HIPS
Pathology Results HL7 v2.4 Profile

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Approved for external use

Document information

Key information

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Table of contents

1   Introduction

1.1   Purpose

The purpose of this document is to provide the definition for the HL7 message interface for notifying pathology report events to HIPS. Upon receiving these events HIPS will upload or remove a corresponding Pathology Report document in the My Health Record system.

Please note that this version of the HL7 profile for HIPS has originated from the *AS 4700.2-2012 - Australian Standard Implementation of Health Level Seven (HL7) Version 2.4, Part 2: Pathology and diagnostic imaging (diagnostics)* specification and may contain more information than required in forming HL7 messages for loading to HIPS.

This document can be used by health facilities to understand the information passed in the HL7 messages and the portions relevant to HIPS. It describes the message and segment definitions that are required, expected, and processed by the HIPS application.

HIPS uses the standard message format described herein. The standard message format in use is HL7 2.4.

1.2   Scope

This profile covers all messages/message segments that have been standardised for pathology reporting.

This profile does not describe any functional requirements, such as archiving or error reporting, as these are to be covered by other documentation.

1.3   Assumptions

The HL7 MLLP interface for sending Pathology Reports to the HIPS application has the following constraints:

- HL7 message segments will be sent in the order shown under "Message Definition" below

- HL7 message continuation standard will **not** be used and therefore each message sent/received must be complete

- confidential information sent across the interface will be accepted "as is"

- HL7 Sequence Numbering is not used.

2　High Level HL7 – HIPS Pathology Usage

When uploading or removing pathology reports via the interface described in this document, HIPS may be used in one of the following models:

- No HI Service connectivity (setting BypassHIService = true):

  - All IHIs are obtained by a separate application. Both MRN and IHI are included in all ORU messages. HIPS will trust the IHI has been validated by another system.

  - Where the HPI-I of the document author is contained within the HL7 message, HIPS will trust the HPI-I has been validated by another system.

  - Otherwise, where the facility has an exemption from the requirement to provide the HPI-I, HIPS will copy the local identifier of the author from the HL7 message into the Pathology Report CDA document.

- With HI Service connectivity (setting BypassHIService = false):

  - HIPS performs IHI search and validation, and checks for advertised My Health Record. The MRN and at least one of IHI, Medicare Card Number or DVA File Number must be included in the HL7 messages to enable IHI lookup or validation.

  - Where the message contains the HPI-I of the document author, HIPS will validate the HPI-I before uploading the document if it is not validated within the configured period.

  - Where the message contains a local identifier of the document author, HIPS will look up the HPI-I from the HIPS database based on the local identifier, and validate the HPI-I if it is not validated within the configured period.

  - Otherwise, where the facility has an exemption from the requirement to provide the HPI-I, HIPS will copy the local identifier of the author from the HL7 message into the CDA document.

2.1　Patient Identifiers

When processing HL7 messages, HIPS will identify the Subject of Care (Patient) using a list of identifiers in the PID-3 field. This field may contain a primary local patient identifier and secondary patient identifiers (such as hospital MRNs) from various assigning authorities, in addition to a Medicare number, DVA file number and/or IHI.

Each internal patient identifier or MRN must be supplied with CX-5 Type Code "PI" or "MR" and CX-4 Assigning Authority identifying the scope/origin of the identifier.

Example 1, an identifier from the pathology laboratory with NATA number 2134:

`123456^^^NATA2134^PI`

Example 2, an identifier from the pathology practice with LSPN 8234:

`123456^^^LSPN8234^PI`

Example 3, an MRN from a Hospital (RNH):

```
123456^^^RNH^MR
```

Where "123456" is the MRN itself, "RNH" is a code for the hospital that allocated this MRN, and "MR" is a code that indicates that this is an MRN.

The assigning authority codes for the primary local patient identifiers intended for use in pathology HL7 messages must be configured in the HIPS HospitalCode table and have a CodeSystemId of 114, which corresponds to a code system "patientIdAuthCd".

The Medicare number, if known, will be supplied with type code "MC" and may or may not include the Individual Reference Number (IRN). The value must be either 10 digits (without IRN) or 11 digits (with IRN). For example:

```
5123123123^^^AUSHIC^MC
```

```
51231231231^^^AUSHIC^MC
```

The DVA file number, if known, will be supplied with type code "DVA" (as in AS 4700.1-2001) or with separate type codes for gold "DVG", orange "DVO" or white "DVW" (as in AS 4700.1-2005). For example:

```
Q 331321^^^^DVA
```

```
VX141145A^^^AUSDVA^DVG
```

The IHI number may be supplied in the PID-3 field with type code "NI" and assigning authority "AUSHIC". For example:

```
8003608833357361^^^AUSHIC^NI
```

2.1.1   Length and padding of local patient identifiers

Pathology service providers operate various laboratory information systems (LIS) that allocate patient identifiers of various lengths. Some LIS systems allocate identifiers of a variable length with no zeros on the left, while others automatically add zeros on the left to pad to a fixed length.

HIPS supports numeric and non-numeric local identifiers from 1 to 40 characters in length. The expected length for a local identifier is defined via the HIPS "Mrn.Padding" configuration setting, which specifies the total number of characters expected for a standardised local identifier. The default value for the configuration setting is 9, but can be configured to any value between 1 and 40.

Do not send a local identifier more than 40 characters in length. If more than 40 characters are supplied, HIPS will find or create the patient with the identifier truncated to 40 characters.

To meet the requirements of this profile, any local patient identifier that is input via the HL7 interface will have zeros added to the beginning until it reaches the number of digits in length specified by the "Mrn.Padding" configuration setting. This applies equally to numeric and non-numeric identifiers.

If the identifier is already equal to or more than the number of characters in length specified by the "Mrn.Padding" configuration setting, then no further padding is added.

For example, with the default value of 9 for the "Mrn.Padding" configuration setting:

- "123456" (6 digits) will be padded with 3 zeros and stored as "000123456"

- "123456789" (9 digits) will not be padded

- "1234567890123456" (16 digits) will not be padded

- "ABCD" (4 letters) will be padded with 5 zeros and stored as "00000ABCD"

2.2 R01 – Send a Pathology Report

The ORU^R01 message structure is as follows:

Structure	Segment Description
MSH	Message Header
PID	Patient Identification
[PV1]	Patient Visit
{	
ORC	Common Order
OBR	Observation Request
{OBX}	Observation Result
}	

The following is an example of a fictitious HL7 message that might be used by "Sample Pathology" (SP) to send a Pathology Report from their LIS to HIPS for upload to the My Health Record system. The patient Leonardo Bowden is identified by a primary local ID 789012 assigned by SP, and a secondary ID which is a hospital MRN 234567 assigned by RCH, and has Medicare card number 2951051231, DVA file number SX23456 and IHI 8003608833395304 last validated by the sending system at 14:33 on 29/5/2018. The reporting pathologist and author Adrian Grignon is identified by HPI-I 8003611566666859.

```
MSH|^~\&|LIS|Sample Pathology^SP^L|HIPS|Sample
Pathology^L||20151026171840+1000||ORU^R01
^ORU_R01|HOM07051718571.7820|P|2.4^AUS&&ISO^0.9&&L||||||AUS|8859/1

PID|1||789012^^^SP^PI~234567^^^RCH^MR~2951051231^^^AUSHIC^MC~SX23456^^^AUSDVA^DVG
~8003608833395304^^^AUSHIC^NI^^201805291433+0930||Bowden^Leonardo^David
James^^Mr^^L||19831017|M
||4^Neither Aboriginal nor Torres Strait Islander origin^METEOR-291036|139 King
Street^^BUDERIM^QLD^4556^AUS^H||^PRN^CP^^^^0427102023|^WPN^CP^^^^0427102023

PV1|1|O||||||0191323F^MCINTYRE^ANDREW^K^^DR^^^AUSHICPR^L^^^UPIN|0191323F^MCINTYRE
^ANDREW^K^^DR^^^AUSHICPR^L^^^UPIN|||||||N

ORC|RE||5C4044BC-686E-4F03-A957-E883639A7DC8^Demo Server^1FFA8984-7166-4655-B195-
7B4FFFD2F136^GUID||CM|||||||||0191323F^MCINTYRE^ANDREW^K^^DR^^^AUSHICPR^L^^^UPIN

OBR|1||5C4044BC-686E-4F03-A957-E883639A7DC8^Demo Server^1FFA8984-7166-4655-B195-
7B4FFFD2F136^GUID|26604007^Complete blood count^SCT^FBE^Full Blood Count^SUPER-
LIS|||20050705+1000|||||||||||0191323F^MCINTYRE^ANDREW^K^^DR^^^AUSHICPR^L^^^UPIN||F
rom Demo Server"XX07051718266.4883.oru"05.07.2005||LN=5C4044BC-686E-4F03-A957-
E883639A7DC8||20050705171802+1000||PHY|F||^^^20050705+1000|0191323F^MCINTYRE^ANDR
EW^K^^DR^^^AUSHICPR^L^^^UPIN||||8003611566666859&GRIGNON&ADRIAN&JAMES&&DR&&&AUSHI
C

OBX|1|ED|PDF^Display format in
PDF^AUSPDI||^application^PDF^Base64^JVBERi0xLjQ....|||||||F
```

Only the following segments are used by HIPS, the rest are ignored:

Segment	Name	Required/Optional	Freq. of Occurrence
MSH	Message Header	R	1..1
PID	Patient Identification	R	1..1
PV1	Patient Visit	O	0..1
ORC	Common Order	R	1..1 per OBR
OBR	Observation Request	R	1..*
OBX	Observation Results	O	0..* per OBR

2.2.1 MSH Mappings

```
MSH|^~\&|LIS|Sample Pathology^SP^L|HIPS|Sample
Pathology^L||201805291427+1000||ORU^R01
|HOM07051718571.7820|P|
```

The following table describes the MSH segment from the sample message above.

Field	Description	Example Value	HIPS Mapping
1	Field Separator			
2	Encoding Characters	^~\&	
3	Sending Application	LIS	HL7MessageLog.SendingApplication and FillerOrderNumber.SendingApplication
4	Sending Facility	Sample Pathology^SP^L	First component goes to HL7MessageLog.SendingFacility and FillerOrderNumber.SendingFacility Second component (if provided) must match HospitalCode.Code
5	Receiving Application	HIPS	
6	Receiving Facility	Sample Pathology^SP^L	
7	Date/Time of Message	201805291427+1000	HL7MessageLog.DateTimeOfMessage
8	Security		
9	Message Type	ORU^R01	
10	Message Control ID	HOM07051718571.7820	HL7MessageLog.MessageControlId
11	Processing ID	P	
12	Version ID		

Field	Description	Example Value	HIPS Mapping
13	Sequence Number		
14	Continuation Pointer		
15	Accept Acknowledgment Type		
16	Application Acknowledgment Type		
17	Country Code		
18	Character Set		
19	Principal Language of Message		
20	Alternate Character Set Handling Scheme		

2.2.2 PID Mappings

```
PID|1||789012^^^SP^PI~234567^^^RCH^MR~2951051231^^^AUSHIC^MC~SX23456^^^AUSDVA^DVG
~8003608833395304^^^AUSHIC^NI^^201805291433+0930||Bowden^Leonardo^David
James^^Mr^^L||19831017|M|
|4^Neither Aboriginal nor Torres Strait Islander origin^METEOR-291036|139 King
Street^^
BUDERIM^QLD^4556^AUS^H||^PRN^CP^^^^0427102023|^WPN^CP^^^^0427102023
```

The following table describes the PID segment from the sample message above.

Field	Description	Example Value	HIPS Database Locations
1	Set ID - PID	1	
2	Patient ID		
3	Patient Identifier List	789012^^^SP^PI ~123456^^^RCH^MR ~2951051231^^^AUSHIC^MC ~SX23456^^^AUSDVA^DVG ~8003608833395304^^^AUSHIC^NI^^201805291433+0930	See Patient Identifier List Structure
4	Alternate Patient ID - PID		
5	Patient Name	Bowden^Leonardo^David James^^Mr^^L	See Patient Name Structure
6	Mother's Maiden Name		
7	Date/Time of Birth	19831017	PatientMaster.DateOfBirth

Field	Description	Example Value	HIPS Database Locations
8	Sex	M	PatientMaster.CurrentSexId (M,F,O,U) ➔ (1,2,3,-1)
9	Patient Alias		
10	Race	4^Neither Aboriginal nor Torres Strait Islander origin^METEOR-291036	Pathology Report: Indigenous Status
11	Patient Address	139 King Street^^BUDERIM^QLD^4556^AUS^H	See Patient Address Structure
12	County Code		
13	Phone Number - Home	^PRN^CP^^^^0427102023	See Patient Contact Structure
14	Phone Number - Business	^WPN^CP^^^^0427102023	See Patient Contact Structure
15	Primary Language		
16	Marital Status		
17	Religion		
18	Patient Account Number		
19	SSN Number - Patient		
20	Driver's License Number - Patient		
21	Mother's Identifier		
22	Ethnic Group		
23	Birth Place		
24	Multiple Birth Indicator		
25	Birth Order		
26	Citizenship		
27	Veterans Military Status		
28	Nationality		
29	Patient Death Date and Time		
30	Patient Death Indicator		

2.2.2.1 Patient Identifier List Structure

```
789012^^^SP^PI~123456^^^RCH^MR~29510512311^^^AUSHIC^MC~SX23456^^^AUSDVA^DVG~80036
0883395304^^^AUSHIC^NI^^201805291433+0930
```

2.4: CX extended composite ID with check digit

No	Description	Primary ID	Secondary ID (MRN)	Medicare Card Number & IRN	DVA File Number	IHI
1	ID	789012	123456	29510512311	SX23456	80036088 33395304
2	Check digit					
3	Check digit scheme					
4	Assigning authority	SP	RCH	AUSHIC	AUSDVA	AUSHIC
5	Identifier type code[1]	PI	MR	MC	DVG	NI
6	Assigning facility					
7	Effective date/time					20180529 1433+0930
HIPS Mapping		Database: HospitalPatient.Mrn Pathology Report: Entity Identifier	Pathology Report: Entity Identifier	Database: PatientMaster.MedicareNumber PatientMaster.MedicareIrn Pathology Report: Entitlement	Database: PatientMaster.DvaNumber	Database: PatientMasterIhi.Ihi PatientMasterIhi.DateLastValidated Pathology Report: Entity Identifier

Note: Among patient identifiers with "PI" and "MR" type, the one whose assigning authority matches the sending facility (the "PI" from "SP") is the primary local identifier, used for looking up the patient in the HIPS database. Any others (like the "MR" from "RCH") are treated as secondary identifiers.

---

[1] PI = Patient Internal Identifier; MR = Medical Record Number; MC = Medicare Card Number and IRN;
    DVA, DVG, DVO or DVW = Department of Veterans' Affairs File Number; NI = IHI

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2.2.2.2 Patient Name Structure

```
Bowden^Leonardo^David James^^Mr^^L
```

2.4: XPN extended person name

Component	Description	Value	HIPS Mapping
1	Family Name	Bowden	PatientMasterName.FamilyName
2	First Given Name	Leonardo	PatientMasterName.GivenNames
3	Middle Names	David James	PatientMasterName.GivenNames (appended to first given name)
4	Suffix (e.g., JR or III)		PatientMasterName.SuffixId (Code stored in Suffix table)
5	Prefix (e.g., DR)	Mr	PatientMasterName.TitleId (Code stored in Title table)
6	Degree (e.g., MD)		
7	Name Type Code	L	Legal Name "L" is required.
8	Name Representation Code		

2.2.2.3 Patient Address Structure

```
139 King Street^^BUDERIM^QLD^4556^AUS^H
```

2.4: XAD extended address

Component	Description	Value	HIPS Mapping
1	Street address	139 King Street	Address.AddressLine1
2	Other designation		Address.AddressLine2
3	City	BUDERIM	Address.PlaceName
4	State or province	QLD	Address.AustralianStateId. Requires a matching code in the hips.State table.
5	Zip or postal code	4556	Address.Postcode
6	Country	AUS	Address.CountryId. If not specified, defaults to Australia. If specified, requires a matching code or description in the hips.Country table.
7	Address type		Address.AddressTypeId

		Requires a matching code in the hips.AddressType table.
8	Other geographic designation	
9	County/parish code	
10	Census tract	
11	Address representation code	

2.2.2.4   Patient Contact Structure

PID-13 Phone number - Home:

`^PRN^CP^^^^0427102023`

PID-14 Phone number - Business:

`^WPN^PH^^^08^84448333`

2.4: XTN extended telecommunication number

Component	Description	Value	HIPS Mapping
1	Complete Number		Contact.Detail Note: If XTN.7 has a value, HIPS will construct the phone number by joining components 5, 6, 7, 8 and 9. However, if XTN.7 is empty, HIPS will format XTN.1 instead.
2	Telecommunication Use Code	WPN	Contact.ContactMethodId Must be (WPN | PRN | NET)
3	telecommunication equipment type (ID)	PH	Contact.ContactMethodId Must be (PH | FX | CP)
4	Email address		
5	Country Code		Contact.Detail
6	Area/city code	08	Contact.Detail
7	Phone number	84448333	Contact.Detail
8	Extension		Contact.Detail
9	any text		Contact.Detail

2.2.3   ORC Mappings

`ORC|RE|12345|67890||CM|||||20050705+1000`

Field	Description	Example Value	HIPS Mapping
1	Order Control - ORC	RE	
2	Placer Order Number	12345	
3	Filler Order Number	67890	
4	Placer Order Group		
5	Order Status	CM	
6	Response Flag		
7	Quantity/Timing		
8	Parent		
9	Date/Time of Transaction	20050705+1000	Request Date/Time If supplied, must be consistent with OBR-27.4 Quantity/Timing Start Date/Time.
10	Entered By		
11	Verified By		
12	Ordering Provider		
13	Enterer's Location		
14	Call Back Phone Number		
15	Order Effective Date/Time		
16	Order Control Code Reason		
17	Entering Organisation		
18	Entering Device		
19	Action By		
20	Advanced Beneficiary Notice Code		
21	Ordering Facility Name		
22	Ordering Facility Address		
23	Ordering Facility Phone Number		
24	Ordering Provider Address		

Field	Description	Example Value	HIPS Mapping
25	Order Status Modifier		

2.2.4 OBR Mappings

```
OBR|1|12345|67890|26604007^Complete blood count^SCT^FBE^Full Blood Count^SUPER-
LIS|||
200507051025+1000|||||||||0191323F^McIntyre^Andrew^K^^Dr^^^AUSHICPR^L^^^^Happy
Clinic&
1.2.36.1.2001.1003.0.800362000000000&ISO||||||20050705171802+1000||PHY|F||^^^2005
0705
+1000|||||8003611566666859&GRIGNON&ADRIAN&JAMES&&DR&&&AUSHIC
```

Field	Description	Example Value	HIPS Mapping
1	Set ID - OBR	1	
2	Placer Order Number	12345	Database Location: FillerOrderNumber.OrderIdentifier Pathology Report: Requester Order Identifier Note: HIPS 6.2 and above omit the Requester Order ID if the Placer Order Number is not specified or not unique across all OBR segments. Previous versions of HIPS would populate with a UUID if not specified or not unique. HIPS 7.1 and above also omit the Requester Order ID if the HPI-O of the requesting organisation has not been provided in OBR-16

Field	Description	Example Value	HIPS Mapping
3	Filler Order Number	67890	Database Location: FillerOrderNumber.FillerOrderNumber Pathology Report: Report ID Note: The values in OBR-3.1 along with the MSH-3.1 Sending Application and MSH-4.1 Sending Facility identify the report and control whether HIPS uploads as a new report or a correction. After an Incorrect Identity removal HIPS 7.1 will allow the same report (based on MSH-3.1, MSH-4.1 and OBR-3.1) to be uploaded to a different patient. HIPS will populate Report ID from the first of the following that is valued: 1. SOAP request 2. OBX-3.4 for PDF 3. OBR-3.1 If Report ID is populated from OBR-3.1 then the value must be the same in every OBR segment.
4	Universal Service ID	26604007^Complete blood count^SCT^FBE^Full Blood Count^SUPER-LIS	Pathology Report: Test Result Name
5	Priority		
6	Requested Date/time		
7	Observation Date/Time	200507051025+1000	Pathology Report: Observation Date/Time and Collection Date/Time Note: The value provided must not be a partial date or contain fractional seconds, as these are not supported by the My Health Record. HIPS will reject messages containing these unsupported formats.

Field	Description	Example Value	HIPS Mapping
8	Observation End Date/Time		
9	Collection Volume		
10	Collector Identifier		
11	Specimen Action Code		
12	Danger Code		
13	Relevant Clinical Info		
14	Specimen Received Date/Time		
15	Specimen Source		
16	Ordering Provider	0191323F^McIntyre^Andrew^K^^Dr^ ^^AUSHICPR^L^^^^ Happy Clinic&1.2.36.1.2001. 1003.0.800362000000000&ISO	Pathology Report: Requester Name Requester Organisation Name and HPI-O
17	Order Callback Phone Number		
18	Placer field 1		
19	Placer field 2		
20	Filler Field 1	AUSEHR=Y	If present, AUSEHR=Y indicates a My Health Record exists, so HIPS will not call DoesPCEHRExist.
21	Filler Field 2		
22	Results Rpt/Status Chng - Date/Time	20050705171802+1000	Pathology Report: Report Date/Time Note: The value must include both a date and a time.
23	Charge to Practice		
24	Diagnostic Serv Sect ID	PHY	Pathology Report: Pathology Discipline (Diagnostic Service)

Field	Description	Example Value	HIPS Mapping
25	Result Status	F	Pathology Report: Report Status and Result Status If result status is "X" on all OBR segments HIPS will remove the report from the My Health Record.
26	Parent Result		
27	Quantity/Timing	^^^20050705+1000	Pathology Report: Request Date/Time If supplied, must be consistent with ORC-9 Date/Time of Transaction
28	Result Copies To		
29	Parent		
30	Transportation Mode		
31	Reason for Study		
32	Principal Result Interpreter	Local ID "AG21" from "SP": AG21&GRIGNON&ADRIAN&&&&&&SP or HPI-I: 8003611566666859&GRIGNON& ADRIAN&&&&&AUSHIC	Pathology Report: Document Author and Reporting Pathologist
33	Assistant Result Interpreter		
34	Technician		
35	Transcriptionist		
36	Scheduled Date/Time		
37	Number of Sample Containers		
38	Transport Logistics of Collected Sample		
39	Collector's Comment		
40	Transport Arrangement Responsibility		
41	Transport Arranged		
42	Escort Required		

Field	Description	Example Value	HIPS Mapping
43	Planned Patient Transport Comment		

2.2.5 OBX Mappings

Each message may include the PDF as Embedded Data or Reference Pointer, but not both.

```
OBX|1|ED|PDF^Display format in
PDF^AUSPDI||^application^PDF^Base64^JVBERi0xLj…||||||F

OBX|1|RP|PDF^Display format in PDF^AUSPDI||TestPR.pdf^application^PDF||||||F
```

Field	Description	Example Value	HIPS Mapping
1	Set ID - OBX	1	
2	Value Type	Embedded Data Base-64 ED Reference Pointer File Name RP	
3	Observation Identifier	PDF^Display format in PDF^AUSPDI^*ReportID*	Pathology Report: Report ID See OBR-3.1 for description of logic for Report ID.
4	Observation Sub-ID		
5	Observation Value	Embedded Data Base-64 ^application^PDF^Base64^JVBERi0 xLjQKMSAwIG9iago8PAovVGl0bGU gKP7/KQovQ3Jl... Reference Pointer File Name TestPR.pdf^application^PDF	Pathology Report: Test Result Representation (Document Target)
6	Units		
7	References Range		
8	Abnormal Flags		
9	Probability		
10	Nature of Abnormal Test		
11	Observ Result Status	F	
12	Date Last Obs Normal Values		

Field	Description	Example Value	HIPS Mapping
13	User Defined Access Checks		
14	Date/Time of the Observation		
15	Producer's ID		
16	Responsible Observer		
17	Observation Method		

3 Low Level Protocol

3.1 Communications

The supported communication methods with HIPS are SOAP web services and MLLP through Mirth Connect.

Summary	
Connectivity:	SOAP 1.2 on HTTP 1.1 (optionally on TLS 1.0)
	MLLP via Mirth Connect
Connection Type:	Single Message (est. by sending system)
End of Segment:	Carriage Return
Character Set:	ASCII

3.2 Character Encoding/Standard

All messages should comply with the printable characters from the ASCII character set.

3.3 Message Framing

The message framing convention used will be SOAP Version 1.2. The web service description (WSDL) and XML schemas (XSD) are in the *HIPS Core WSDL* folder in the same package as this document.

The SOAP header will need WS-Addressing headers, Action and To, which are usually added by the SOAP client software.

The "User" parameter identifies the person who will be recorded in the HI Service and My Health Record system audit logs as responsible for the actions of the HIPS system upon receiving the message, including validating IHI and HPI-I identifiers, checking existence of a My Health Record, and uploading or removing the pathology report. The "xsi:type" attribute may specify the LocalUser or ResponsibleUser type. The LocalUser type is used to supply the person's name and ID at run time. The ResponsibleUser type is used when the identity of the responsible person is pre-configured in the AuthorisedEmployeeName and AuthorisedEmployeeUserId columns of the Hospital table. The MLLP interface in Mirth Connect is configured to use the ResponsibleUser type.

The "HL7Message" parameter contains the encoded HL7 message and has been represented with a CDATA tag in the example below for ease of reading. Each HL7 segment ends with a carriage return; the final segment in the message ends with a carriage return, followed by the end of CDATA tag. Client software may encode & < > as XML entities instead of a CDATA tag.

The "Report" parameter may contain the base-64 encoded data representing the diagnostic imaging report PDF, if the report PDF was not supplied in an OBX segment of the HL7 message.

The "ReportLocation" parameter may contain the file name for the PDF, if the report PDF was not supplied by either method above.

For Example:

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:pceh="http://nehta.hips/2014/03/pcehr"
xmlns:hips="http://schemas.datacontract.org/2004/07/HIPS.ServiceContracts.Common.Message"
xmlns:hips1="http://schemas.datacontract.org/2004/07/HIPS.ServiceContracts.Pcehr.Message"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:ns="http://nehta.hips/2014/03">
   <soap:Header/>
   <soap:Body>
      <pceh:UploadOrRemovePathology>
         <hips:User xsi:type="ns:LocalUser">
            <ns:Domain>CHAMONIX</ns:Domain>
            <ns:FamilyName>Test</ns:FamilyName>
            <ns:GivenNames>Hips</ns:GivenNames>
            <ns:Login>Hips.Test</ns:Login>
         </hips:User>
         <hips1:HL7Message><![CDATA[MSH|^~\&|LIS|Sample Pathology^SP^L|HIPS|Sample
Pathology^L||20151026171840+1000||ORU^R01^ORU_R01|HOM07051718571.7820|P|2.4^AUS&&ISO^0.9&
&L|||||AUS|8859/1
PID|1||789012^^^SP^PI~234567^^^RCH^MR~2951051231^^^AUSHIC^MC~SX23456^^^AUSDVA^DVG~8003608
833395304^^^AUSHIC^NI||Bowden^Leonardo^David James^^Mr^^L||19831017|M||4^Neither
Aboriginal nor Torres Strait Islander origin^METEOR-291036|139 King
Street^^BUDERIM^QLD^4556^AUS^H||^PRN^CP^^^^0427102023|^WPN^CP^^^^0427102023
PV1|1|O|||||||||||||||N
ORC|RE|12345|67890||CM|||||20050705+1000
OBR|1|12345|67890|26604007^Complete blood count^SCT^FBE^Full Blood Count^SUPER-
LIS|||20050705+1000|||||||||0191323F^MCINTYRE^ANDREW^K^^DR^^^AUSHICPR^L^^^^Happy
Clinic&1.2.36.1.2001.1003.0.800362000000000&ISO||||||20050705171802+1000||PHY|F||^^^20050
705+1000|||||8003611566666859&GRIGNON&ADRIAN&JAMES&&DR&&&AUSHIC
OBX|1|ED|PDF^Display format in PDF^AUSPDI||^application^PDF^Base64^JVBERi0xLjQ....|||||||F
]]></hips1:HL7Message>
      </pceh:UploadOrRemovePathology>
   </soap:Body>
</soap:Envelope>
```

4 Application Level Protocol

4.1 Message Definitions

Below is a list of the message segments that may be included in the HL7 message. Some of these segments have not been standardised. Consult the source system documentation to determine the segment detail.

Please note:

- Those segments with an "R/O" (Required/Optional) value of "R" are always sent.

- HIPS will accept any valid HL7 segment that can be sent in the HL7 message, ignoring segments that are not applicable to the application.

- Grey segments are accepted but ignored by HIPS.

4.1.1 ORU – R01   Pathology Results Message

Segment	Name	R/O	Freq. of Occurrence
MSH	Message Header	R	1
EVN	Event	O	1
PID	Patient Identification	R	1
NK1	Next of Kin	O	Multiple
PV1	Patient Visit	O	1
PV2	Patient Visit – Additional	O	1
ORC	Common Order	R	1 for each OBR
OBR	Observation request	R	Multiple
OBX	Observation results	O	Multiple for each OBR

4.2 Segment Definition Notes

The format for the standardised message segments is defined in the tables below.

Please note:

- Shaded fields are not used by HIPS.

- Literal values for specific fields are enclosed in quotes (e.g. "2.4").

- Those fields with an "R/O" value of "R" must always be sent.

- Those fields with an "R/O" value "R*" or "O*" are a deviation from the HL7 2.4 standard with respect to optionality.

- Field lengths (for each repetition) are assumed to be as per HL7 2.4 standard unless otherwise noted in the 'Format/Ref/Notes' column.

- Please read section 5.4 regarding the use of the CE data type and non-standardised values prior to reading the segment definitions.

4.3   Common Segment Definitions

4.3.1   MSH – Message Header

Seq #	Item#	Name	R/O	RP/#	DT	Format/Ref/Notes
1	00001	Field Separator	R		ST	"|"
2	00002	Encoding Characters	R		ST	"^~\&"
3	00003	Sending Application	R*		HD	Namespace ID^Universal ID^Universal ID Type
						HIPS stores the Namespace ID in HL7MessageLog.SendingApplication and FillerOrderNumber.SendingApplication.
4	00004	Sending Facility	R*		HD	Namespace ID^Universal ID^Universal ID Type
						HIPS stores the Namespace ID in HL7MessageLog.SendingFacility and FillerOrderNumber.SendingFacility.
						If the Universal ID component has a value, then Universal ID is the facility code.
						If the Universal ID component is blank, then Namespace ID is the facility code.
						The facility code determines which facility of which organisation is creating and uploading or removing the pathology report.
						The facility code must match the assigning authority of the primary patient identifier.
						HIPS looks up the facility code in the Code column of the HospitalCode table where CodeSystemId is 114, which corresponds to a code system "patientIdAuthCd", the Assigning Authority that issues the primary internal identifier.

Seq #	Item#	Name	R/O	RP/#	DT	Format/Ref/Notes
5	00005	Receiving Application	R*		HD	Not used
6	00006	Receiving Facility	R*		HD	Not used
7	00007	Message date/time stamp	O		TS	HIPS stores this in HL7MessageLog.DateTimeOfMessage When the configuration setting "UseHL7MessageDateTime" is true, messages on the HIPS queue for the same patient are processed in the order implied by the timestamp in this field, otherwise messages are processed in the order that HIPS received them.
8	00008	Security	O		ST	Not used
9	00009	Message type	R		MSG	Message Type ^ Event Type ^ Message Structure "ORU^R01" expected for pathology report Message
10	00010	Message Control ID	R		ST	HIPS will store this value in HL7MessageLog.MessageControlId and return it in MSA-2 in application acknowledgement messages.
11	00011	Processing ID	O*		ID	Not used
12	00012	Version ID	O*		VID	Not used
13	00013	Sequence Number	O		NM	Not used
14	00014	Continuation Pointer	O			Not used
15	00015	Accept Acknowledge Type	O		ID	Not used
16	00016	Application Acknowledge Type	O		ID	Not used

Seq #	Item#	Name	R/O	RP/#	DT	Format/Ref/Notes
17	00017	Country Code	O		ID	Not used
18	00692	Character set	O		ID	Not used
19	00693	Principal language of msg	O		CE	Not used
20	01317	Alternate Character Set Handling Scheme	O		ID	Not used

4.3.2   PID – Patient Identification Segment

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref/Notes
1	00104	Set ID – Patient ID	O		SI	Not used
2	00105	Patient ID (External ID)	O*		CX	Not used

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref/Notes
3	00106	Patient Identifier List (Internal Id)	R	Y	CX	CX type: ID ^ Check Digit ^ Check Digit Scheme ^ Assigning Authority (HD) ^ Identifier Type Code ^ Assigning Facility (HD) ^ Effective Date ^ Expiration Date
						HD type: Namespace ID & Universal ID & Universal ID Type
						All messages must contain a primary patient identifier assigned by the sending facility, having Identifier Type Code "PI" or "MR" and the Assigning Authority Namespace ID matching the sending facility code defined in MSH-4.
						Secondary patient identifiers such as hospital MRNs may be included in the CDA document by providing the OID in Assigning Authority Universal ID and "ISO" in Universal ID Type. Identifier Type Code may be "PI" or "MR".
						If the IHI has not yet been found by HIPS and associated with the primary patient identifier, the message must also supply at least one of the following:
						• Medicare Card Number, with or without the Individual Reference Number, with Identifier Type Code "MC",
						• Department of Veterans' Affairs file number, with Identifier Type Code "DVA", "DVO", "DVW" or "DVG", or
						• IHI with Identifier Type Code "NI". The time last validated with the HI Service, if known, may be supplied in Effective Date.
4	00107	Alternate Patient ID	O		CX	Not used

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref/Notes
5	00108	Patient Name	R		XPN	Family Name ^ First Given Name ^ Middle Names ^ Suffix ^ Prefix ^ Degree ^ Name Type Code ^ Name Representation Code
						Name Type shall always be L (Legal) for PID-5.
						This field has been defined with extended length which is a deviation from the HL7 standard of 48 characters. HIPS will store a maximum 80 characters for each of FamilyName and GivenNames (formed by combining the First Given Name and Middle Names components).
						HIPS stores this name in PatientMasterName with NameTypeId 2 (Current Name in PAS) and keeps previous values by changing their NameTypeId to 3 (Previous/Other Names).
						The name that the IHI is obtained with is also stored into PatientMasterIhi fields RegisteredFamilyName and RegisteredGivenNames.
6	00109	Mother's Maiden Name	O		XPN	Not used
7	00110	Patient Date of Birth	R*		TS	**Error! Reference source not found.**
						HIPS will store the Patient Date of Birth in PatientMaster.DateOfBirth and uses the value from this field for IHI searches.

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Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref/Notes
8	00111	Patient Sex	R*		IS	HIPS maps Patient Sex to AS 5017-2006 Health Care Client Identifier Sex using the table below:

Code	Description	SexId	Description
M	Male	1	Male
F	Female	2	Female
O	Other	3	Intersex or Indeterminate
U	Unknown	-1	Not Stated/Inadequately Described

HIPS stores the SexId value in PatientMaster.CurrentSexId and uses the value from this field for IHI searches. The sex that the IHI is obtained with is also stored into the PatientMasterIhi field RegisteredSexId.

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref/Notes
9	00112	Patient Alias	O	Y	XPN	Not used
10	00113	Race	R*		CE	Identifier ^ Text ^ Name of Coding System ^ Alternate Components ^ Alternate Text ^ Name of Alternate Coding System

HIPS populates the Indigenous Status in the pathology report using the code from the Identifier component.

Value	Meaning
1	Aboriginal but not Torres Strait Islander origin
2	Torres Strait Islander but not Aboriginal origin
3	Both Aboriginal and Torres Strait Islander origin
4	Neither Aboriginal nor Torres Strait Islander origin
9	Not stated/inadequately described

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref/Notes
11	00114	Patient Address	R*	Y	XAD	Address Line 1 ^ Address Line 2 ^ Suburb ^ State ^ Postcode ^ Country ^ Type Country is optionally populated. Stored in Address table and linked via PatientMasterAddress. Type codes are matched from the AddressType table:

		Code	Description
		H	Home
		WP	Business
		TMP	Temporary
		M	Mailing
		B	Business
		C	Temporary
		L	Financial
		F	Financial
		R	Residential
		U	Unknown

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref/Notes
12	00115	County Code	O			
13	00116	Phone Number (Home)	O	Y	XTN	**Error! Reference source not found.** Stored in Contact table and linked via PatientMasterContact.
14	00117	Phone Number (Business)	O	Y	XTN	**Error! Reference source not found.** Stored in Contact table and linked via PatientMasterContact.
15	00118	Primary Language	O		CE	Not used
16	00119	Marital Status	O		CE	Not used
17	00120	Religion	O		CE	Not used

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref/Notes
18	00121	Patient Account No.	O		CX	Not used
19	00122	SSN No. – Patient	O		CE	Not used. Note: HIPS looks in PID-3 for Medicare number.
20	00123	Drivers Lic. No – Patient	O			Not used
21	00124	Mother's Identifier	O		CX	Not used
22	00125	Ethnic Group	O		CE	Not used
23	00126	Birth Place	O		CE	Not used
24	00127	Multiple Birth Indicator	O		ID	Not used
25	00128	Birth Order	O		NM	Not used
26	00129	Citizenship	O			Not used
27	00130	Veteran's Military Status	O		CE	Not used
28	00739	Nationality	O			Not used
29	00740	Patient Death Date/time	O		TS	**Error! Reference source not found.** used
30	00741	Patient Death Indicator	O		ID	Not used

4.3.3 ORC – Common Order

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref./Notes
1	00215	Order Control - ORC	R	N	ID	Not used
2	00216	Placer Order Number	C		EI	Not used
3	00217	Filler Order Number	C		EI	Not used
4	00218	Placer Order Group	O		EI	Not used
5	00219	Order Status	O	N	ID	Not used
6	00220	Response Flag	O		ID	Not used
7	00221	Quantity/Timing	O	Y	TQ	Not used
8	00222	Parent	O		CM	Not used
9	00223	Date/Time of Transaction	O		TS	Mapped to Request Date/Time in the CDA document. A value must be supplied in either ORC-9 or OBR-27.4. If values are supplied in multiple places the values must be identical.
10	00224	Entered By	O	Y	XCN	Not used
11	00225	Verified By	O	Y	XCN	Not used
12	00226	Ordering Provider	O	Y	XCN	Not used
13	00227	Enterer's Location	O		PL	Not used
14	00228	Call Back Phone Number	O	Y/2	XTN	Not used
15	00229	Order Effective Date/Time	O		TS	Not used

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Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref./Notes
16	00230	Order Control Code Reason	O		CE	Not used
17	00231	Entering Organisation	O		CE	Not used
18	00232	Entering Device	O		CE	Not used
19	00233	Action By	O	Y	XCN	Not used
20	01310	Advanced Beneficiary Notice Code	O		CE	Not used
21	01311	Ordering Facility Name	O	Y	XON	Not used
22	01312	Ordering Facility Address	O	Y	XAD	Not used
23	01213	Ordering Facility Phone Number	O	Y	XTN	Not used
24	01314	Ordering Provider Address	O	Y	XAD	Not used
25	01437	Order Status Modifier	O	N	CWE	Not used

4.3.4 OBR – Observation Request

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref./Notes
1	00237	Set ID - OBR	C		SI	Not used
2	00216	Placer Order Number	O*		EI	Entity Identifier ^ Namespace ID ^ Universal ID ^ Universal ID Type
						Entity Identifier is stored in FillerOrderNumber.OrderIdentifier and mapped to Requester Order Identifier in the pathology report.
3	00217	Filler Order Number	R*		EI	Entity Identifier ^ Namespace ID ^ Universal ID ^ Universal ID Type
						The Report ID in the Pathology Report is mapped from the first of the following that has a value provided:
						• The Report ID provided in the SOAP request parameters
						• The value in OBX-3.4 in the OBX segment whose OBX-3.1 value is "PDF"
						• The value of Entity Identifier, if it is unique across all OBR segments
						If none of the above apply, a validation error is returned.
						Entity Identifier is stored in FillerOrderNumber.FillerOrderNumber.
						This field along with the FillerOrderNumber.SendingApplication and FillerOrderNumber.SendingFacility is the key to supersede or remove a previously uploaded report.
						The combined value (FillerOrderNumber, SendingApplication and SendingFacility) identifies a report and may not be used on any other patient, unless the report has been uploaded to the wrong patient and removed from the My Health Record with a reason of Incorrect Identity. This type of removal cannot be processed through HL7 but requires the use of HIPS UI or invoking the HIPS web service PCEHRService Remove.

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref./Notes
4	00238	Universal Service ID	R		CE	Identifier ^ Text ^ Name of Coding System ^ Alternate Identifier ^ Alternate Text ^ Name of Alternate Coding System
						If only the first 3 components are provided, they are mapped to Test Name, finding the OID for the code system by looking up <u>Name of Coding System</u> in the Code column of the CodeSystem table where HL7FieldPosition is "OBR-4.3".
						Otherwise:
						• The first 3 components (primary code) are mapped to a Translation of the Test Name, finding the OID for the code system by looking up <u>Name of Coding System</u> in the Code column of the CodeSystem table where HL7FieldPosition is "OBR-4.3".
						• The second 3 components (alternate code) are mapped to the Test Name, finding the OID for the code system by looking up <u>Name of Alternate Coding System</u> in the Code column of the CodeSystem table where HL7FieldPosition is "OBR-4.6".
						Note: Change from HIPS 6.0 where alternate code was mapped to a Translation and primary code as primary. Codes are now deliberately intertwined because SNOMED codes are typically given as alternate code in HL7 v2 but should be the primary code in CDA.
5	00239	Priority	B		ID	Not used
6	00240	Requested Date/time	B		TS	Not used
7	00241	Observation Date/Time	R		TS	Collection Date Time and Observation Date Time
						<u>Note:</u> The value provided must not be a partial date or contain fractional seconds, as these are not supported by the My Health Record. HIPS will reject messages containing these unsupported formats.

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref./Notes
8	00242	Observation End Date/Time	O		TS	Not used
9	00243	Collection Volume	O		CQ	Not used
10	00244	Collector Identifier	O	Y	XCN	Not used
11	00245	Specimen Action Code	O		ID	Not used
12	00246	Danger Code	O		CE	Not used
13	00247	Relevant Clinical Info	O		ST	Not used
14	00248	Specimen Received Date/Time *	C		TS	Not used
15	00249	Specimen Source * 0070	O		CM	Not used
16	00226	Ordering Provider	O	Y	XCN	XCN type: ID Number ^ Family Name ^ Given Name ^ Middle Names ^ Suffix ^ Prefix ^ Degree ^ Source Table ^ Assigning Authority (HD) ^ Name Type Code ^ Identifier Check Digit ^ Check Digit Scheme ^ Identifier Type Code ^ Assigning Facility (HD) ^ Name Representation Code ^ Name Context ^ Name Validity Range ^ Name Assembly Order HD type: Namespace ID & Universal ID & Universal ID Type The Family Name is mandatory. The other components are optional. The Family Name, Given Name and Prefix are mapped to Requester. The Assigning Facility Namespace ID is mapped to Requester Organisation Name. If Assigning Facility Universal ID Type is "ISO" and Assigning Facility Universal ID has the form "1.2.36.1.2001.1003.0.*HPI-O*" then the HPI-O is mapped to Requester Organisation HPI-O.
17	00250	Order Callback Phone Number	O	Y/2	XTN	Not used

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref./Notes
18	00251	Placer field 1	O		ST	Not used
19	00252	Placer field 2	O		ST	Not used
20	00253	Filler Field 1	O		ST	Indicates existence of My Health Record. HIPS uses this field to determine if a 'DoesPCEHRExist' operation is required.
						When the value is AUSEHR=Y then HIPS will upload the report without performing a 'DoesPCEHRExist' operation as the calling system has indicated that a My Health Record exists for the Subject of Care.
						When the value is AUSEHR=N then HIPS will not upload.
						When no value is given, HIPS performs a 'DoesPCEHRExist' for each new pathology report and will only upload if the My Health Record has been advertised or disclosed.
21	00254	Filler Field 2	O		ST	Not used
22	00255	Results Rpt/Status Chng - Date/Time	R*		TS	HIPS determines latest value for CDA Overall Report Date Time. <u>Note:</u> The value must include both a date and a time.
23	00256	Charge to Practice	O		CM	Not used
24	00257	Diagnostic Serv Sect ID 0074	R*		ID	The code must be in the HL7 table 0074: Diagnostic service section ID for mapping to CDA Pathology Discipline
25	00258	Result Status 0123	R*		ID	Mapped to Report Final Result Status and Test Result Status. HIPS uses this code to determine if the document should be removed or uploaded. If the Result Status is "X" for all OBR segments, the document is removed with Removal Reason "Withdrawn", otherwise it is uploaded.
26	00259	Parent Result	O		CM	Not used

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref./Notes
27	00221	Quantity/Timing	C*		TQ	Quantity ^ Duration ^ Interval ^ Start Date/Time
						Start Date/Time is mapped to Request Date/Time in the CDA document.
						A value must be supplied in either ORC-9 or OBR-27.4.
						If values are supplied in multiple places the values must be identical.
28	00260	Result Copies To	O	Y/5	XCN	Not used
29	00261	Parent	O		CM	Not used
30	00262	Transportation Mode	O		ID	Not used
31	00263	Reason for Study	O	Y	CE	Not used

32	00264	Principal Result Interpreter	R*		NDL	NDL type: OP Name (CNN) ^ Start Date/time ^ End Date/time ^ Point of Care ^ Room ^ Bed ^ Facility ^ Location Status ^ Person Location Type ^ Building ^ Floor
						CNN type: ID & Family Name & Given Name & Middle Names & Suffix & Prefix & Degree & Source Table & Assigning Authority Namespace ID & Assigning Authority Universal ID & Assigning Authority Universal ID Type
						Mapped to document author and reporting pathologist.
						If the value of the Assigning Authority Namespace ID is "AUSHIC", the ID must be an HPI-I. If BypassHIService is false, HIPS will look up and store the HPI-I in the HealthProviderIndividualHpii table. If the HPI-I was not validated within HpiiValidationPeriodDays, HIPS will validate it with the HI Service.
						Otherwise, HIPS will look up the ID in HospitalHealthProviderIndividual table and look for an assigned HPI-I in the HealthProviderIndividualHpii table. If an HPI-I is found and not validated within the configured period, HIPS will validate it with the HI Service.
						If there is no HPI-I in the message or the local provider mapping tables:
						• The facility must have an exemption from the requirement to provide the HPI-I of the document author and reporting pathologist. A code must be configured in the HospitalCode table using the facility's HospitalId and CodeSystemId 115 (HpiiExemption) and the Code value must be "true".
						• A registered OID to populate the ID as a local provider identifier in the CDA document must be configured in the OID column of the CodeSystem table. HIPS will look up the OID in the CodeSystem table where HL7FieldPosition is "OBR-32.1.9" and the Code column is the Assigning Authority Namespace ID.
						If BypassHIService is true and there is no HPI-I exemption then a validated HPI-I must be provided in the message, and not looked up in the local provider mapping, since HIPS cannot validate the HPI-I itself.
33	00265	Assistant Result Interpreter	O	Y	CM	Not used

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref./Notes
34	00266	Technician	O	Y	CM	Not used
35	00267	Transcriptionist	O	Y	CM	Not used
36	00268	Scheduled Date/Time	O		TS	Not used
37	01028	Number of Sample Containers	O		NM	Not used
38	01029	Transport Logistics of Collected Sample	O	Y	CE	Not used
39	01030	Collector's Comment	O	Y	CE	Not used
40	01031	Transport Arrangement Responsibility	O		CE	Not used
41	01032	Transport Arranged	O		ID	Not used
42	01033	Escort Required	O		ID	Not used
43	01034	Planned Patient Transport Comment	O	Y	CE	Not used

4.3.5   OBX – Observational Results

Seq#	Item#	Name	R/O	RP/#	DT	Format/Ref.
1	00569	Set ID - OBX	O		SI	Not used
2	00570	Value Type	R*		ID	"ED" or "RP" Value Type determines if the Pathology Report PDF is embedded as Base64 string (ED) or to be read from a pre-configured location (RP). The pre-configured location is set in the web.config of the HIPS application server.
3	00571	Observation Identifier	R		CE	Identifier ^ Text ^ Name of Coding System ^ Alternate Identifier ^ Alternate Text ^ Name of Alternate Coding System HIPS will ignore all OBX segments except the one with Identifier "PDF". Alternate Identifier is mapped to the Report ID in the Pathology Report if no value is provided for the Report ID parameter in the SOAP request. If neither are provided, the Report ID is populated from OBR-3.1. See details at OBR-3.
4	00572	Observation Sub-ID	C		ST	Not used
5	00573	Observation Value	R*		ED or RP	Based on the value in OBX-2 Value Type, HIPS obtains the Base-64 string in OBX-5.5 or the file name in OBX-5.1 for the report PDF.
6	00574	Units	O		CE	Not used
7	00575	References Range	O		ST	Not used
8	00576	Abnormal Flags	O	Y/5	ID	Not used
9	00577	Probability	O		NM	Not used
10	00578	Nature of Abnormal Test	O	Y	ID	Not used
11	00579	Observ Result Status	R		ID	Not used

12	00580	Date Last Obs Normal Values	O		TS	Not used
13	00581	User Defined Access Checks	O		ST	Not used
14	00582	Date/Time of the Observation	O		TS	Not used
15	00583	Producer's ID	O		CE	Not used
16	00584	Responsible Observer	O		XCN	Not used
17	00936	Observation Method	O	Y	CE	Not used

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5 Data Type Definitions

This section details the specific implementation details for certain data types in use. Whenever the data type is referenced, the format here is followed. This section provides a more comprehensive view of the data types.

5.1 XTN Data Type

The XTN data type utilises the extended format as described in the following table. The following table describes the values in use when populated.

Field	Component Name	Data Sub Type	Format
1	Number	ST*	If supplied, should be same as component 7.
2	Use Code	ID	HL7 table 0201
3	Equipment Type	ID	HL7 table 0202
4	Email address	ST	
5	Country Code	ST*	International dialling country code
6	Area Code	ST*	Area (STD) code
7	Phone Number	ST*	Contains local portion of phone number, or full mobile (04xxxxxxx).
8	Extension	ST*	
9	Additional text	ST	

*Variance to HL7 v2.4 which uses NM for these component types.

Examples:

- email address: ^NET^Internet^zz@litlepond.net.au

- mobile number: 0414124124^PRN^CP^^^61^0414124124

- home phone: 83321234^PRN^PH^^^08^83321234

5.2 TS Data Type

The TS data type contains two components, as described in the following table. The precision component is optional.

HIPS 7.1 and above preserve the given precision and time zone when mapping date/time values into the Diagnostic Imaging Report. At the time of writing, the My Health Record system was

unable to handle partial dates (e.g. precision to the year or month) and fractional seconds in the Specimen Collection Date/Time but could handle them in the Request Date/Time.

Field	Component Name	Data Sub Type	*Format*
1	Time	ST	YYYY[MM[DD[hhmm[SS[.S[S[S[S]]]]]]]][+/-ZZZZ]
2	Precision	ST	"YYYY[MM[DD[hhmm[SS[.S[S[S[S]]]]]]]][+/-ZZZZ]" down to the level of precision. For example, "YYYYMM" would indicate a precision down to the month.

5.3   XCN Data Type

The XCN data type is used in OBR-16 Ordering Provider as defined in the following table.

Seq	Component Name	Data Type	Usage
1	ID Number	ST	HPI-I value or local identifier Not presently mapped into CDA document.
2	Family Name	ST	Family name
3	First Given Name	ST	Given name(s)
4	Middle Names	ST	Not used
5	Suffix	ST	Not used
6	Prefix	ST	Title
7	Degree	IS	Not used
8	Source Table	IS	Not used
9	Assigning Authority	IS	"AUSHIC" for HPI-I Other values indicate local identifiers.
10	Name Type Code	ID	Not used
11	Identifier Check Digit	ST	Not used
12	Check Digit Scheme	ID	Not used
13	Identifier Type Code	IS	Not used
14	Assigning Facility	HD	*See below*
15	Name Representation Code	ID	Not used
16	Name Context	CE	Not used
17	Name Validity Range	DR	Not used

Seq	Component Name	Data Type	Usage
18	Name Assembly Order	ID	Not used

The following table defines the values for subcomponents of Assigning Facility.

Seq	Subcomponent Name	Data Type	Description
1	Namespace ID	IS	Organisation name
2	Universal ID	ST	"1.2.36.1.2001.1003.0.**HPI-O**" where HPI-O is the HPI-O of the organisation.
3	Universal ID Type	ID	"ISO" to indicate the Universal ID is an OID.

5.4 CE Data Type

The CE data type is as per the HL7 2.4 specification. For elements that have been standardised the 'alternate' portion of the CE will generally contain the original source information. Non-standardised values from source systems may be passed in the 'alternate' portion of the CE datatype. Where supplied, these are for internal reference only and as a general rule should be ignored by receiving systems. Where the alternative value is present it will contain the value prior to transformation to the standard code system. This is of use to internal support personnel to debug missing or incorrect transformations. HIPS will generally ignore the alternate portion of the CE.

Notable exceptions:

1 The usage of the 'alternate' portion of OBR-4 Test Result Name is contrary to the above guideline as it is mapped to the primary Test Name in the CDA document, whereas the 'standard' portion is mapped to a Translation of the Test Name.

2 The usage of the 'alternate' portion of OBX-3 Observation Identifier for the Report ID when there is more than one OBR segment.

Acronyms

Acronym	Description
ADT	Admission, Discharge, Transfer
ESB	Enterprise Service Bus
IHI	individual healthcare identifier
IHTSDO	International Health Terminology Standards Development Organisation
IRN	Individual Reference Number
LIS	laboratory information systems
MRN	medical record number
OBR	Observation Request Segment of the HL7 message
OBX	Observation Result Segment of the HL7 message
OID	object identifier
ORC	Common Order Segment of the HL7 message.
ORU	Unsolicited transmission of an observation
SOAP	Simple Object Access Protocol)
SP	Sample Pathology
UUID	universally unique identifier
WSDL	Web Services Description Language

Glossary

Term	Meaning
Admission, Discharge, Transfer	Class of HL7 message types. Refer to the Patient Administration HL7 v2 Profile document for further information on the ADT message interface of HIPS.
Enterprise Service Bus	Integration hub for routing and transforming messages within and between healthcare facilities.
medical record number	A local identifier of a consumer, identified by the codes "MR" or "PI" in PID-3. HIPS stores the primary local identifier of each consumer in HospitalPatient.Mrn and uses the primary identifier to find existing patient records in the HIPS database. Ideally one primary identifier is allocated by the sending facility for each patient, though it is common to temporarily allocate a new MRN for new patients until their identity is confirmed. These temporary MRNs should be merged back to the original MRN for the patient using an A36 Merge MRN message. Refer to the Patient Record Merging Profile and Patient Administration HL7 v2 Profile documents for further information.
Observation Request Segment	Used to transmit information specific to an order for a diagnostic study or observation, physical exam, or assessment.
Observation Result Segment	Used to transmit a single observation or observation fragment. The PDF body of the pathology report may be embedded or referenced in an OBX segment, or embedded or referenced in a separate parameter of the SOAP request. HIPS ignores other OBX segments.
Common Order Segment of the HL7 message	Is used to transmit fields that are common to all orders.
Unsolicited transmission of an observation (ORU)	HL7 message type. The interface described in this document accepts ORU R01 events.