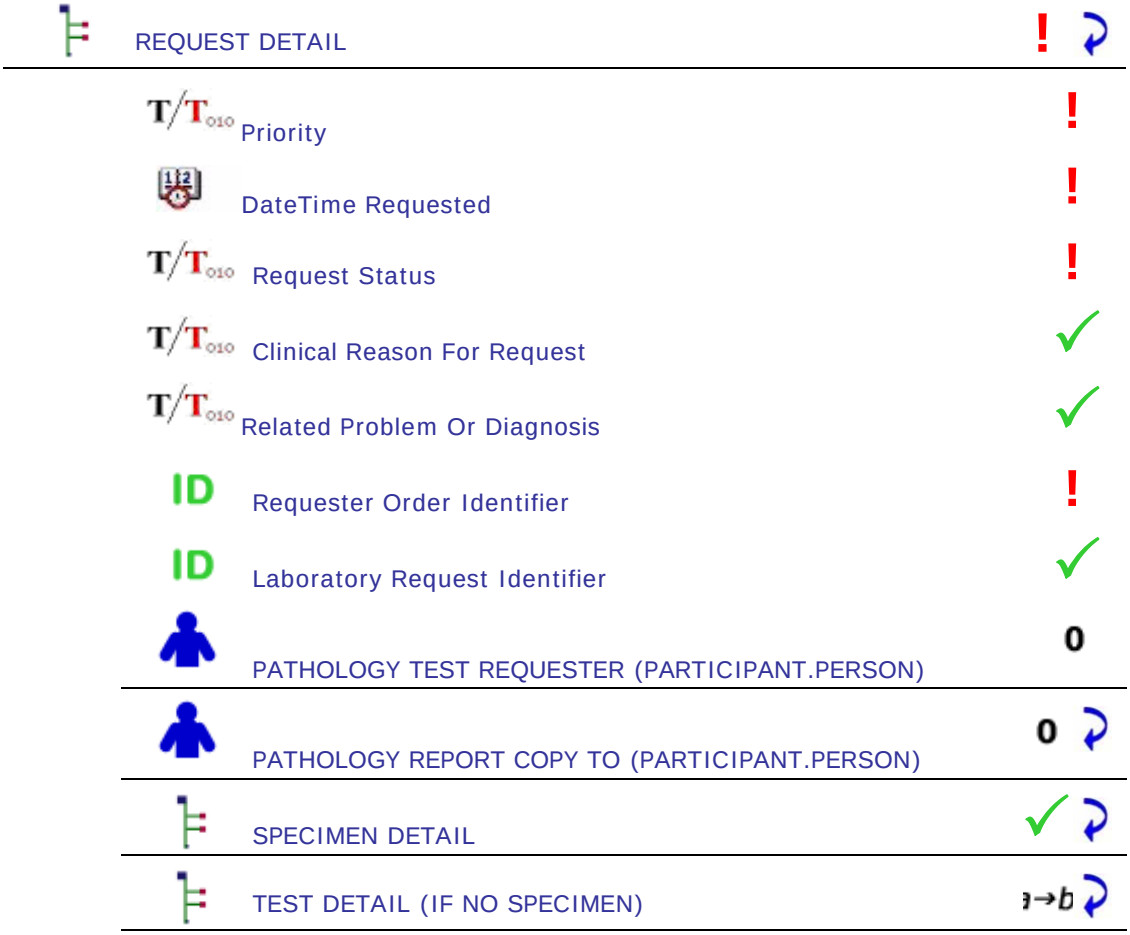

Figure 16 Hierarchical Structure REQUEST DETAIL

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	PATHOLOGY EPISODE	2.0	Essential		1..*

Children

Type	Name	Version	Obligation	Condition	Occurrence
	Priority	2.0	Essential		1
	REQUEST DETAIL	2.0	Essential		1
	Request Status	2.0	Essential		1
	Clinical Reason For Request	2.0	Desirable		0..1
	Related Problem Or Diagnosis	2.0	Desirable		0..1
ID	Requester Order Identifier	2.0	Essential		1
ID	Laboratory Request Identifier	2.0	Desirable		0..1
	PATHOLOGY TEST REQUESTER (PARTICIPANT .PERSON)	2.0	Optional		0..1
	PATHOLOGY REPORT COPY TO	2.0	Optional		0..*
	SPECIMEN DETAIL	2.0	Desirable		0..*
	TEST DETAIL	2.0	Conditional	Essential if there are no Specimen Details provided.	0..*

Message Mapping

Source	Name
HL7 V2.4	Maps to ORC and OBR segments.

6.19 Priority

Identification

Name	Priority
Metadata Type	Data Element
Identifier	DE-31001
Version	2.0

Definition

Definition	The urgency associated with the timing need of the result report.
Definition Source	
Synonymous Names	Urgency
Notes	Where a pathology test or investigation outcome is required in other than the routine turnaround time, this requirement should be communicated using mutually agreed terminology. It is recommended that a default value of 'normal' should be used.
Notes Source	[RCPA-CIC-2004]
Datatype	CodeableText
Value Domain	TBA

Usage

Conditions of Use	The level of priority should be in keeping with the level of urgency of the situation and any agreement among the Requester and the Laboratory.
Conditions of Use Source	
Example/s	1) Urgent. 2) Life Threatening. 3) Routine.
Misuse	Using a higher level of priority where not warranted

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	REQUEST DETAIL	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	OBR-27.6 : Quantity/Timing<TQ>.Priority<ST>
HL7 V2.4 Notes	It is noted as an issue that this is a CodeableText data element being mapped to a String Data Element. Refer to implementation guide.

6.20 DateTime Requested

Identification

Name	DateTime Requested
Metadata Type	Data Element
Identifier	DE-31002
Version	1.0

Definition

Definition	The date or date and time that a request was made.
Definition Source	
Synonymous Names	Request Date, Request Date/Time, Date/Time of Transaction
Notes	The DateTime for the test request refers to when the Requester completes a request for a pathology investigation. 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.
Notes Source	
Datatype	DateTime

Usage

Conditions of Use	It is preferable that exact dates and times are used in this context. Incomplete dates should generally only be used for retrospective data collection. The formats used may vary, depending upon usage; e.g. the format used for user keyboard input might vary from that used for display. The format used for data interchange may be different.
Conditions of Use Source	
Example/s	1) 31/03/2004 10:17 2) 03/2004
Misuse	Entering approximate dates when an exact date is available

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	REQUEST DETAIL	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	ORC-9: Date/Time of Transaction <TS> OBR-27.4: Quantity/Timing<TQ>.Start date/ name<TS>

6.21 Request Status

Identification

Name	Request Status
Metadata Type	Data Element
Identifier	DE-11003
Version	2.0

Definition

Definition	The status of the pathology test request as indicated by the requesting provider. Status is used to denote whether this is the initial request, or a follow-up request to change or undertake additional tests on the same specimen(s).
Definition Source	
Synonymous Names	Order Status
Notes	
Notes Source	
Datatype	CodeableText
Value Domain	TBA

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) New 2) Correction 3) Addition
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	REQUEST DETAIL	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	ORC-5: Order Status <ID>
HL7 V2.4 Notes	It is noted as an issue that this is a CodeableText data element being mapped to an ID data element. Refer to implementation guide.

6.22 Clinical Reason For Request

Identification

Name	Clinical Reason For Request
Metadata Type	Data Element
Identifier	DE-11004
Version	1.0

Definition

Definition	Relevant clinical information pertaining to why the request for a pathology investigation was made. The clinical reason should not include information about the individual's observed condition, provisional diagnosis, or the problem that the requester is trying to investigate. The information can also indicate whether the approved pathology provider should determine which tests are necessary.
Definition Source	
Synonymous Names	Relevant Clinical Information
Notes	Read together with the related problem or diagnosis, this information provides context and additional information for the reporter when analysing the diagnostic test result, and required testing.
Notes Source	
Datatype	CodeableText
Value Domain	TBA

Usage

Conditions of Use	
Conditions of Use Source	

Example/s	**1) Scenario 1** Requested Test = Cytogenetic Test Related Problem/Diagnosis = Leukaemia **Clinical Reason for Request** = Treatment monitoring **2) Scenario 2** Requested Test = Complete Blood Count Related Problem/Diagnosis = Cardiovascular Disease **Clinical Reason for Request** = Preoperative Screen
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	REQUEST DETAIL	2.0	Desirable		0..1

Message Mapping

Source	Name
HL7 V2.4	OBR.13 Relevant Clinical Info <ST(300)> *concatenated with Related Problem or Diagnosis
HL7 V2.4 Notes	It is noted as an issue that this is a CodeableText data element being mapped to a string. Refer to implementation guide.

6.23 Related Problem Or Diagnosis

Identification

Name	Related Problem Or Diagnosis
Metadata Type	Data Element
Identifier	DE-11005
Version	2.0

Definition

Definition	A description of the problem/diagnosis pertaining to the subject of care which is relevant to the generation of the pathology investigation.
Definition Source	
Synonymous Names	
Notes	Read together with the clinical reason for request, this information provides context and additional information for the reporter when analysing the diagnostic test result, and required testing.
Notes Source	
Datatype	CodeableText
Value Domain	TBA

Usage

Conditions of Use	Problem / Diagnosis inclusion should be relevant to the analysis and reporting of the pathology investigation.
Conditions of Use Source	
Example/s	**1) Scenario 1** Test = Cytogenetic Test Clinical Reason for Request = Treatment monitoring **Related Problem/Diagnosis** = Leukaemia **2) Scenario 2** Test = Complete Blood Count Clinical Reason for Request = Preoperative Screen **Related Problem/Diagnosis** = Cardiovascular Disease
Misuse	Inclusion of all Problem / Diagnosis.

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	REQUEST DETAIL	2.0	Desirable		0..1

Message Mapping

Source	Name
HL7 V2.4	OBR.13: Relevant Clinical Info <ST(300)> *concatenated with Clinical Reason for Request
HL7 V2.4 Notes	It is noted as an issue that this is a CodeableText data element being mapped to a string data element. Refer implementation guide.

6.24 Requester Order Identifier

Identification

ID

Name	Requester Order Identifier
Metadata Type	Data Element
Identifier	DE-11006
Version	2.0

Definition

Definition	A unique identifier assigned by the Requester's Clinical Information System (CIS) to identify the request.
Definition Source	
Synonymous Names	Request Order Number, Order Number, Request Number (Requester), Placer Order Number
Notes	The assigning of an identifier to a request by the Clinical Information System (CIS) enables tracking progress of the request and enables linking results to requests. It also provides a reference to assist with enquiries.
Notes Source	
Datatype	UniqueIdentifier

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	REQUEST DETAIL	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	ORC-2: PlacerOrderNumber<EI> OBR-2: PlacerOrderNumber<EI>

6.25 Laboratory Request Identifier

Identification

ID

Name	Laboratory Request Identifier
Metadata Type	Data Element
Identifier	DE-11007
Version	2.0

Definition

Definition	A unique identifier assigned by the Laboratory Information System (LIS) to identify the request.
Definition Source	
Synonymous Names	Request Number (Laboratory), Filler Order Number
Notes	The assigning of an identifier to a request by the Laboratory Information System (LIS) enables tracking progress of the request and enables linking results to requests. It also provides a reference to assist with enquiries.
Notes Source	
Datatype	UniqueIdentifier

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	REQUEST DETAIL	2.0	Desirable		0..1

Message Mapping

Source	Name
HL7 V2.4	ORC-3: FillerOrderNumber<EI> OBR-3: FillerOrderNumber<EI>

6.26 PATHOLOGY TEST REQUESTER

Identification

Name	PATHOLOGY TEST REQUESTER (PARTICIPANT.PERSON)
Metadata Type	Data Group (reuse of Participant.Person, please refer to the *Data Specification - Participant* for more detail).
Identifier	DG
Version	1.0

Definition

Definition	In this context, this is the clinician who has requested the pathology investigation/s in this section of the Pathology Result Report.
Synonymous Names	Healthcare Provider Individual
Notes	For full descriptions of the entire data hierarchy for a participant, including data element definitions and value domains, refer to the Participant Data Specification.

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	HEALTH EVENT CONTEXT	2.0	Desirable		0..1
	REQUEST DETAIL	2.0	Essential		1

Children

Type	Name	Condition
	Role-Name	TBA
	ENTITY IDENTIFIER	**Must** contain an identifier which will enable the receiving system to identify the individual healthcare provider who requested the test. **Should** include a HPI-I IDENTIFIER if available.

Type	Name	Condition
	ADDRESS	**Must** contain an address.
	ELECTRONIC COMMUNICATION DETAILS	**Must** contain an electronic return message, delivery message; and **Must** contain telephone contact details.
	PERSON-NAME	**Must** contain name details
	PERSON-ADDITIONAL DEMOGRAPHIC DATA	Not Required.
	HEALTHCARE PROVIDER PRACTICE DETAILS	Optional.
	EMPLOYER ORGANISATION DETAILS	Optional.

Message Mapping

Source	Name
HL7 V2.4	OBR-12: Ordering Provider <XCN> OBR-16: Ordering Provider <XCN> OBR-21: Ordering Provider <XON> OBR-22: Ordering Provider <XAD> OBR-23: Ordering Provider <XTN> OBR-24: Ordering Provider <XAD>

6.27 PATHOLOGY REPORT COPY TO

Identification

Name	PATHOLOGY REPORT COPY TO (PARTICIPANT.PERSON)
Metadata Type	Data Group (reuse of Participant.Person, please refer to the *Data Specification - Participant* for more detail).
Identifier	DG
Version	1.0

Definition

Definition	Details pertaining to any additional recipients of this section of this version of the Pathology Result Report.
Synonymous Names	Healthcare Provider Individual
Notes	For full descriptions of the entire data hierarchy for a participant, including data element definitions and value domains, refer to the Participant Data Specification.

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	REQUEST DETAIL	2.0	Optional		0..*

Children

Type	Name	Condition
	Role Name	TBA
	ENTITY IDENTIFIER	**Must** contain an identifier which will enable the receiving system to identify the individual healthcare provider who is to receive a copy of the test. **Should** include a HPI-I IDENTIFIER if available.
	ADDRESS	**Must** contain an address.

Type	Name	Condition
	ELECTRONIC COMMUNICATION DETAILS	**Must** contain an electronic delivery address; and **Must** contain telephone contact details.
	PERSON NAME	**Must** contain name details.
	PERSON ADDITIONAL DEMOGRAPHIC DATA	Additional demographic details not required.
	HEALTHCARE PROVIDER PRACTICE DETAILS	Optional.
	EMPLOYER ORGANISATION DETAILS	Optional.

Message Mapping

Source	Name
HL7 V2.4	OBR-28: Result Copies To <XCN>

6.28 SPECIMEN DETAIL

Identification

Name	SPECIMEN DETAIL
Metadata Type	Data Group
Identifier	DG-11005
Version	2.0

Definition

Definition	Details of the specimen provided for pathology testing in association with the requests made by a requesting clinician. The SPECIMEN DETAIL data group provides important information contributing to the correct pathology testing, and subsequent result analysis and interpretation.
Definition Source	
Synonymous Names	
Notes	Any specimen that can be examined using diagnostic methods.
Notes Source	

Hierarchical Structure

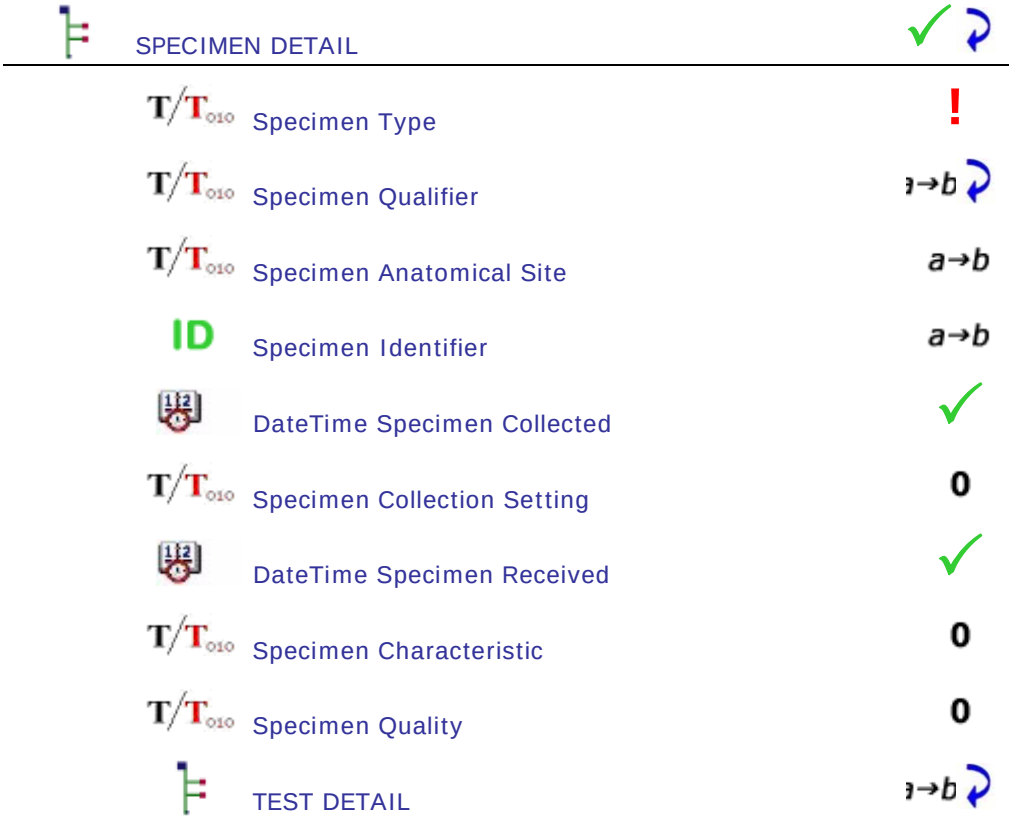

Figure 17 Hierarchical Structure SPECIMEN DETAIL

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	REQUEST DETAIL	2.0	Desirable		0..*

Children

Type	Name	Version	Obligation	Condition	Occurrence
	Specimen Type	2.0	Essential		1
	Specimen Qualifier	2.0	Conditional	Essential if known	0..*
	Specimen Anatomical Site	2.0	Conditional	Essential if known	0..1

Type	Name	Version	Obligation	Condition	Occurrence
ID	Specimen Identifier	2.0	Conditional	Essential if known	0..1
	DateTime Specimen Collected	2.0	Desirable		0..1
T/T010	Specimen Collection Setting	2.0	Optional		0..1
	DateTime Specimen Received	2.0	Desirable		0..1
T/T010	Specimen Characteristic	2.0	Optional		0..1
T/T010	Specimen Quality	2.0	Optional		0..1
	TEST DETAIL	2.0	Conditional	Essential where Specimen Details are recorded	0..*

Message Mapping

Source	Name
HL7 V2.4	OBR segment.

6.29 Specimen Type

Identification

Name	Specimen Type
Metadata Type	Data Element
Identifier	DE-11008
Version	1.0

Definition

Definition	The categorisation of the sample taken from an individual and submitted for pathology investigation.
Definition Source	
Synonymous Names	
Notes	Through combining the information contained in the Request Test Name, Specimen Type, Specimen Qualifier and Specimen Anatomical Site, information regarding the pathology investigation can be communicated accurately and in a manner that allows semantic interoperability between disparate systems.
Notes Source	
Datatype	CodeableText
Value Domain	NEHTA SCT-AU Pathology Specimen Type Reference Set (4021000036102).

Usage

Conditions of Use	This is the actual specimen being submitted to the laboratory for analysis. This information is desirable at the time a request is made.
Conditions of Use Source	
Example/s	1) 119364003 : Serum specimen 2) 258580003 : Whole blood sample 3) 258453008 : Cyst fluid sample 4) 119312009 : Catheter tip specimen
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	SPECIMEN DETAIL	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	OBR-15.1: Specimen Source <CM>.Name <CE> (combined with Specimen Qualifier - see implementation guide for details)

6.30 Specimen Qualifier

Identification

Name	Specimen Qualifier
Metadata Type	Data Element
Identifier	DE-11009
Version	1.0

Definition

Definition	Information that defines characteristics of the Specimen which need to be taken into consideration when analysing the specimen or interpreting the results.
Definition Source	
Synonymous Names	
Notes	Through combining the information in Data Elements such as Request Test Name, Specimen Type, Specimen Qualifier and Specimen Anatomical Site, information regarding the pathology investigation can be communicated accurately and in a manner that allows semantic interoperability between disparate systems (see implementation guide for details).
Notes Source	
Datatype	CodeableText
Value Domain	NEHTA SCT-AU Pathology Specimen Qualifier Reference Set (5021000036101).

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) 24863003 : Postpandrial 2) 73775008 : Morning
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	SPECIMEN DETAIL	2.0	Conditional	Essential if known	0..*

Message Mapping

Source	Name
HL7 V2.4	OBR-15.1: Specimen Source <CM>.Name <CE> (combined with Specimen Type - see implementation guide for details)

6.31 Specimen Anatomical Site

Identification

Name	Specimen Anatomical Site
Metadata Type	Data Element
Identifier	DE-11010
Version	2.0

Definition

Definition	The categorisation of the anatomical site from which a Specimen was obtained from an individual for pathology investigation.
Definition Source	
Synonymous Names	Specimen Site
Notes	Through combining the information in Data Elements such as Request Test Name, Specimen Type, Specimen Qualifier and Specimen Anatomical Site, information regarding the pathology investigation can be communicated accurately and in a manner that allows semantic interoperability between disparate systems. Note that the requirement for a qualifier for this data element is currently being investigated and may be included in future releases of this document.
Notes Source	
Datatype	CodeableText
Value Domain	NEHTA SCT-AU Pathology Specimen Anatomical Site Reference Set (6021000036108).

Usage

Conditions of Use	This information is desirable at the time a request is made, however it may be deduced from the Request Test Name by the specimen collector.
Conditions of Use Source	
Example/s	1) 4907600: Knee joint structure 2) 76752008: Breast structure
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	SPECIMEN DETAIL	2.0	Conditional	Essential if known	0..1

Message Mapping

Source	Name
HL7 V2.4	OBR-15.4: Specimen Source <CM>.Body Site <ST>
HL7 V2.4 Notes	It is noted as an issue that this is a CodeableText data element being mapped into a string data element. Refer implementation guide.

6.32 Specimen Identifier

Identification

Name	Specimen Identifier
Metadata Type	Data Element
Identifier	DE-11012
Version	2.0

Definition

Definition	An identifier given to the specimen submitted for pathology investigation. 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).
Definition Source	
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.
Notes Source	
Datatype	UniqueIdentifier

Usage

Conditions of Use	It is desirable that each specimen has an identifier.
Conditions of Use Source	
Example/s	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	SPECIMEN DETAIL	2.0	Conditional	Essential if known	0..1

Message Mapping

Source	Name
HL7 V2.4	No equivalent concept.

6.33 DateTime Specimen Collected

Identification

Name	DateTime Specimen Collected
Metadata Type	Data Element
Identifier	DE-11013
Version	2.0

Definition

Definition	The date or date and time that the specimen was collected from the subject of care by the specimen collector.
Definition Source	
Synonymous Names	Collected Date/Time, Observation 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.
Notes Source	
Datatype	DateTime

Usage

Conditions of Use	Where possible, exact dates and times should be used. Incomplete dates should generally only be used for retrospective data collection. The formats used may vary, depending upon usage; e.g. the format used for user keyboard input might vary from that used for display. The format used for data interchange may be different.
Conditions of Use Source	
Example/s	1) 31/03/2004 14:25 2) 31/03/2004
Misuse	Entering approximate dates when an exact date is available

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	SPECIMEN DETAIL	2.0	Desirable		0..1

Message Mapping

Source	Name
HL7 V2.4	OBR-7: Observation Date/Time <TS>

6.34 Specimen Collection Setting

Identification

Name	Specimen Collection Setting
Metadata Type	Data Element
Identifier	DE-11011
Version	2.0

Definition

Definition	Identification of the setting at which the specimen was collected from a subject of care. The specimen is often collected by a healthcare provider, but may be collected directly by the patient or the patient's carer at home.
Definition Source	
Synonymous Names	
Notes	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.
Notes Source	
Datatype	CodeableText
Value Domain	TBA

Usage

Conditions of Use	Information to be provided by the person who collects the specimen, at the time of collection.
Conditions of Use Source	
Example/s	1) Specimen Collection Centre 2) GP Surgery 3) Hospital Ward
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	SPECIMEN DETAIL	2.0	Optional		0..1

Message Mapping

Source	Name
HL7 V2.4	OBR-11: Specimen Action Code<ID>

6.35 DateTime Specimen Received

Identification

Name	DateTime Specimen Received
Metadata Type	Data Element
Identifier	DE-11014
Version	2.0

Definition

Definition	The date or date and time that the specimen was received in the primary performing laboratory.
Definition Source	
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.
Notes Source	
Datatype	DateTime

Usage

Conditions of Use	Where possible, exact dates and times should be used. Incomplete dates should generally only be used for retrospective data collection. The formats used may vary, depending upon usage; e.g. the format used for user keyboard input might vary from that used for display. The format used for data interchange may be different.
Conditions of Use Source	
Example/s	1) 31/03/2004 14:06 2) 31/03/2004.
Misuse	Entering approximate dates when an exact date is available

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	SPECIMEN DETAIL	2.0	Desirable		0..1

Message Mapping

Source	Name
HL7 V2.4	OBR-14: SpecimenReceived Date/Time<TS>

6.36 Specimen Characteristic

Identification

Name	Specimen Characteristic
Metadata Type	Data Element
Identifier	DE-11015
Version	2.0

Definition

Definition	The clinical finding on initial morphological analysis of a specimen that identifies artefacts of the collection process that impact the analysis and interpretation of the result.
Definition Source	
Synonymous Names	Specimen Notes
Notes	The Specimen Characteristic data element describes the particular characteristics of the specimen that may affect analysis and interpretation of the pathology test result. For example: sample size or damage. (The characteristics may be judged suitable or unsuitable for pathology testing using the Specimen Quality data element).
Notes Source	
Datatype	CodeableText
Value Domain	TBA

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) Sample haemolysed 2) Sample lipaemic
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	SPECIMEN DETAIL	2.0	Optional		0..1

Message Mapping

Source	Name
HL7 V2.4	No equivalent concept.

6.37 Specimen Quality

Identification

Name	Specimen Quality
Metadata Type	Data Element
Identifier	DE-11016
Version	2.0

Definition

Definition	An assessment of the 'suitability for testing' of the specimen collected for analysis.
Definition Source	
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. The Specimen Quality data element provides an indication of whether the specimen is suitable for the required laboratory testing. (The Specimen Characteristic describe the attributes of the sample that may bias the result, for example sample size or damage. The characteristics may be judged suitable or unsuitable using the Specimen Quality data element).
Notes Source	
Datatype	CodeableText
Value Domain	TBA

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) Adequate. 2) Inadequate. 3) Poor
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	SPECIMEN DETAIL	2.0	Optional		0..1

Message Mapping

Source	Name
HL7 V2.4	No equivalent concept.

6.38 TEST DETAIL

Identification

Name	TEST DETAIL
Metadata Type	Data Group
Identifier	DG-11006
Version	2.0

Definition

Definition	Details pertaining to an individual pathology test. Test details include information about the requested pathology test names and associated result details.
Definition Source	
Synonymous Names	
Notes	A pathology test requested by a requesting clinician may be completed by the laboratory using a slightly different test depending on the specimen collected or the testing practices of the laboratory. The test detail grouping can therefore associate a particular request with a group of results that the laboratory has performed to complete this request. The grouping ensures that the requesting clinician can associate the requests with the results and know when the pathology testing for a particular request is complete. Test Detail is associated with a Specimen Detail data group where it exists. There are a small number of pathology tests which may not require a specimen. An example of this is a 'bleeding time' test. In these cases, Test Detail exists independent of a specimen detail.
Notes Source	

Hierarchical Structure

Figure 18 Hierarchical StructureTEST DETAIL

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	SPECIMEN DETAIL	2.0	Conditional		0..*
	REQUEST DETAIL	2.0	Conditional	If no specimen detail.	0..*

Children

Type	Name	Version	Obligation	Condition	Occurrence
T/T010	Request Test Name	2.0	Essential		1
	RESULT DETAIL	2.0	Essential		1..*

Message Mapping

Source	Name
HL7 V2.4	Maps to OBR and OBX segments.

6.39 Request Test Name

Identification

Name	Request Test Name
Metadata Type	Data Element
Identifier	DE-11017
Version	2.0

Definition

Definition	The term representing the requested pathology investigation/s. The term may represent a single analyte or a panel of grouped tests to be performed.
Definition Source	
Synonymous Names	Request Name, Panel, Requested Test, Orderable Test
Notes	The Request Test Name term represents the testing required by the requester. Ideally this data element in the Pathology Result Report should correspond with the request test name contained in the original request.
Notes Source	
Datatype	CodeableText
Value Domain	NEHTA SCT-AU Pathology Request Test Name Reference Set (102100036104).

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) 39235800 - Eucalyptus RAST 2) 71466003 - Valproic Acid Measurement 3) 117028002 - Stool Culture 4) Herpes Simplex and Virus Nucleic Acid Assay
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	TEST DETAIL	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	OBR-4: Universal Service ID <CE>

6.40 RESULT DETAIL

Identification

Name	RESULT DETAIL
Metadata Type	Data Group
Identifier	DG-11007
Version	2.0

Definition

Definition	Information details describing a pathology test result. Results can be compound in nature, such as an electrolyte battery. Often a report is issued which describes, both quantitatively and qualitatively, the findings.
Definition Source	
Synonymous Names	
Notes	Where results are known, this grouping provides the relevant information pertaining to the results of a specific pathology test. Details such as the laboratory reference number, the name of the test that was performed, who performed the testing, and interpretation of the results are provided to assist clinicians with their treatment of the subject of care.
Notes Source	

Hierarchical Structure

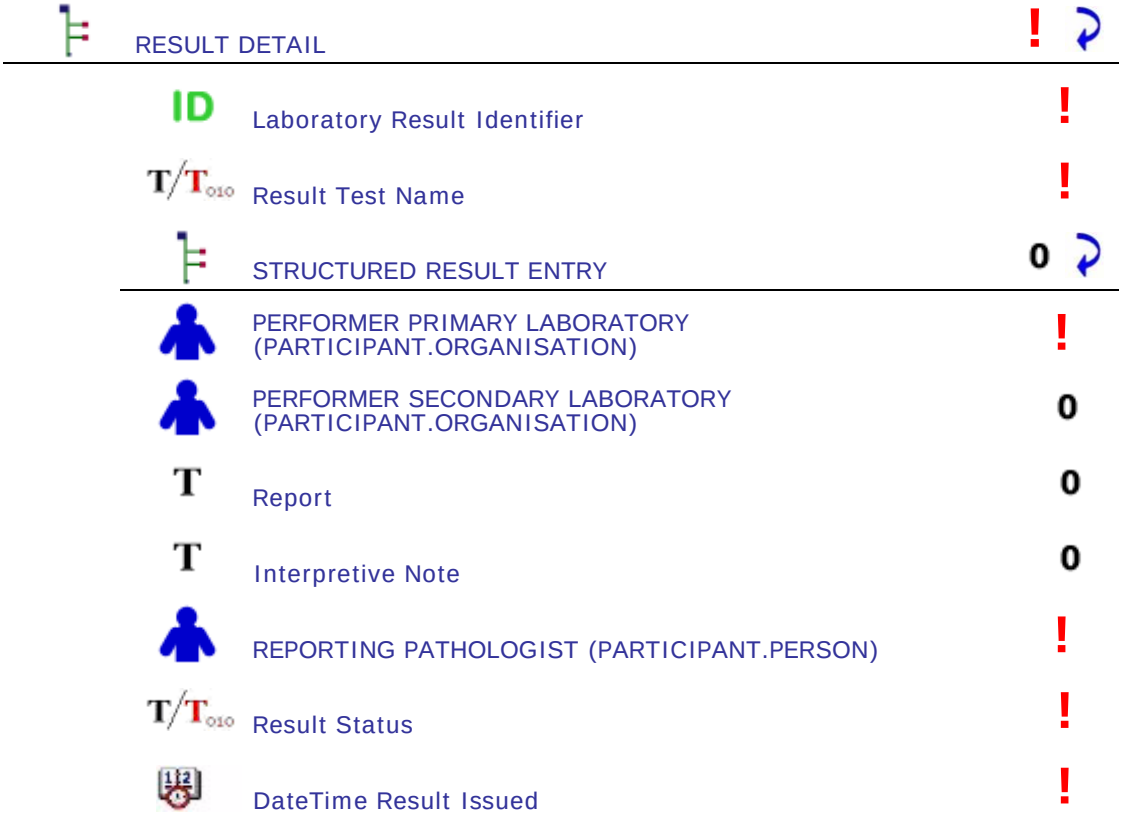

Figure 19 Hierarchical Structure RESULT DETAIL

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	TEST DETAIL	2.0	Essential		1..*

Children

Type	Name	Version	Obligation	Condition	Occurrence
ID	Laboratory Result Identifier	2.0	Essential		1
T/T010	Result Test Name	1.0	Essential		1

Type	Name	Version	Obligation	Condition	Occurrence
	STRUCTURED RESULT ENTRY	2.0	Optional		0..*
	PERFORMER PRIMARY LABORATORY (PARTICIPANT .ORGANISATION)	2.0	Essential		1
	PERFORMER SECONDARY LABORATORY (PARTICIPANT .ORGANISATION)	2.0	Optional		0..1
T	Report	2.0	Optional		0..1
T	Interpretive Note	2.0	Optional		0..1
	REPORTING PATHOLOGIST (PARTICIPANT .PERSON)	2.0	Essential		1
T/T010	Result Status	1.0	Essential		1
	DateTime Result Issued	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	Maps to OBR and OBX segments.

6.41 Laboratory Result Identifier

Identification

ID

Name	Laboratory Result Identifier
Metadata Type	Data Element
Identifier	DE-11018
Version	2.0

Definition

Definition	The identifier given to the laboratory result of a pathology investigation.
Definition Source	
Synonymous Names	Lab Number
Notes	The assignment of an identification code to a result allows the linking of a result to a request within the laboratory.
Notes Source	
Datatype	UniqueIdentifier

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	RESULT DETAIL	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	OBR-20: Filler Field 1 <ST>

6.42 Result Test Name

Identification

Name	Result Test Name
Metadata Type	Data Element
Identifier	DE-32001
Version	1.0

Definition

Definition	The term representing the pathology investigation/s completed by the pathologist. The term may represent a single analyte or a panel of grouped tests that have been performed.
Definition Source	
Synonymous Names	Result Name, Panel, Resulted Test
Notes	The Result Test Name term represents the testing procedure completed by the pathologist, and forms part of the result generated for clinical communication. Result Test Name is designed to hold an atomic representation of the pathology investigation and aligns with concepts from the Procedure hierarchy from SNOMED CT. Associated components such as Specimen Type and Specimen Qualifier are referenced in separate fields. For example the Result Test Name 'Glucose Measurement' (36048009) is represented separately to the Specimen Type of 'Serum Specimen' (119364003) and Specimen Qualifier of 'Random' (255226008).
Notes Source	
Datatype	CodeableText
Value Domain	NEHTA SCT-AU Pathology Result Test Name Reference Set (2021000036107)

Usage

Conditions of Use	Result Test Name should be used to convey information about the pathology investigation.
Conditions of Use Source	
Example/s	1) 43396009 - Haemoglobin A1c Measurement 2) 127800008 - Microscopic Urinalysis 3) 313505009 - CD34 stem cell count procedure
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	RESULT DETAIL	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	OBR-4: Universal Service ID <CE>

6.43 STRUCTURED RESULT ENTRY

Identification

Name	STRUCTURED RESULT ENTRY
Metadata Type	Data Group
Identifier	DG-11008
Version	2.0

Definition

Definition	The results of a pathology test to determine an aspect of the health status of a subject of care acquired through examination of specimens such as tissue, fluid or cells, that are able to be reported and received in a structured (atomic) format.
Definition Source	
Synonymous Names	Result sub-data group
Notes	The structured results entry presently covers only a limited range of pathology test results. These are primarily quantitative, such as biochemical tests. As receiving systems mature and as synoptic or semi structured reporting becomes more widespread, sub data group modules may be created to include these speciality test result types.
Notes Source	

Hierarchical Structure

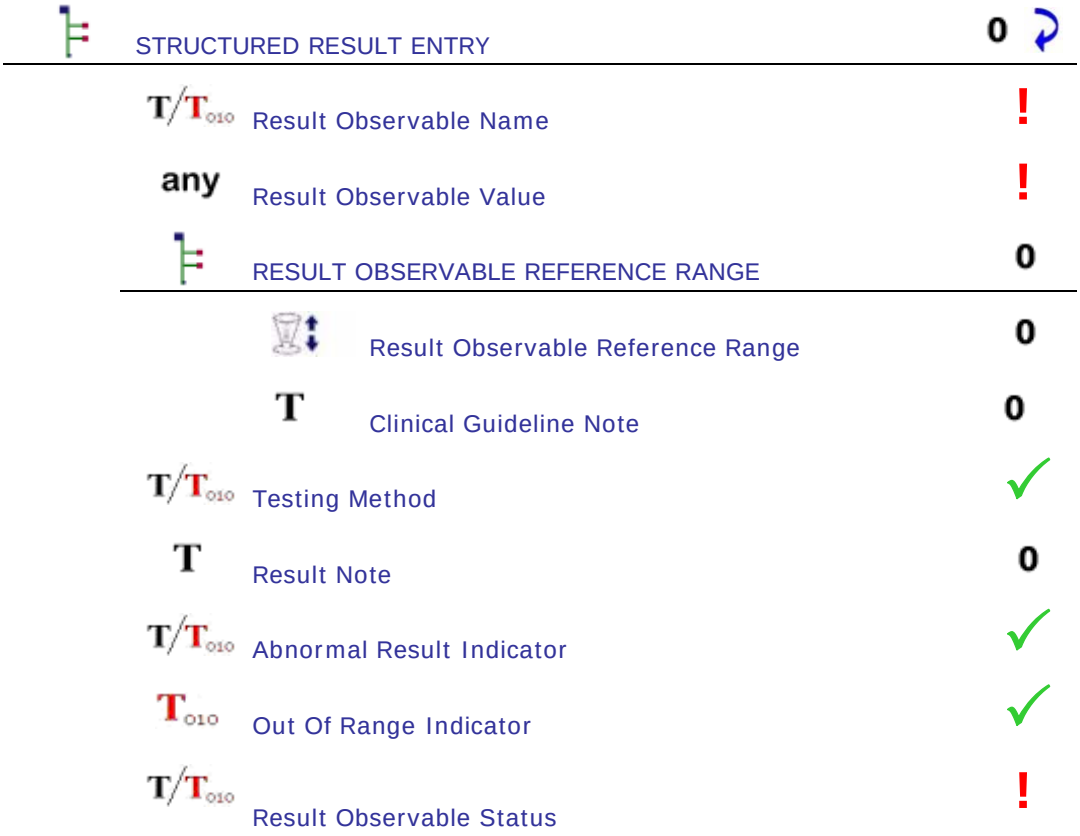

Figure 20 Hierarchical Structure STRUCTURED RESULT ENTRY

Usage

Conditions of Use	
Conditions of Use Source	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	RESULT DETAIL	2.0	Optional		0..*

Children

Type	Name	Version	Obligation	Condition	Occurrence
T/T010	Result Observable Name	2.0	Essential		1
any	Result Observable Value	2.0	Essential		1

Type	Name	Version	Obligation	Condition	Occurrence
	RESULT OBSERVABLE REFERENCE RANGE	2.0	Desirable		0..1
T/T010	Testing Method	2.0	Desirable		0..1
T	Result Note	2.0	Optional		0..1
T/T010	Abnormal Result Indicator	2.0	Desirable		0..1
T/T010	Out Of Range Indicator	2.0	Desirable		0..1
T/T010	Result Observable Status	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	Maps to OBX segment.

6.44 Result Observable Name

Identification

Name	Result Observable Name
Metadata Type	Data Element
Identifier	DE-11022
Version	2.0

Definition

Definition	The term given to a single result element of a pathology test. Can refer to a single pathology test result or to one component of a result group; e.g. Urine Sodium Measurement.
Definition Source	
Synonymous Names	
Notes	The result observable name is used by the pathology laboratory to describe the single test element that has been carried out and is being reported on. It is linked to the test detail, specimen and result detail. *See also* Request Test Name, Result Test Name
Notes Source	
Datatype	CodeableText
Preferred	TBA (potentially Logical Observation Identifiers Names and Codes (LOINC) observation terms)

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) 11149-2 : Sodium 2) 11148-4 : Potassium 3) 12180-6 : Calcium.Ionized
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	STRUCTURED RESULT ENTRY	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	OBX-3: Observation Identifier <CE>

6.45 Result Observable Value

Identification

any

Name	Result Observable Value
Metadata Type	Data Element
Identifier	DE-11023
Version	2.0

Definition

Definition	The pathology test result observable value component.
Definition Source	
Synonymous Names	
Notes	The result of a pathology test.
Notes Source	
Datatype	Real Number / Quantity / QuantityRange / Ratio / Duration / DateTime / CodeableText / Text

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) 140 mmol/L 2) ++ 3) Negative 4) < 75 5) 140 - 500 mmol/L
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	STRUCTURED RESULT ENTRY	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	OBX-5: Observation Value <NM/SN/TS/CE/ST/TX/FT/ED> OBX-6: Units <CE>

6.46 RESULT OBSERVABLE REFERENCE RANGE

Identification

Name	RESULT OBSERVABLE REFERENCE RANGE
Metadata Type	Data Group
Identifier	DE-11024
Version	2.0

Definition

Definition	A data group containing information about appropriate reference ranges for the specific result observable.
Definition Source	
Synonymous Names	
Notes	
Notes Source	

Hierarchical Structure

RESULT OBSERVABLE REFERENCE RANGE	0
Result Observable Reference Range	0
Clinical Guideline Note	0

Figure 21 Hierarchical Structure RESULT OBSERVABLE REFERENCE RANGE

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	STRUCTURED RESULT ENTRY	2.0	Desirable		0..1

6.47 Result Observable Reference Range

Identification

Name	Result Observable Reference Range
Metadata Type	Data Element
Identifier	DE-11024
Version	2.0

Definition

Definition	The upper and lower reference values for a pathology observable test result as determined from an appropriate reference population. It should be noted that reference ranges are sometimes laboratory specific. The reference range is selected by the laboratory to match the patient's demographics - particularly age and sex.
Definition Source	
Synonymous Names	
Notes	For use with quantitative pathology tests to serve as an indicator of the expected quantitative result for a healthy person, providing indication of direction and relative level of change from the reference population.
Notes Source	
Datatype	QuantityRange

Usage

Conditions of Use	To be used where properly determined reference range applies to particular test and specimen.
Conditions of Use Source	
Example/s	1) 15 -58 g/L 2) < 15 mmol/L
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	RESULT OBSERVABLE REFERENCE RANGE	2.0	Desirable		0..1

Message Mapping

Source	Name
HL7 V2.4	OBX-7: Reference Range <ST(60)>
HL7 V2.4 Notes	It is noted as an issue that this is a QuantityRange data element being mapped to a string data element. Refer implementation guide.

6.48 Clinical Guideline Note

Identification

Name	Clinical Guideline Note
Metadata Type	Data Element
Identifier	DE-11020
Version	2.0

Definition

Definition	Extra comments that may provide further context to the reference range or provide clincial guidelines when no single reference range is appropriate.
Definition Source	
Synonymous Names	
Notes	
Notes Source	
Datatype	Text

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	**1) Scenario:** Result Observable Name: CA-125 Reference range: <35 **Clinical Guideline Note:** In pre-menopausal women levels vary during a normal cycle. Highest values are seen just prior to and during menstruation. Levels as high as 80 u/ml are not uncommon.

Example/s	**2) Scenario:** Result Observable name: HBA1c Reference Range: Null. **Clinical Guideline Note:** The goal of diabetes therapy should be an HbA1c level of <7%. At levels >9.0% treatment should be re-evaluated, with consideration given to more intensive management. Suggested HbA1c Guidelines: •6.1-7.0% HbA1c: very good control •7.1-8.0% HbA1c: adequate control •8.1-9.0% HbA1c: sub-optimal control •>9.0% HbA1c: poor control.
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	RESULT OBSERVABLE REFERENCE RANGE	2.0	Optional		0..1

Message Mapping

Source	Name
HL7 V2.4	No direct mapping. Would need to be sent as a separate OBX segment.

6.49 Testing Method

Identification

Name	Testing Method
Metadata Type	Data Element
Identifier	DE-11025
Version	2.0

Definition

Definition	A description of the specific analytical principle or method used by the laboratory to perform the analyses and produce the results for the requested pathology test(s).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 likelihood of false or true positives and negatives related to sensitivities and specificities of tests.
Definition Source	
Synonymous Names	Observation Method
Notes	Associated with the Result Test Name and Specimen Type. The testing method is chosen by the performing pathologist and / or pathology laboratory. NEHTA are currently investigating whether an additional test method qualifier data element (with the potential to be repeated as necessary) is required (e.g. Albumen Measurement, Urine, Quantitative).
Notes Source	
Datatype	CodeableText
Value Domain	NEHTA SCT-AU Pathology Testing Method Reference Set (3021000036100).

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	
Example/s	1) 54826005 - Chromatography measurement 2) 117259009 - Microscopy
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	STRUCTURED RESULT ENTRY	2.0	Desirable		0..1

Message Mapping

Source	Name
HL7 V2.4	OBX-17 : Observation Method <CE>

6.50 Result Note

Identification

Name	Result Note
Metadata Type	Data Element
Identifier	DE-11026
Version	2.0

Definition

Definition	Comments on the result of a pathology observable result. Where a panel is performed, a note might be attached for each test component of the panel to provide additional non-interpretive information relating to the result.
Definition Source	
Synonymous Names	
Notes	In the structured result sub group this data element provides for pathologist comment on observable test results. Result interpretive comments go into the Interpretive Note data element.
Notes Source	
Datatype	Text

Usage

Conditions of Use	Pathologist input is encouraged as this information is of benefit to patient outcomes.
Conditions of Use Source	
Example/s	1) Manual platelet count.
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	STRUCTURED RESULT ENTRY	2.0	Optional		0..1

Message Mapping

Source	Name
HL7 V2.4	Not represented. Would require a separate OBX segment.

6.51 Abnormal Result Indicator

Identification

Name	Abnormal Result Indicator
Metadata Type	Data Element
Identifier	DE-11027
Version	2.0

Definition

Definition	Indicates the degree of diagnostical significance associated with an abnormal pathology test result based on all the available clinical information (including but not limited to the reference range).
Definition Source	
Synonymous Names	
Notes	Result Observable Value, Reference Range, Out of Range Indicator and Abnormal Result Indicator together combine to provide the complete result
Notes Source	
Datatype	CodeableText
Value Domain	TBA

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) The example below shows how the result value, reference range and indicators combine to provide the complete picture for a particular pathology result when the subject of care has a known problem: **Scenario:** Related Problem or Diagnosis = Stage IV Chronic Lymphocyctic leukaemia Result Test Name = Complete Blood Count (CBC) Result Observable Test Name = Platelet Count Result Observable Value = 80 x 10^9/L Reference Range = 130-350 x 10^9/L Out of Range Indicator = Below Reference Range **Abnormal Result Indicator** = Within normal limits for this condition
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	STRUCTURED RESULT ENTRY	2.0	Desirable		0..1

Message Mapping

Source	Name
HL7 V2.4	No equivalent concept.

6.52 Out Of Range Indicator

Identification

Name	Out Of Range Indicator
Metadata Type	Data Element
Identifier	DE-11028
Version	2.0

Definition

Definition	Indicates whether the result is within or outside of its reference ranges. This indicator may also describe the relative amount the result is lower or higher than the reference range.
Definition Source	
Synonymous Names	Out of range flag.
Notes	This data element is used within the structured numerical test result sub data group. It relates to the number value and reference range for that particular test.
Notes Source	
Datatype	Coded Text
Preferred	TBA

Usage

Conditions of Use	To be used only when the structured numerical test result sub data group is used, and in conjunction with a numerical test result and reference range specific to that test.
Conditions of Use Source	
Example/s	1) Below reference range 2) Above reference range 3) Critically low. 4) Critically high.
Misuse	Reporting only the out of range indicator without the associated report information. Clinical information such as patient age, health status, and current medications affect the interpretation of test results, and therefore the interpretation of the out of range indicator information.

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	STRUCTURED RESULT ENTRY	2.0	Desirable		0..1

Message Mapping

Source	Name
HL7 V2.4	OBX-8: Abnormal Flags <ID>

6.53 Result Observable Status

Identification

Name	Result Observable Status
Metadata Type	Data Element
Identifier	DE-11029
Version	2.0

Definition

Definition	The status of the observable result as indicated by the REPORTING PATHOLOGIST. Status refers to the stage at which the pathology observable testing and reporting has reached. For example this could occur when a test has two parts with the results from the first part being a preliminary result and the second part concluding the report.
Definition Source	
Synonymous Names	
Notes	The status of the observable result is included on a report to inform the requester or receiver of the report whether the observable result is final or there is more to expect, or if amendments have been made. This indicates whether the report observable result are able to be acted upon by the clinician.
Notes Source	
Datatype	CodeableText
Value Domain	TBA

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) Preliminary 2) Interim 3) Final 4) Corrected (amended)
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	STRUCTURED RESULT ENTRY	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	OBX-11: Observable Result Status <ID>

6.54 PERFORMER PRIMARY LABORATORY

Identification

Name	PERFORMER PRIMARY LABORATORY (PARTICIPANT.ORGANISATION)
Metadata Type	Data Group (reuse of Participant.Organisation, please refer to the *Data Specification - Participant* for more detail).
Identifier	DG
Version	1.0

Description

Definition	In this context the Performer Primary Laboratory is the healthcare organisation that is primarily responsible for performing and reporting an observable result on the pathology results report.
Synonymous Names	Healthcare Provider Organisation
Notes	For full descriptions of the entire data hierarchy for a participant, including data element definitions and value domains, refer to the Participant Data Specification.

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	HEALTH EVENT CONTEXT	2.0	Essential		1
	RESULT DETAIL	2.0	Essential		1..*

Children

Type	Participant	Values
	Role Name	TBA
	ENTITY IDENTIFIER	**Must** contain an identifier which will enable the receiving system to recognise the sender of the report. **Should** include a HPI-O IDENTIFIER if available.
	ADDRESS	Not required.

Type	Participant	Values
	ELECTRONIC COMMUNICATION DETAILS	**Must** contain an electronic delivery address; and **Should** contain telephone contact details.
	ORGANISATION	**Must** be specified.

Message Mapping

Source	Name
HL7 V2.4	No equivalent concept for the Performer Primary Laboratory in this context.

6.55 PERFORMER SECONDARY LABORATORY

Identification

Name	PERFORMER SECONDARY LABORATORY (PARTICIPANT.ORGANISATION)
Metadata Type	Data Group (reuse of Participant.Organisation, please refer to the *Data Specification - Participant* for more detail).
Identifier	DG-11010
Version	1.0

Description

Definition	Details pertaining to the pathology laboratory that may have been engaged by the primary laboratory to perform part of the requested procedure or investigation.
Definition source	
Synonymous Names	Healthcare Provider Organisation
Notes	For full descriptions of the entire data hierarchy for a participant, including data element definitions and value domains, refer to the Participant Data Specification.

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	RESULT DETAIL	1.0	Optional		0..1

Children

Type	Participant	Values
	Role Name	TBA
	ENTITY IDENTIFIER	**Must** contain an identifier which will enable the receiving system to recognise the sender of the report. **Should** include a HPI-O IDENTIFIER if available.
	ADDRESS	Not required.

Type	Participant	Values
	ELECTRONIC COMMUNICATION DETAILS	**Must** contain an electronic delivery address; and **Should** contain telephone contact details.
	ORGANISATION	**Must** be specified.

Message Mapping

Source	Name
HL7 V2.4	No equivalent concept.

6.56 Report

Identification

Name	Report
Metadata Type	Data Element
Identifier	DE-11019
Version	2.0

Definition

Definition	The actual report for this result returned by the pathology laboratory to the requesting provider. This report section allows for unstructured pathology results such as images and free text, as well as information that the laboratory information system stores in a structured format.
Definition Source	
Synonymous Names	
Notes	The report is a verbatim copy of the report as issued. The results reported should also be supplied in a machine-readable structured form - see STRUCTURED RESULT ENTRY. 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) are 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 archetypes to constrain information and provide context may help to alleviate this problem. In the meantime NEHTA pathology data group has chosen to represent the non numerical pathology results as a single test result report data element. This is similar to the approach taken by [AS 4700.2 - 2004], which is HL7 based.
Notes Source	
Datatype	EncapsulatedData

Usage

Conditions of Use	To be used for results unable to be sent and or received as structured information.
Conditions of Use Source	
Example/s	
Misuse	

Relationship

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	RESULT DETAIL	2.0	Optional		0..1

Message Mapping

Source	Name
HL7 V2.4	No direct mapping. Would need to be sent as a separate OBX segment.

6.57 Interpretive Note

Identification

Name	Interpretive Note
Metadata Type	Data Element
Identifier	DE-11020
Version	2.0

Definition

Definition	Interpretive comments relevant to the resulted pathology test(s) carried out as provided by the reporting pathologist. For example: an Interpretive Note may be used when results for a subject of care appear to be abnormal based on reference ranges, however when the clinical context of the subject of care is considered, the results could be interpreted as normal. This differs from information which defines characteristics of the specimen which need to be taken into account when analysing the specimen and / or interpreting the results.
Definition Source	
Synonymous Names	
Notes	Additional information regarding the result that affects the Clinician's interpretation.
Notes Source	
Datatype	Text

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	RESULT DETAIL	2.0	Optional		0..1

Message Mapping

Source	Name
HL7 V2.4	No direct mapping. Would need to be sent as a separate OBX segment.

6.58 REPORTING PATHOLOGIST

Identification

Name	REPORTING PATHOLOGIST (PARTICIPANT.PERSON)
Metadata Type	Data Group (reuse of Participant.Person, please refer to the *Data Specification - Participant* for more detail).
Identifier	DG-11011
Version	1.0

Definition

Definition	Details pertaining to the healthcare provider with primary responsibility for reporting the pathology result. The reporting pathologist is associated with the primary performing laboratory.
Synonymous Names	Healthcare Provider Individual
Notes	For full descriptions of the entire data hierarchy for a participant, including data element definitions and value domains, refer to the Participant Data Specification.

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	RESULT DETAIL	1.0	Essential		1

Children

Type	Name	Condition
T/T010	Role-Name	TBA
	ENTITY IDENTIFIER	**Must** contain an identifier which will enable the receiving system to identify the individual healthcare provider. **Should** include a HPI-I IDENTIFIER if available.
	ADDRESS	Not required.
	ELECTRONIC COMMUNICATION DETAILS	Optional.
	PERSON NAME	**Must** contain name details.
	PERSON ADDITIONAL DEMOGRAPHIC DATA	Not required.

Type	Name	Condition
	HEALTHCARE PROVIDER PRACTICE DETAILS	Optional.
	EMPLOYER ORGANISATION DETAILS	Optional.

Message Mapping

Source	Name
HL7 V2.4	OBR-32: Principal Result Interpreter <CM> The CM datatype only captures names. ID's and other information not captured. Refer to implementation guide.

6.59 Result Status

Identification

Name	Result Status
Metadata Type	Data Element
Identifier	DE-11029
Version	1.0

Definition

Definition	The status of the results test as indicated by the performing provider. Status refers to the stage at which the pathology testing and reporting has reached. It allows a report to be issued which contains more than one result and for each result to have a different status associated with it.
Definition Source	
Synonymous Names	
Notes	The status of the result is included on a report to inform the requester or receiver of the report 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.
Notes Source	
Datatype	CodeableText
Value Domain	TBA

Usage

Conditions of Use	
Conditions of Use Source	
Example/s	1) Preliminary 2) Interim 3) Final 4) Corrected (amended)
Misuse	

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	RESULT DETAIL	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	OBR-25: Result Status <ID>
HL7 V2.4 Notes	It is noted as an issue that this is a CodeableText data element being mapped to an ID data element. Refer implementation guide.

6.60 DateTime Result Issued

Identification

Name	DateTime Result Issued
Metadata Type	Data Element
Identifier	DE-11021
Version	2.0

Definition

Definition	The date or date and time that the result was issued for the current 'results status'. The date and time related to the results status is useful for version control and cumulative results for the report.
Definition Source	
Synonymous Names	
Notes	The date a result is issued is required information. It is directly related to the result status.
Notes Source	
Datatype	DateTime

Usage

Conditions of Use	Where possible, exact dates and times should be used. Incomplete dates should generally only be used for retrospective data collection. The formats used may vary, depending upon usage; e.g. the format used for user keyboard input might vary from that used for display. The format used for data interchange may be different.
Conditions of Use Source	
Example/s	1) 31/03/2004 18:45 2) 31/03/2004.
Misuse	Entering approximate dates when an exact date is available

Relationships

Parent

Type	Name	Version	Obligation	Condition	Occurrence
	RESULT DETAIL	2.0	Essential		1

Message Mapping

Source	Name
HL7 V2.4	OBX-14: Date/Time of the Observation <TS>

7 Sample Reports

Pathology reports may take several forms depending on the issuing laboratory or the receiving system. Pathology laboratories may issue reports that are department specific, that is, they will issue a separate Haematology and a separate Clinical Chemistry report on a request that asked for Full Blood Count and Electrolytes. Other Pathology laboratories may issue these as one report. The structure of the content of the reports may also vary. Pathology laboratories may issue reports that give atomic results, textual results, or a combination of both, graphic results or even images. Haematology and Clinical Chemistry laboratories will in the main, issue results that give atomic results, possibly with some textual comment or interpretive notes. Microbiology laboratories will issue a mixture of atomic results and textual results, while Anatomical Pathology laboratories will in the main issue textual results.

Reports to Registries or notification systems will vary in their content depending on the receiving system and state and federal jurisdictional requirements. Certain Registry systems require more information than is usually present on a Pathology report. For example, a Cancer Registry system may require additional coding (SNOMED or similar) or other state specific coding such as SWORE codes for the Queensland Health Cervical Cancer Registry. Other registry or notification systems may require less information than is normally given in a Pathology report, for example notification of a notifiable disease such as Salmonella from a faeces sample, may only require the name of the organism, possibly its serotype and it source.

The format and structure of reports to Electronic Health Records are not covered by this document.

The following samples illustrate how the Pathology Report content specification might be used to populate and display Pathology Report information.

7.1 About the Samples

The NEHTA Pathology Result Report Structured Document defines the allowable content of the information to be changed for a Pathology Result Report and structures the content in a manner that delivers context and meaning. It is not intended to be a display format specification. However, it is useful to illustrate how the information contents can be used and visualised in display format. The following samples are designed for this specific purpose.

The top portion of each example gives details from the Document Header section - that is, details about the subject of care, the pathology test requester, the pathology report recipient, the facility, the primary performing laboratory and unique identifying details for the result report. The lower portion of each sample holds the details of the pathology episode.

The Implementation Guide contains example HL7 v2.4 messages for each of the examples given, demonstrating how they relate to the structured document and how they are implemented as a message.

7.2 Sample 1

NEHTA PATHOLOGY REPORT

NEHTA Pathology Pty Ltd ABN 123 456 789
Level 25, 56 Pitt Street Sydney, NSW, 2000 Tel: (02) 1234 5678

Pathology Test Requester:
As per report to

Pathology Report To:
HPI-I: 12345678
Dr Anne Registrar
Surgical Department
Regal Good Hospital
101 Healthcare Drive
Adelaide SA 5000

Report ID: IMMUN 08-7843589
Version: 1
Status: Interim
Issue Date: 04/06/2008 08:30 am

Patient Details:
ID: 0254485 (RGH UR Number)
IHI: 53268415
CANDY, Joe Sally

Sex: Female
DOB: 9/10/1982 (26 years)

MICROBIAL SEROLOGY

Strongyloides IgH (EIA) 1.2 (Patient: Cut-off Ratio)

BORDERLINE

Possible low-responding infection but may be non-specific reaction.

If symptoms persist, suggest repeat serological testing and examination of stools (including agar plate method).

The sensitivity and specificity of this assay are reported to be >85%.

Sera from people from endemic areas of the world may show higher background reactivity.

RATIO (Patient: Cut-off)	INTERPRETATION
<0.9	Negative
0.9	Equivocal
>1.2	Positive

Please note:

IMMUNOSUPPRESSION MAY PRECIPITATE FATAL DISSEMINATED STRONGLOIDASISIS.

REQUESTED TESTS FOR THIS PATIENT:

COMPLETED: STRONGYLOIDES SEROLOGY, UR TESTOSTERONE

PENDING: BLOOD CULTURE, ANA, HBSAB, HBSAG, TOXO

IGM BONE MARROW EXAMINATION, FBC

Reporting Pathologist: Dr K Grey

7.3 Sample 2

NEHTA PATHOLOGY REPORT

NEHTA Pathology Pty Ltd ABN 123 456 789
Level 25, 56 Pitt Street Sydney, NSW, 2000 Tel: (02) 1234 5678

Pathology Test Requester:
As per report to

Pathology Report To:
HPI-I: 12345678
Dr Clive Specialist
Cardiology Department
Regal Good Hospital
101 Healthcare Drive
Adelaide SA 5000

Report ID: BIOCH 08-9785441
Version: 1
Status: Final
Issue Date: 04/06/2008 1:15 pm

Patient Details:
ID: 0952657 (RGH UR Number)
IHI: 987654321
SMITH, John Michael

Sex: Male
DOB: 9/10/1924 (84 years)

GLUCOSE TOLERANCE TEST

Oral glucose load: Adult 75g
Child 175 g/kg body weight (to a maximum of 75g)

Interpretive criteria as recommended by the Working Party of RCPA, AACB and Aust Diab Soc (published in MJA, Vol 170, 19 April 1999).

Time	Serum Glucose	Ref Range	Urine Glucose	Urine Ketone
Fasting	10.5 mmol/L	(3.0-6/0)	++	++
1.0h	15.0 mmol/L			
2.0h	14.5 mmol/L	(up to 7.7)		

Interpretation:

Marked impairment of glucose tolerance is present. These results are consistent with diabetes mellitus.

Reporting Pathologist: Dr A Brown

7.4 Sample 3

NEHTA PATHOLOGY REPORT

NEHTA Pathology Pty Ltd ABN 123 456 789
Level 25, 56 Pitt Street Sydney, NSW, 2000 Tel: (02) 1234 5678

Pathology Test Requester:
HPI-I: 12345678
Dr Anne Registrar
Emergency Department
Regal Good Hospital

Report To:
HPI-O: 37890456
Surgical Department
Regal Good Hospital
101 Healthcare Drive
Adelaide SA 5000

Report ID: MICRO 08-9763274
Version: 1
Status: Final
Issue Date: 04/06/2008 3:30 pm

Patient Details:
ID: 0254485 (RGH UR Number)
IHI: 53268415
CANDY, Joe Sally
Regal Good Hospital

Sex: Female
DOB: 9/10/1962 (46 years)

EXAMINATION OF URINE

Collection:	Mid stream urine
Protein:	++
Glucose:	++
Ketones:	++

PHASE CONTRAST MICROSCOPY

Leucocytes:	>	1000	$x10^{6/}L$	(N.R. <10)
Erythrocytes:	>	1000	$x10^{6/}L$	(N.R. <10)
Epithelial:	<	10	$x10^{6/}L$	

CULTURE

Org 1: Eschirichia coli

Comment:

SUSCEPTIBILITY

	Org 1
Amp/Amoxycillin	R
Amoxycillin+Clavulanic acid	S
Cephalexin	S
Nitrofurantoin	S
Nurloxacin	S
Tremethoprim	S
Co-trimoxazole	S
Gentamicin	S

Reporting Pathologist: Dr J White

Reference List

[REF]	Document Name	Publisher	Repository
[AS 4700.2 - 2004]	AS 4700.2 (2004) - (Incorporating Amendment No. 1) Australian Standard™, Implementation of Health Level Seven, (HL7) Version 2.3.1, Part 2: Pathology orders and results	Standards Australia	http://www.e-health.standards.org.au Accessed: 7 April 2008
[AS 4846 - 2006]	AS 4846 (2006) - Healthcare Provider Identification	Standards Australia	http://www.e-health.standards.org.au Accessed: 7 April 2008
[AS 5017 - 2006]	AS 5017 (2006) - Healthcare Client Identification	Standards Australia	http://www.e-health.standards.org.au Accessed: 7 April 2008
[AS 4700.2 - 2007]	AS 4700.2 (2007) - Implementation of Health Level Seven (HL7) Version 2.4, Part 2: Pathology and medical imaging (diagnostics)	Standards Australia	http://www.e-health.standards.org.au Accessed: 7 April 2008
[HL7 v2.4]	HL7 v2.4	ANSI	http://www.hl7.org Accessed: 7 April 2008
[IF-PRR]	Interchange Format - Pathology Results Report and HL7 v2.4	NEHTA	G:\NEHTA Projects\Domain Packages\Pathology\Pathology Result Reporting\
[NEHTA-LIB]	NEHTA Data Group Library	NEHTA	http://www.nehta.gov.au Accessed: 7 April 2008
[NEHTA-RG]	NEHTA Readers' Guide	NEHTA	G:\NEHTA Projects\Domain Packages\Pathology\Pathology Result Reporting\V 1.0\Package Docs
[ISO 8601-2004]	ISO 8601:2004 - Data elements and interchange formats - Information interchange -Representation of dates and times, Edition 3	ISO	http://www.iso.org Accessed: 7 April 2008
[ISO/IEC 11404 - 2007]	ISO/IEC 11404:2007 - Information technology -General-Purpose Datatypes (GPD), Edition 2	ISO	http://www.iso.org Accessed: 7 April 2008
[THCIC 837]	THCIC Hospital Discharge Data Collection, THCIC 837\ Technical Specifications (version 13), November 19, 2004	Texas Department of State Health Services	
[PATH-PRR-RG]	Pathology Result Reporting Package - Readers' Guide	NEHTA	G:\NEHTA Projects\Domain Packages\Pathology\Pathology Result Reporting\
TBA	Data Specification - Participant	NEHTA	For more information please contact clinicalinfo@nehta.gov.au

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End of
Structured Document Template - Pathology Results Report