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Australian Digital Health Agency



HIPS

Evaluation Guide

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1. Introduction

1.1 Purpose

The purpose of this document is to provide an evaluation guide, so that Release 6.1 of the Healthcare Identifier and My Health Record system communications solution developed by Agency can be integrated with local systems.

The information in this guide is provided to assist with the evaluation of HIPS within a test environment and should not be followed when implementing into a production environment.

1.2 Scope

This guide covers the HIPS Demo Harness tool and other tools that can be used to evaluate the HIPS product suite.

This guide does not cover all of the HIPS functions, web services or methods or the User Interface Web Application. These details are provided in separate documents included in the HIPS 6.1 documentation package.

1.3 Assumptions

The following assumptions have been made in the development of this profile:

- Any HL7 messages used in the Demo Harness tool are configured as per the HL7 profile documents for HIPS to accept them.
- The Demo Harness tool is provided “as is” and is only to be used for HIPS evaluation purposes.

1.4 Definitions and Acronyms

Item	Definition
ADT	Admission, Discharge, Transfer. Class of HL7 message types. ADT is also an Application Code used in MSH.3 and MSH.5
ESB	Enterprise Service Bus – integration hub for routing and transforming messages within and between healthcare facilities.
HL7	Health Level Seven
HIPS	Healthcare Identifier and PCEHR System
PMI	Patient Master Index – often used to describe an informal class of HL7 ADT messages – includes updates to patient demographics and merge/unmerge message types. PMI is also an Application Code used in MSH.3 and MSH.5

Item	Definition
MRN	<p>Medical Record Number, identified by the code "MR" in PID-3. Ideally one MRN is allocated by the hospital for each patient, though it is common to temporarily allocate a new MRN for emergency 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.</p> <p>This number stored in HospitalPatient.Mrn and is the primary identifier used to find the existing patient records in the HIPS database.</p>
OPD	<p>Outpatient Department – often used to describe an informal class of HL7 message types – such as appointment/booking/scheduling messages. OPD is also an Application Code used in MSH.3 and MSH.5</p>
Enterprise Patient ID	<p>Unique Health Identifier – this code is used in PID-3 or PID-2 to identify the Enterprise ID for the patient, which determines which PatientMaster the patient is attached to. HospitalPatient records will move from one PatientMaster to another if their Enterprise Patient ID changes. See the HIPS Merging profile for more details. It is perfectly acceptable to operate HIPS using only the MRN and not to send in Enterprise IDs.</p>

2. Testing

HIPS is supplied as both binary and sample code. HIPS has undergone conformance assessments including Notice of Connection (NOC) for both HI Service and My Health Record, CCA for Healthcare Identifiers, and My Health Record conformance test cases applicable to the functionality of HIPS.

Before connecting to the My Health Record system, implementers of HIPS must undergo conformance assessments for functionality and processes outside the scope of HIPS.

Documentation of conformance assessments is available from the Agency Help Centre at help@digitalhealth.gov.au or by phoning 1300 901 001.

3. Evaluation Prerequisites

This section outlines the major prerequisites that participating organisations will need to obtain for successful evaluation, integration and CCD testing of HIPS.

3.1 Registration to HI Service Vendor Environment

DHS issues a pack of test Medicare Australia Site Certificates that are to be used for access to the HI Service vendor environment. Each organisation may request a pack from DHS and request the OTS Liaison to allow HIPS access using a certificate in their pack.

The product detail that are used to identify this version of the HIPS to the HI Service can be found in the *HIPS 6.1 - Initial and Clean Installation Guide (Core)* document.

3.2 Registration to My Health Record SVT Environment

DHS issues a pack of NASH-compliant HPI-O Test Certificates that are to be used by an organisation for their integration and CCD testing. Each organisation may request a pack from DHS and request the National Infrastructure Operator (NIO) to configure the My Health Record SVT Environment to allow HIPS access using the certificates in their pack. Additionally, if local identifiers for document authors are to be used in a CDA document then permissions are required from the NIO to allow access to the restricted templates for uploading documents with a local ID in place of an HPI-I to identify the author.

The product detail that are used to identify this version of the HIPS to the My Health Record system can be found in the *HIPS 6.1 - Initial and Clean Installation Guide (Core)* document.

4. HIPS Demo Harness

4.1 Overview

The HIPS Demo Harness can be used to demonstrate and test a subset of HIPS functionality.

The demo harness connects to the HIPS application server using the HTTP web service bindings of the following services:

- Database Loader Service – to submit HL7 messages from PAS for patient registration, updating patient demographics, admit, transfer and discharge events.
- IHI Service – to retrieve the validated IHI information for a patient record, for use in a clinical document to be uploaded to the My Health Record service.
- Consent Service – to withdraw consent to upload documents for an episode of care, disclose existence of a digital health record, or query patient participation status.
- PCEHR Service – to check whether a digital health record is advertised, upload or supersede, remove, gain access, get document list, retrieve, and get Change History.

The demonstration application also makes a direct connection to the HIPS Core database, to show available patients and episodes, to show the information that is stored as a result of the IHI search and the audit records that are created.

4.2 Limitations

The demo harness does not expose all features and operating modes of the HIPS application server.

The demo harness operates with the following limitations:

- Test patients must be registered and admitted via HL7 messages.
- The demonstration HL7 messages have hospital codes that must be changed to match the hospital codes you have configured for HIPS.
- Each IHI must be obtained from the HI Service vendor environment using the Medicare Number or DVA number, so test patients for which the Medicare or DVA number is unknown cannot be used.
- HIPS services are invoked using MRN identifier, not using State Patient ID or Validated IHI.
- Some HIPS services are not exposed in the demo harness (in particular: Get Operation Status, Reload Reference Data, Get Hospital Details, Check Consent and Check Disclosure, Assisted Registration, Prescription and Dispense View, HPI-I Search).

In order to evaluate the usage of HIPS with the Validated IHI parameter, an alternative web service testing tool, such as soap-UI, is required: See Section [5](#) for details.

4.3 HIPS Demo Harness Configuration

The files for the HIPS Demo Harness can be found in folder "Demo Harness Application".

HIPS Demo Harness configuration options are held in the file "HIPS.DemoHarness.exe.config". At a minimum, the highlighted items must be replaced with applicable values for the installation.

4.4 SQL Connection Strings

Name	Changes Required
PcehrDataStoreConnectionString	Change the value after "Data Source" to the database server name Change the value after "Initial Catalog" to the database name If it is necessary to use SQL Server Authentication instead of Windows Authentication, change "Integrated Security" to false and add "User ID" and "Password" items.
HIPS.DemoHarness.Properties.Settings.HL7DatabaseConnectionString	No Changes Required
HIPS.DemoHarness.Properties.Settings.PcehrDataStoreConnectionString	Apply the same changes to this connection string as were applied in the first connection string.
HIPS.DemoHarness.Properties.Settings.P2P_P2PDataStoreDevConnectionString	Change the value after "Data Source" to the database server name Change the value after "Initial Catalog" to the P2P database name If it is necessary to use SQL Server Authentication instead of Windows Authentication, change "Integrated Security" to false and add "User ID" and "Password" items.

4.5 Endpoint Addresses

Six endpoints must be configured for each HIPS environment, being the Database Loader Service, IHI Service, PCEHR Service, PCEHR Service V2, CDA service and Consent Service.

Three endpoints must be configured for each P2P environment, being for the Provider Individual Directory Service, Message Delivery Service and Reference Data Service.

Multiple endpoints are configurable, using an underscore to separate the environment from the service. For example, the name "Development_DatabaseLoaderService" refers to the Database Loader Service for the development environment, while the name "SystemTest_ConsentService" refers to the Consent Service for the System Test environment.

Replace hostname, port and ENV with the HIPS application server name, HTTP port and the environment identifier (DEV / SYSTEST / PREPROD / PROD) for each of the endpoints in the demo harness configuration file.

Demo harness also requires the configuration settings to be configured for the HIPS UI URL, such as "HIPS System Testing_HIPS_UI_URL". The environment name "HIPS System Testing" is the part before the first underscore, this must match the environment name in each client endpoint name.

Section	Suggested Value	Description
Endpoints named Database Loader Service	http://hostname:port/HIPSServer_ENV/HIPS.Service.DatabaseLoaderService.svc/HIPS.Service.DatabaseLoaderService	The test harness will connect to the HIPS Database Loader Service using the web service at this URL.
Endpoints named IHI Service	http://hostname:port/HIPSServer_ENV/HIPS.Service.IHIService.svc/HIPS.Service.IHIService	The demo harness will connect to the HIPS IHI Service using the web service at this URL
Endpoints named PCEHR Service	http://hostname:port/HIPSServer_ENV/HIPS.Service.PCEHRService.svc/HIPS.Service.PCEHRService	The demo harness will connect to the HIPS PCEHR Service using the web service at this URL
Endpoints named PCEHR Service V2	http://hostname:port/HIPSServer_ENV/HIPS.Service.PCEHRService.svc/HIPS.Service.PCEHRServiceV2	The demo harness will connect to the HIPS PCEHR Service V2 using the web service at this URL
Endpoints named CDA Service	http://hostname:port/HIPSServer_ENV/HIPS.Service.CdaService.svc/HIPS.Service.CdaService	The demo harness will connect to the HIPS CDA Service using the web service at this URL
Endpoints named Consent Service	http://hostname:port/HIPSServer_ENV/HIPS.Service.ConsentService.svc/HIPS.Service.ConsentService	The demo harness will connect to the HIPS Consent Service using the web service at this URL
Endpoints Message Delivery Service	http://hostname:port/HIPSServer_ENV/HIPS.P2P.Service.MessageDeliveryService	The demo harness will connect to the HIPS P2P Message Delivery Service using the web service at this URL
Endpoints for Web UI URL	http://hostname:port/	The demo harness will connect to the HIPS Web UI module using the web address at this URL

4.6 Use of Demo Harness

4.6.1 Authentication Tab

Upon starting the Demo Harness, it will show the Authentication tab. The Authentication tab can be used to select which of the environments in the configuration file will be used for the web service calls to HIPS, and to select which user role and details to assert to HIPS.

The screenshot shows the 'HIPS Demo Harness' window with the 'Register or Update Patient' tab selected. The 'Environment' dropdown is set to 'HIPS System Testing'. Under 'User Role', the 'Interactive User' radio button is selected. The 'User Name' field contains 'simon', 'User Login' contains 'simon', and 'User Domain' contains 'SIMONBIBER0406'.

Figure 1 – Selecting an application environment and user role

4.6.2 Register or Update Patient Tab

The screenshot shows the 'Register or Update Patient' tab. The 'Paste HL7 Message below, or select one from this list' dropdown is set to 'ALEXANDER DUNCAN (IHI 8003603456799528)'. The 'Add Episode' button is visible, along with a 'Number of episodes to create' dropdown set to '1'. The 'Send PAS' and 'Send Pathology' buttons are also present. The 'Message Response' section shows a detailed HL7 message. The 'PCEHR Data Store Results' section displays patient information: Name (ALEXANDER DUNCAN), Date Of Birth (05/05/2009), Sex (Male), Medicare (5950073091), DVA (2), IHI (8003603456799528), IHI Record Status (Verified), IHI Status (Active), PCEHR is Advertised, and Date Last Validated (20/06/2014 12:27). The 'IHI Lookup Audits' table shows a single entry with SequenceNumber 4, Request <:Envelope xmlns..., Response <:soap12:Envelop..., IhiNumber 8003603456799..., IhiStatus 1, IhiRecordStatus 1, FamilyName DUNCAN, GivenName ALEXANDER, and Sex 1. The 'Format XML' checkbox is checked.

SequenceNumber	Request	Response	IhiNumber	IhiStatus	IhiRecordStatus	FamilyName	GivenName	Sex
4	<:Envelope xmlns...	<:soap12:Envelop...	8003603456799...	1	1	DUNCAN	ALEXANDER	1

Figure 2 - Choose test PAS message from list or copy from another source

The Register or Update Patient tab of the demo harness can be used to submit HL7 messages to the Database Loader Service to register patients and demonstrate the automatic IHI lookup and digital health record advertised check.

Participating Organisations evaluating HIPS should use this tab to register a patient whose demographics match a test patient from their My Health Record Vendor Pack, and admit the patient to create an episode.

This can be achieved by replacing the highlighted portions of the following message as indicated. Dates should be entered as yyyyMMddHHmmss, for example 20121231001122 for 12:11:22am on 31/12/2012.

The hospital code **LMH** must be replaced with a hospital code that is configured for a hospital in the HIPS database.

```
MSH|^~\&|ADT|LMH|HIB|HIB|20121123072334||ADT^A01|2012112307233417184242|P|2.3.1|||AL|NE|A
U|ASCII|EN
EVN|A08|20121123072334
PID||StatePatientId^^^^SAUHI|MedicalRecordNumber^^^^LMH^MR~MedicareCardNumberWithIrr^^^^0220
15^LMH^MC||FamilyName^FirstName^MiddleNames^^Title^^L^A||DateOfBirth|SexCode|TESTSURN^TE
STFORE^TESTMDL^^^^A^A|4^Neither Aboriginal or TSI^ISAAC^0C^No Client^LMH|10 Address
St^^Suburb^SA^5012^^H||^PRN^^^^0412123123|^ORN^CP^^^^0412234234|1201^English^ABS^
EN^ENGLISH^LMH|2^Married/De facto^ISAAC^2^^LMH|7010^No Religion, nfd^ABS^NIL^NO
RELIGION^LMH|439598-1|MedicareCardNumber^IRN|||1100^Australia (includes External Territories)
(nfd)^ABS^ABS1100^^LMH
NK1||TestPerson^^^^L^A|^PARTNER^LMH^M^Spouse^STAN|10 ADDRESS
ST^^BLAKEVIEW^SA^5114^|^PRN^^^^0412345678
PV1||I^Inpatient^ISAAC|Ward^^Bed^0027^^OBST^0027^^WH-WOMEN'S HEALTH UNIT|4^Not
applicable^ISAAC^4^NOT
APPLICABLE^LMH|30019236^^^^MB||128^ProviderOneSurname^ProviderOneFirstName^^^PROF^^^^A
DT&LMH^L^^^INTERNAL^LMH~234567F^ProviderOneSurname^ProviderOneFirstName^^^PROF^^^^ADT
&LMH^L^^^PROVIDER^LMH|1269^ProviderTwoSurname^ProviderTwoFirstName^^^^^ADT&LMH^^^^
INTERNAL^LMH~123456VJ^ProviderTwoSurname^ProviderTwoFirstName^^^^^ADT&LMH^^^^PROVID
ER^LMH|128^ProviderOneSurname^ProviderOneFirstName^^^PROF^^^^ADT&LMH^L^^^INTERNAL^LMH
~234567F^ProviderOneSurname^ProviderOneFirstName^^^PROF^^^^ADT&LMH^L^^^PROVIDER^LMH|O
BST|||5^Outpatient Department^ISAAC^5^^LMH|||1^Overnight Stay^ISAAC^1^1 OVERNIGHT
STAY^LMH|30019236^^^^MB|1|||||||||||||1^Home^ISAAC^1^^LMH|||0027|||AdmissionDate
PV2||^LABOUR|||||20121122000000
```

4.6.2.1 Workaround if IHI Search Not Possible

If the information supplied for the patient does not include a Medicare card number or DVA file number, then HIPS will be unable to automatically obtain the IHI of the patient. In this case it is possible to work around by inserting a row into PatientMasterIhi with the required IHI. If the date last validated is more than the configured period (e.g. 24 hours) in the past, HIPS will validate the IHI before using it in any call to the My Health Record system.

This can be achieved by replacing the highlighted items in the following SQL command. The first is the primary key value of the newly created item in the PatientMaster table.

```
INSERT INTO hips.PatientMasterIhi (PatientMasterId, Ihi, IhiStatusId, IhiRecordStatusId,
RegisteredGivenName, RegisteredFamilyName, RegisteredSexId, DateLastValidated, DateCreated,
UserCreated, DateModified, UserModified) VALUES (n, '800360nnnnnnnnnn', 1, 1, 'Given Names', 'Family
Name', 1, '2012-11-01', GETDATE(), 'TestUser', GETDATE(), 'TestUser')
```

4.6.3 Check for PCEHR Tab

HIPS Demo Harness - hipstest.chamonix.net.au

Authentication | Register or Update Patient | **Check for PCEHR** | Record Consent | Upload or Supersede Doc | Remove Doc | Gain Access | List Docs | Download Doc | Change History | PCEHR View | Upload PDF

Patient: BELL, MABEL

Required Data for Web Service Call

Hospital Code System: pasFacCd

Hospital Code: RKH

Medical Record Number: TEST-SAH_7

Date of Birth: 21/08/1957

Get Validated IHI

Service Return Status: OK

IHI: 8003608166708487

IHI Status: Active

IHI Record Status: Verified

Last Validated Date/Time: 20/06/2014 12:29

Given Names: MABEL

Family Name: BELL

Sex: Female

Check PCEHR Status

Service Return Status: OK

Advertised Status: Yes, an advertised PCEHR exists.

Access Status: Your organisation has already gained access to this PCEHR.

Status: OK

Figure 3 – After registering a patient, the patient may be selected from the database

The Check for PCEHR tab demonstrates the services that allow clinical systems to:

- **Get Validated IHI:** Retrieve a validated IHI for a patient, such as for use in a clinical document. The IHI retrieval will be immediate if it has been less than 24 hours (or the configured period) since the IHI was obtained or last validated.
- **Check PCEHR Status:** Check the digital health record existence / access status for a patient at the healthcare provider organisation of a hospital.

The services demonstrated on this page and subsequent pages can accept any of the supported types of patient identifier, but only the MRN type is demonstrated in this application. The supported types are:

- Medical Record Number (MRN) allocated by the hospital,
- State/Territory Patient Identifier allocated by the Enterprise Master Patient Index (EMPI),
- Validated Individual Healthcare Identifier (IHI) including validation information, and
- Patient Master ID, being the internal primary key in the SQL database used by HIPS.

4.6.4 Consent and Participation Tab

Authentication | Register or Update Patient | Check for PCEHR | **Record Consent** | Upload or Supersede Doc | Remove Doc | Gain Access | List Docs | Download Doc | Change History | PCEHR View | Upload PDF

Patient: BELL, MABEL
 Episode: 12/11/2013 10:20 AM
 Consent Flag: ☐ Withdraw Consent to Upload ☐ Disclose PCEHR
☒ Reinstatement Consent to Upload ☐ Undo Disclosure
 Status: OK
 Buttons: Record Upload Consent, Record PCEHR Disclosure

Required Data for Record Consent Web Service Call
 Hospital Code System: pasFacCd
 Hospital Code: RCH
 Medical Record Number: TEST-CIS-85
 Admission Date: 12/11/2013 10:20:30
 Consent Withdrawn: false

Since Date: Wednesday, 18 June 2014
 Status: OK
 Button: List Recent Patient Participation

Required Data for List Recent Participation Web Service Call
 Hospital Code System: pasFacCd
 Since Date: 18/06/2014 12:29:44

Check Single Patient Participation
 Status: OK

Required Data for Check Patient Participation Web Service Call
 Hospital Code System: pasFacCd
 Hospital Code: RCH
 Medical Record Number: TEST-CIS-85

Returned Patient PCEHR Participation Statuses:

HospitalCode	Mm	ParticipationStatus	StatePatientId	ValidatedIhi
RKH	TEST-SAH_7	PcehrAdvertised		IHI 80036081667...
RCH	TEST-CCA_13	PcehrAdvertised		IHI 80036034567...

Figure 4 - Choose a patient and episode to record consent, or just a patient to disclose their digital health record

The Consent page demonstrates the services that allow clinical systems to:

- **Record Upload Consent:** Record when a patient withdraws their consent to upload clinical documents for a particular episode of care, or reinstate this consent, or check the consent status for an episode.
- **Record PCEHR Disclosure:** Record when a patient who has chosen to hide the existence of his/her digital health record nonetheless discloses the existence to a healthcare provider organisation and expects that documents should be uploaded, or rescinds this disclosure.
- **List Recent Patient Participation:** Query for a list of all patients who have changed participation status since a given point in time.
- **Check Single Patient Participation:** Query for a particular patient whether that patient is participating in the My Health Record (either having an advertised digital health record or having disclosed its existence to the organisation).

For the Record Upload Consent Service, the Episode must be identified. For the operating mode using the MRN parameter, HIPS identifies the Episode using the admission date/time.

4.6.5 Upload or Supersede Document Tab

Figure 5 - Choose a patient and episode, select a CDA document and click 'Upload or Supersede'.

This tab demonstrates the service that allows a clinical system to submit a CDA document (XML and attachments) to be uploaded to the My Health Record service. Key points from the business logic are demonstrated here:

- HIPS will sign the CDA document using the eHealth Record certificate of the healthcare provider organisation to which the discharging hospital belongs, and package the supplied document (as CDA_ROOT.XML), generated signature (as CDA_SIGN.XML) and any other supplied attachments, together with the logo for the hospital (as LOGO.PNG).
- If the patient has withdrawn consent to upload documents for the specified episode, then HIPS will refuse to queue the document for uploading.
- If HIPS has already uploaded a document instance for the same episode, with the same Set ID, then this version will supersede the previous version uploaded.
- If the document set had been removed from the My Health Record service, then the upload of a new version in the set will cause all previous versions to become visible again.

For the Upload or Supersede Document service, the Episode must be identified. For the operating mode using the MRN parameter, HIPS identifies the Episode using the admission date/time. Note that the Validated IHI parameter (not usable in the demo harness) will create Episode stubs that are identified using the document set ID.

4.6.6 Remove Document Tab

Authentication

Register or Update Patient

Check for PCEHR

Record Consent

Upload or Supersede Doc

Remove Doc

Gain Access

List Docs

Download Doc

Change History

PCEHR View

Upload PDF

Patient:BERMAN, JAKE

Episode:20/01/2014 3:36 AM

Document:2.25.82044956024876136710785997064039562Z

Reason:Withdrawn

Remove Discharge Summary

Status:OK

Required Data for Remove Document Web Service Call

Hospital Code System:pasFacCd

Hospital Code:RCH

Medical Record Number:TEST-NOC_17

Admission Date:20/01/2014 03:36:00

Document Set ID:2.25.82044956024876136710785997064039562297

Reason Code:Withdrawn

PCEHR Audits

	PcehrAuditId	PatientMasterId	ServiceName	ServiceMessage	Request	Response	Ihi	HpiO	User
▶	469	1	Does PCEHR Exist	OK	<s:Envelope xmlns...	<soap:Envelope ...	8003608000002519	8003621566687292	simon
	470	1	Remove Document	OK PCEHR_SU...	<s:Envelope xmlns...	<soap:Envelope ...	8003608000002519	8003621566687292	simon

Figure 6 - Choose a patient, episode and previously uploaded document to remove.

This tab demonstrates the service that allows a clinical system to ‘remove’ a document set that HIPS previously uploaded to the My Health Record service. When removed, a document set remains visible to the authoring healthcare provider organisation but becomes invisible to the consumer and other healthcare provider organisations. It can be reinstated by uploading a new version of the document. One of two acceptable reasons for removal must be supplied (withdrawn by provider or incorrect identity).

4.6.7 Gain Access Tab

HIPS Demo Harness - hipstest.chamonix.net.au

Authentication | Register or Update Patient | Check for PCEHR | Record Consent | Upload or Supersede Doc | Remove Doc | **Gain Access** | List Docs | Download Doc | Change History | PCEHR View | Upload PDF

Patient: BERMAN, JAKE Check for PCEHR Status

Required Data for Web Service Call

Hospital Code System: pasFacCd

Hospital Code: RCH

Medical Record Number: TEST-NOC_17

Date of Birth: 08/06/1962

PCEHR Return Status: OK

Advised Status: Yes, an advertised PCEHR exists.

Access Status: Your organisation has already gained access to this PCEHR.

Access Method

☐ Access With Code AccessCode

☒ Access Without Code

☐ Emergency Access

Gain Access

IHI: 8003608000002519

IHI Status: Active

IHI Record Status: Verified

Access Permission: Permit

Status:OK

Figure 7 - Choose a patient, check for their digital health record existence and gain access to the digital health record.

This tab demonstrates the services that allow a clinical system to:

- **Check for PCEHR Status:** Determine whether the health provider organisation has already gained access to the digital health record of the selected patient, or if not, whether a code is required to gain access.
- **Gain Access with Code:** Gain access to a digital health record by supplying an access code. If the patient gives his/her Record Access Code (RAC) then general access will be granted for 3 years. If the patient gives his/her Limited Document Access Code (LDAC) then restricted access will be granted, giving access to both general documents and restricted documents for 3 years.
- **Gain Access without Code:** Gain access to a digital health record without supplying an access code, thus gaining general access for 3 years.
- **Gain Emergency Access:** Gain emergency access to a digital health record, giving access to both general and restricted documents for 5 days.

4.6.8 List Documents Tab

Authentication | Register or Update Patient | Check for PCEHR | Record Consent | Upload or Supersede Doc | Remove Doc | Gain Access | **List Docs** | Download Doc | Change History | PCEHR View | Upload PDF

Patient: BELL, MABEL

Select zero or more Statuses: **Approved**
Submitted
Deprecated
Deleted

Creation Start Date/Time: Friday, 20 June 2014 [calendar icon]

Creation End Date/Time: Friday, 20 June 2014 [calendar icon]

Service Start Date/Time: Friday, 20 June 2014 [calendar icon]

Service End Date/Time: Friday, 20 June 2014 [calendar icon]

Get Documents

Required Data for Web Service Call

Hospital Code System: pasFacCd

Hospital Code: RKH

Medical Record Number: TEST-SAH_7

Date of Birth: 21/08/1957

Download	History	AuthorInstitution	AuthorInstitutionName	AuthorPerson	AuthorPersonFamily	AuthorPersonGiven	AuthorPersonName	CreationTime	DocumentClassCode
Send info to Tab...	Send info to Tab...	8003624900018...	MEDTESTORGS...	Dr. Good Vendor	Vendor	Good	Dr.	24/02/2012 7:50...	18842-5
Send info to Tab...	Send info to Tab...	8003621566687...	DHSITESTORG...	SIGHT BIGHT	BIGHT	SIGHT		15/06/2014 1:24...	18842-5
Send info to Tab...	Send info to Tab...	8003621566687...	DHSITESTORG...	a a	a	a		16/06/2014 3:55...	18842-5

Status: OK

Figure 8 - Choose a patient and filter the list by document status and optionally by date range.

This page demonstrates the services that allow a clinical system to retrieve the metadata of clinical documents available to download from a patient's digital health record.

In order to download one of the documents in this tab, click the button in the Download column. This will copy the document Unique ID and Repository ID to the appropriate places in the Download Doc tab.

In order to retrieve the list of all versions of one of the documents, click the button in the History column. This will copy the document Unique ID to the appropriate place in the Change History tab.

NOTE: NOC requirements state that the Change History service must be invoked using the Document Entry UUID as the parameter, not the Document Unique ID. Although the demo harness still works using the Document Unique ID, be sure to use the Entry UUID when integrating HIPS with your clinical system.

4.6.9 Download Document Tab

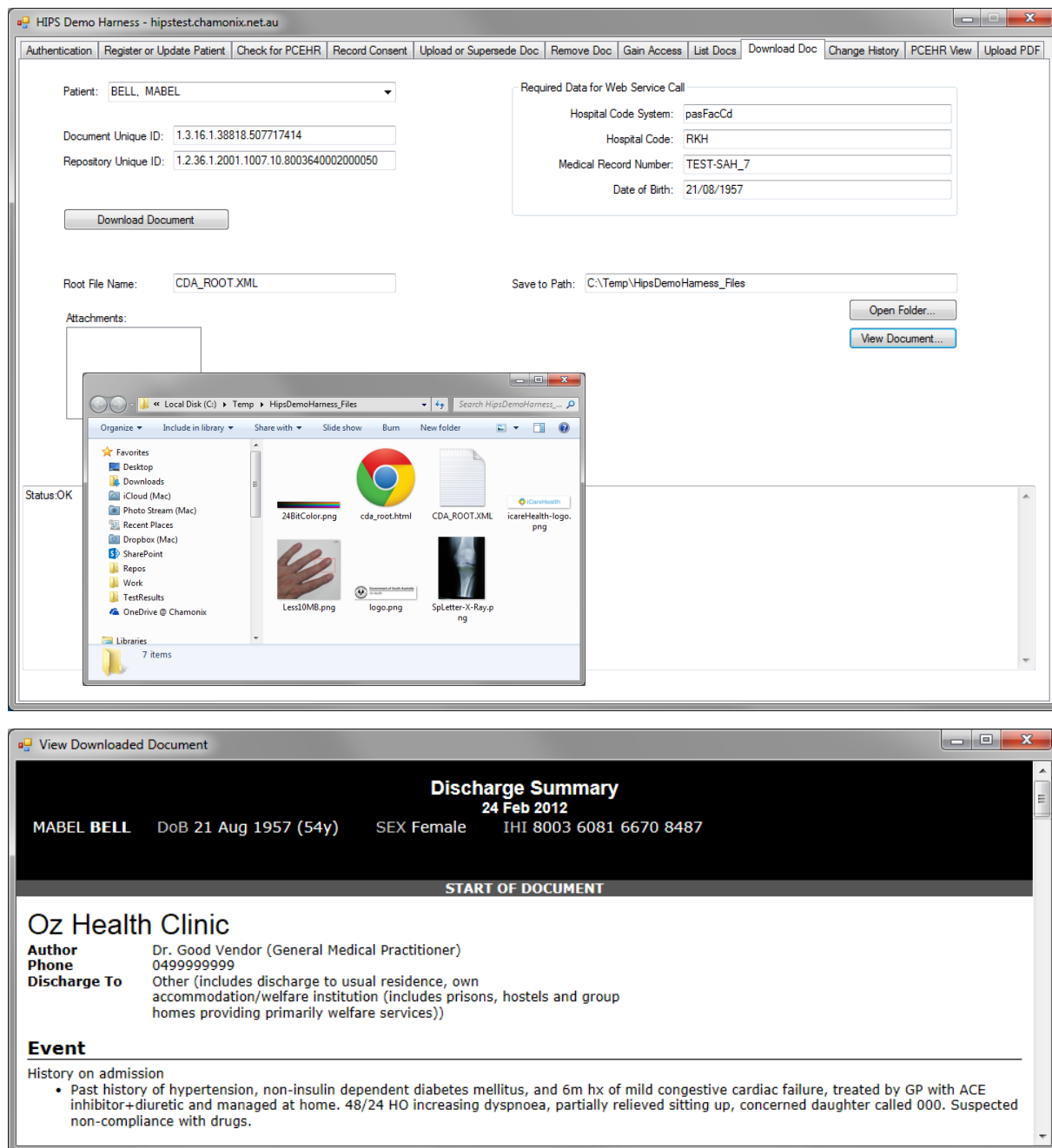


Figure 9 - Choose a patient and enter the Unique ID and Repository ID of a document to download.

This page demonstrates the service that allows a clinical system to download a clinical document using the Unique ID and Repository ID that appear in the list. The CDA document and any attachments will be saved into the local file system at the path specified.

4.6.10 Change History Tab

HIPS Demo Harness - hipstest.chamonix.net.au

Authentication | Register or Update Patient | Check for PCEHR | Record Consent | Upload or Supersede Doc | Remove Doc | Gain Access | List Docs | Download Doc | Change History | PCEHR View | Upload PDF

Patient:

Document Unique ID:

Required Data for Web Service Call

Hospital Code System:

Hospital Code:

Medical Record Number:

Date of Birth:

	AuthorInstitution	AuthorInstitutionName	AuthorPerson	AuthorPersonFamilyName	AuthorPersonGiven	AuthorPersonNamePrefix	Creation Time	DocumentClassCode	DocumentClassName
▶	8003623233353555	DHSITESTORG9	Biber Simon	Simon	Biber		20/09/2012 4:42 AM	18842-5	Discharge Summary
	8003623233353555	DHSITESTORG9	Biber Simon	Simon	Biber		20/09/2012 4:42 AM	18842-5	Discharge Summary

Status: OK

Figure 10 - Choose a patient and enter the ID of a document to list all versions.

This page demonstrates the service that allows a clinical system to check for updated versions of a document that has been downloaded. Given the Entry UUID of any document instance, the service retrieves the metadata of all instances within the same document set.

NOTE: NOC requirements state that the Change History service should be invoked using the Document Entry UUID as the parameter, not the Document Unique ID. Although the demo harness still works using the Document Unique ID, be sure to use the Entry UUID when integrating HIPS with your clinical system.

4.6.11 PCEHR View Tab

The screenshot shows the HIPS Demo Harness interface. At the top, there's a navigation bar with tabs: Authentication, Register or Update Patient, Check for PCEHR, Record Consent, Create Doc, Send Doc, Upload or Supersede Doc, Remove Doc, Gain Access, List Docs, Download Doc, Change History, PCEHR View (selected), and Provider Search. Below the navigation bar, the patient name 'HELLER, AUGUSTUS CIS' is displayed in a dropdown menu. To the right, there are links for 'User Preference Log Out' and a 'Gain Access' button. Below this, there's a section for 'Health Record Overview' with tabs: Health Record Overview (selected), Medicare Overview, Pathology Report, Diagnostic Imaging Report, and Prescription & Dispense View. A message box states: 'This is not a complete view of the individuals health information. For more information about the individuals health record or data, please consult the individual or other healthcare professional as needed.' Below this, a blue banner indicates 'Documents available on the My Health Record since the last Shared Health Summary' with '4 Items'. A note says 'This is the patient's first admission to this facility. Excluded document type is: e-Referral'. There's a checkbox for 'Show Event Summaries Only (with Clinical Synopsis if available)'. A search bar is present with the text 'Search: Type to search...'. Below the search bar, it says 'Showing 1 to 4 of 4 entries'. A table displays the following data:

Document Date	Document Type	Author Name	Author Role	Organisation Name	
24-Jan-2014	Discharge Summary	Fred Flintstone	Child Care Centre Manager	DHS3424	Info icon, Print icon
23-Jan-2014	Discharge Summary	Ely Black	Child Care Centre Manager	DHS3424	Info icon, Print icon
22-Nov-2013	Discharge Summary	Bevan Turnbull	Health Professionals nfd	DHSITESTORGD151	Info icon, Print icon
19-Sep-2013	Event Summary	RN Jenine LEGAN	Not Available	MEDTESTORGSC1581	Info icon, Print icon

Below the table, there are columns for 'Document Type', 'Document Date', 'Author Name', 'Author Role', and 'Organisation Name'.

Figure 11 - Choose a patient and show the embedded My Health Record viewer.

This page demonstrates the Patient Landing Page feature of HIPS UI that allows a clinical system to embed the HIPS My Health Record Overview Viewer as a component of an existing clinical application. It is also possible to check the other sections such as Medicare Overview, Pathology Report, Diagnostic Imaging Report and Prescription and Dispense View.

4.6.12 Upload PDF Tab

HIPS Demo Harness - hipstest.chamonix.net.au

Authentication | Register or Update Patient | Check for PCEHR | Record Consent | Upload or Supersede Doc | Remove Doc | Gain Access | List Docs | Download Doc | Change History | PCEHR View | Upload PDF

Patient: * BELL, MABEL

Encounter Period

Admission Date/Time: * 12 / 11 / 2013 10 : 20

Discharge Date/Time: * 20 / 06 / 2014 12 : 41

Document Author

Family Name: * Windsor

Given Name: * Mary

Title: Princess

Suffix: of Scots

Identifier: * maryofscots

Type: * ☐ HPI-I ☒ Local Identifier

Discharge Summary

Select PDF: * DischargeSummary.pdf (4465401 bytes)

Document Status: * Final

Creation Date/Time: * 19 / 06 / 2014 12 : 41

Clinical Specialty: * Oncology

Mode of Separation: * Self Discharge

Add Attachment... Remove Attachment

Attachments:

Name	Size
logo.png	13,375 bytes
asthma_fact_sheet_en.pdf	126,416 bytes

Status:

Status: OK
Document ID: 1.2.36.1.2001.1005.49.1.8003621566687292.29^29
Document Set ID: 1.2.36.1.2001.1005.49.2.8003621566687292^2

Upload or Supersede

Figure 12 – Generate and upload a CDA Level 1A Discharge Summary with PDF body.

This page demonstrates the web service “Upload Discharge Summary Level 1A” that allows a clinical system to provide a PDF document and minimal metadata to allow that document to be uploaded to the My Health Record system.

5. Invoke HIPS services with soapUI

SoapUI is an open source, cross-platform application for testing web services. The latest 64 bit Windows release can be downloaded from:

<http://cdn01.downloads.smartbear.com/soapui/5.2.1/SoapUI-x64-5.2.1.exe>

Open SoapUI, create a new soapUI project, and copy the URL of the WSDL into the "Initial WSDL/WADL" box.

For My Health Record services (e.g. IsPcehrAdvertised or UploadOrSupersedeDocument) use:

- http://hostname:50500/HIPSServer_TEST/HIPS.Service.PCEHRService.svc?wsdl

For IHI services (e.g. GetValidatedIhi) use:

- http://hostname:50500/HIPSServer_TEST/HIPS.Service.IHIService.svc?wsdl

For Consent services (e.g. RecordDisclosure, RecordConsent or GetPatientParticipationStatus) use:

- http://hostname:50500/HIPSServer_TEST/HIPS.Service.ConsentService.svc?wsdl

For HL7 Interface services (e.g. NotifyPasEvent) use:

- http://hostname:50500/HIPSServer_TEST/HIPS.Service.DatabaseLoaderService.svc?wsdl

5.1 Adding WS-Addressing Header

All of the HIPS services require a "wsa:To" header. The checkbox "Add default wsa:To" must be turned on in the "WS-A" tab at the bottom of the soapUI request window for each request that you create, otherwise an exception will be returned.

5.2 Specialising the Patient Identifier Base

Most of the HIPS services take a patientIdentifier parameter which is declared as the abstract base class PatientIdentifierBase, with specialisations of Mrn, StatePatientId, PatientMasterId or ValidatedIhi.

SoapUI assumes that you will pass in the declared type for all parameters, so you will need to manually modify the request to specify a subclass of PatientIdentifierBase and provide values for all the properties in the subclass.

For services that take a patientIdentifier parameter, you will need to specialise the class by adding a namespace declaration for XML Schema Instance:

```
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
```

Then specify the type of patient identifier using an xsi:type attribute on the patientIdentifier:

```
xsi:type="hips:ValidatedIhi"
```

Then add the remaining properties in the order declared in the XSD for the PatientIdentifier namespace, which can be retrieved from:

- http://hostname:50500/HIPSServer_TEST/HIPS.Service.PCEHRService.svc?xsd=xsd2

5.3 Example Call to IsPcehrAdvertised

If you already know the IHI for the patient and just want to check whether the patient has an advertised digital health record, you can call IsPcehrAdvertised with a patient identifier of type "hips:ValidatedIhi". This is illustrated below for the test patient Augustus Heller with IHI 8003 6080 0001 2245.

5.3.1 Request

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:ns="http://schemas.HIPS/Services/2012/01"
  xmlns:hips="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas.PatientIdentifier"
  xmlns:hips1="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soap:Header/>
  <soap:Body>
    <ns:IsPcehrAdvertised>
      <ns:patientIdentifier xsi:type="hips:ValidatedIhi">
        <hips:HospitalCode>FMC</hips:HospitalCode>
        <hips:HospitalCodeSystem>pasFacCd</hips:HospitalCodeSystem>
        <hips:DateOfBirth>1996-02-28</hips:DateOfBirth>
        <hips:FamilyName>Heller</hips:FamilyName>
        <hips:GivenName>Augustus</hips:GivenName>
        <hips:Ihi>8003608000012245</hips:Ihi>
        <hips:IhiLastValidated>2013-04-02T01:00:00Z</hips:IhiLastValidated>
        <hips:IhiRecordStatus>Verified</hips:IhiRecordStatus>
        <hips:IhiStatus>Active</hips:IhiStatus>
        <hips:Sex>Male</hips:Sex>
      </ns:patientIdentifier>
      <ns:dateOfBirth>1996-02-28</ns:dateOfBirth>
      <ns:user>
        <hips1:Domain>DOMAIN</hips1:Domain>
        <hips1:Login>ssmith</hips1:Login>
        <hips1:Name>Simon Smith</hips1:Name>
        <hips1:Role>InteractiveUser</hips1:Role>
      </ns:user>
    </ns:IsPcehrAdvertised>
  </soap:Body>
</soap:Envelope>
```

5.3.2 Response

In this response, the value "WithCode" indicates that the patient has an advertised digital health record to which the organisation has not gained access, and that a Record Access Code will be required to gain access. However, keep in mind that you can upload documents to this My Health Record service without needing to gain access first.

```
<s:Envelope
  xmlns:s="http://www.w3.org/2003/05/soap-envelope"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action s:mustUnderstand="1">
      http://schemas.HIPS/Services/2012/01/IPCEHRService/IsPcehrAdvertisedResponse
    </a:Action>
  </s:Header>
  <s:Body>
    <IsPcehrAdvertisedResponse
      xmlns="http://schemas.HIPS/Services/2012/01">
      <IsPcehrAdvertisedResult
        xmlns:b="http://schemas.datacontract.org/2004/07/HIPS.PcehrSchemas"
        xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <b:AccessCodeRequired>WithCode</b:AccessCodeRequired>
        <b:HipsResponse
          xmlns:c="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas">
          <c:HipsErrorMessage i:nil="true"/>
          <c:ResponseCode i:nil="true"/>
          <c:ResponseCodeDescription i:nil="true"/>
          <c:ResponseCodeDetails i:nil="true"/>
          <c>Status>OK</c>Status>
        </b:HipsResponse>
        <b:PcehrExists>true</b:PcehrExists>
      </IsPcehrAdvertisedResult>
    </IsPcehrAdvertisedResponse>
  </s:Body>
</s:Envelope>
```

5.4 Example Call to NotifyPasEvent

If you have a patient with a Medicare card number or DVA file number, and want HIPS to use those to search for the IHI, you can call NotifyPasEvent with an HL7 message in the format below, then call GetValidatedIhi to retrieve the IHI.

The key information that should be changed for each message is highlighted in yellow, being:

- The sending facility (**FMC**) and message control ID (**4200018**) for identification of this message.
- The state/territory patient identifier (**12345**), identified with the code "SAUHI".
- The MRN (**TEST-CCA_13**), identified with the code "MR".
- The assigning hospital for the MRN (**FMC**), as configured in HospitalCode.Code where CodeSystem.Code is "pasFacCd". This determines which HPI-O / certificate is used to connect to Medicare HI Service and My Health Record B2B Gateway.
- The Medicare card number with or without IRN (**59500730912**), identified by "MC".
- The DVA file number (**N394932**), identified by "DVA".
- The family name (**DUNCAN**).

- The given name (**ALEXANDER**).
- The date of birth (**20090505**) in YYYYMMDD format.
- The sex code (**M**) being one of M – Male, F – Female, O – Other or U – Unknown. These are mapped to M – Male, F – Female, I – Intersex or Indeterminate and N – Not Specified respectively.

Of these, the state/territory patient identifier, Medicare and DVA are optional; however, at least one of Medicare or DVA must be provided if an IHI search is to be performed.

5.4.1 Request

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:ns="http://schemas.HIPS/Services/2012/01"
  xmlns:hips="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas">
  <soap:Header/>
  <soap:Body>
    <ns:NotifyPasEvent>
      <ns:messageForm><![CDATA[MSH|^~\&|PMI|FMC|HIPS|NEHTA|20130402070340|J4VX|ADT^A28|4200018|P|2.3.1|||AL|NE|AU|
      ASCII|EN
      EVN|A01|20130402070339.74|||SBIBER
      PID||12345^^^^SAUHI|TEST-
      CCA_13^^^^FMC^MR~59500730912^^^^MC~N394932^^^^DVA|DUNCAN^ALEXANDER^^^^L||20090505|M||1^Aboriginal but not
      Torres Strait Islander origin^ISAAC|26 CCA FAITH
      ST^^PARAMATTA^NSW^2150^^H||^WPN^PH^^^^0884251461|||||8407^Cuba^ABS|Y|||||
      ]]></ns:messageForm>
      <ns:user>
        <hips:Role>AuthorisedEmployee</hips:Role>
      </ns:user>
    </ns:NotifyPasEvent>
  </soap:Body>
</soap:Envelope>
```

5.4.2 Response

The response contains an HL7 acknowledgement. Here the acknowledgement code is "AA" indicating that the message was processed successfully. You should get an "AA" acknowledgement regardless of whether an IHI was found or not.

```
<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action s:mustUnderstand="1">
      http://schemas.HIPS/Services/2012/01/DatabaseLoaderService/NotifyPasEventResponse
    </a:Action>
  </s:Header>
  <s:Body>
    <NotifyPasEventResponse xmlns="http://schemas.HIPS/Services/2012/01">
      <NotifyPasEventResult>
        MSH|^~\&|HIPS|SAH|ADT|RAH|20130402134634+1030|J4VX|ADT^A01|k6b5DsqrHzEuSjkQPNmnX|P|2.3.1|||AL|NE|AU|ASC
        II
        MSA|AA|4200016
      </NotifyPasEventResult>
    </NotifyPasEventResponse>
  </s:Body>
</s:Envelope>
```

5.5 Example Call to GetValidatedIhi

After registering the patient using NotifyPasEvent, you can retrieve the IHI for use in a clinical document using the service GetValidatedIhi. Here, the patient identifier has type "hips:Mrn" with value "TEST-CCA_13" which matches the MRN in the HL7 message. The date of birth is a mandatory parameter to increase the chance that the intended patient record is matched.

5.5.1 Request

```
<soap:Envelope
  xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:ns="http://schemas.HIPS/Services/2012/01"
  xmlns:hips="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas.PatientIdentifier"
  xmlns:hips1="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soap:Header/>
  <soap:Body>
    <ns:GetValidatedIhi>
      <ns:patientIdentifier xsi:type="hips:Mrn">
        <hips:HospitalCode>FMC</hips:HospitalCode>
        <hips:HospitalCodeSystem>pasFacCd</hips:HospitalCodeSystem>
        <hips:Value>TEST-CCA_13</hips:Value>
      </ns:patientIdentifier>
      <ns:dateOfBirth>2009-05-05</ns:dateOfBirth>
      <ns:user>
        <hips1:Domain>DOMAIN</hips1:Domain>
        <hips1:Login>ssmith</hips1:Login>
        <hips1:Name>Simon Smith</hips1:Name>
        <hips1:Role>InteractiveUser</hips1:Role>
      </ns:user>
    </ns:GetValidatedIhi>
  </soap:Body>
</soap:Envelope>
```

5.5.2 Response

```
<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action s:mustUnderstand="1">
      http://schemas.HIPS/Services/2012/01/IHIService/GetValidatedIhiResponse
    </a:Action>
  </s:Header>
  <s:Body>
    <GetValidatedIhiResponse xmlns="http://schemas.HIPS/Services/2012/01">
      <GetValidatedIhiResult
        xmlns:b="http://schemas.datacontract.org/2004/07/HIPS.IhiSchemas.Schemas"
        xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <b:HipsResponse xmlns:c="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas">
          <c:HipsErrorMessage i:nil="true"/>
          <c:ResponseCode i:nil="true"/>
          <c:ResponseCodeDescription i:nil="true"/>
          <c:ResponseCodeDetails i:nil="true"/>
          <c:Status>OK</c:Status>
        </b:HipsResponse>
      </GetValidatedIhiResult>
    </GetValidatedIhiResponse>
  </s:Body>
</s:Envelope>
```

```

</b:HipsResponse>
<b:Mrn
  xmlns:c="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas.PatientIdentifier">
  <c:HospitalCode>FMC</c:HospitalCode>
  <c:HospitalCodeSystem>pasFacCd</c:HospitalCodeSystem>
  <c:Value>TEST-CCA_13</c:Value>
</b:Mrn>
<b:StatePatientId
  xmlns:c="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas.PatientIdentifier">
  <c:HospitalCode>FMC</c:HospitalCode>
  <c:HospitalCodeSystem>pasFacCd</c:HospitalCodeSystem>
  <c:Value i:nil="true"/>
</b:StatePatientId>
<b:ValidatedIhi
  xmlns:c="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas.PatientIdentifier">
  <c:HospitalCode>FMC</c:HospitalCode>
  <c:HospitalCodeSystem>pasFacCd</c:HospitalCodeSystem>
  <c:DateOfBirth>2009-05-05T00:00:00</c:DateOfBirth>
  <c:FamilyName>DUNCAN</c:FamilyName>
  <c:GivenName>ALEXANDER</c:GivenName>
  <c:Ihi>8003603456799528</c:Ihi>
  <c:IhiLastValidated>2013-04-02T13:41:31.91</c:IhiLastValidated>
  <c:IhiRecordStatus>Verified</c:IhiRecordStatus>
  <c:IhiStatus>Active</c:IhiStatus>
  <c:Sex>Male</c:Sex>
</b:ValidatedIhi>
</GetValidatedIhiResult>
</GetValidatedIhiResponse>
</s:Body>
</s:Envelope>

```

5.6 Example Call to UploadOrSupersedeDocument

In this example, a CDA document is provided to HIPS for packaging and uploading to the My Health Record service. The full CDA document, encoded as Base64, must be provided – it has been omitted for space reasons here.

In Soap-UI a CDA document may be inserted by right-clicking at the appropriate spot and selecting "Insert File as Base-64".

5.6.1 Request

```

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:ns="http://schemas.HIPS/Services/2012/01"
  xmlns:hips="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas.PatientIdentifier"
  xmlns:hips1="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas"
  xmlns:hips2="http://schemas.datacontract.org/2004/07/HIPS.PcehrSchemas"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soap:Header/>
  <soap:Body>
    <ns:UploadOrSupersedeDocument>
      <ns:cdaDocument>
        PD94bWwgdmVyc2lrbj0iMS4wIiB1bmNvZGluz0iVVRGLTgiPz4NCjxDbGluaWNhbERvY3Vt
        ...
        PC9jb21wb251bnQ+DQo8L0Nsaw5pY2FsRG9jdW11bnQ+
      </ns:cdaDocument>
      <ns:patientIdentifier xsi:type="hips:ValidatedIhi">
        <hips:HospitalCode>FMC</hips:HospitalCode>
        <hips:HospitalCodeSystem>pasFacCd</hips:HospitalCodeSystem>
        <hips:DateOfBirth type="xs:dateTime">1977-01-01</hips:DateOfBirth>
        <hips:FamilyName>BERMAN</hips:FamilyName>
      </ns:patientIdentifier>
    </ns:UploadOrSupersedeDocument>
  </soap:Body>
</soap:Envelope>

```

```

    <hips:GivenName>JAKE</hips:GivenName>
    <hips:Ihi>800360800002519</hips:Ihi>
    <hips:IhiLastValidated type="xs:dateTime">2013-04-03</hips:IhiLastValidated>
    <hips:IhiRecordStatus>Verified</hips:IhiRecordStatus>
    <hips:IhiStatus>Active</hips:IhiStatus>
    <hips:Sex>Male</hips:Sex>
  </ns:patientIdentifier>
  <ns:user>
    <hips1:Domain>DOMAIN</hips1:Domain>
    <hips1:Login>ssmith</hips1:Login>
    <hips1:Name>Simon Smith</hips1:Name>
    <hips1:Role>InteractiveUser</hips1:Role>
  </ns:user>
  <ns:attachments>
  </ns:attachments>
  <ns:admissionDate>2013-04-02T16:01:00</ns:admissionDate>
</ns:UploadOrSupersedeDocument>
</soap:Body>
</soap:Envelope>

```

5.6.2 Response

The following response with status "OK" indicates that the request was successfully placed on the queue to be processed later. You can call `GetOperationStatus` to determine whether the document was uploaded.

```

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action s:mustUnderstand="1">
http://schemas.HIPS/Services/2012/01/IPCEHRService/UploadOrSupersedeDocumentResponse</a:Action>
  </s:Header>
  <s:Body>
    <UploadOrSupersedeDocumentResponse xmlns="http://schemas.HIPS/Services/2012/01">
      <UploadOrSupersedeDocumentResult
        xmlns:b="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas"
        xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <b:HipsErrorMessage i:nil="true"/>
        <b:ResponseCode i:nil="true"/>
        <b:ResponseCodeDescription i:nil="true"/>
        <b:ResponseCodeDetails i:nil="true"/>
        <b>Status>OK</b>Status>
      </UploadOrSupersedeDocumentResult>
    </UploadOrSupersedeDocumentResponse>
  </s:Body>
</s:Envelope>

```

5.7 Example Call to GetOperationStatus

This service allows a calling system to query all the pending or failed queued operations (upload or remove), and any uploaded documents for a specified patient and episode.

5.7.1 Request

```

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:ns="http://schemas.HIPS/Services/2012/01"
  xmlns:hips="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas.PatientIdentifier"

```

```

    xmlns:hips1="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<soap:Header/>
<soap:Body>
  <ns:GetOperationStatus>
    <ns:patientIdentifier xsi:type="hips:ValidatedIhi">
      <hips:HospitalCode>FMC</hips:HospitalCode>
      <hips:HospitalCodeSystem>pasFacCd</hips:HospitalCodeSystem>
      <hips:DateOfBirth type="xs:dateTime">1977-01-01</hips:DateOfBirth>
      <hips:FamilyName>BERMAN</hips:FamilyName>
      <hips:GivenName>JAKE</hips:GivenName>
      <hips:Ihi>800360800002519</hips:Ihi>
      <hips:IhiLastValidated type="xs:dateTime">2013-04-03</hips:IhiLastValidated>
      <hips:IhiRecordStatus>Verified</hips:IhiRecordStatus>
      <hips:IhiStatus>Active</hips:IhiStatus>
      <hips:Sex>Male</hips:Sex>
    </ns:patientIdentifier>
    <ns:admissionDate>2013-04-02T16:01:00</ns:admissionDate>
    <ns:user>
      <hips1:Domain>DOMAIN</hips1:Domain>
      <hips1:Login>ssmith</hips1:Login>
      <hips1:Name>Simon Smith</hips1:Name>
      <hips1:Role>Interactiveuser</hips1:Role>
    </ns:user>
  </ns:GetOperationStatus>
</soap:Body>
</soap:Envelope>

```

5.7.2 Response

In this response, the number of QueuedOperations is zero, so the operation must have been successful and removed from the queue. There is one UploadedDocument and one UploadedDocumentVersion. The full package is also included in the response, which has been abbreviated here.

```

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action s:mustUnderstand="1">
      http://schemas.HIPS/Services/2012/01/IPCEHRService/GetOperationStatusResponse
    </a:Action>
  </s:Header>
  <s:Body>
    <GetOperationStatusResponse xmlns="http://schemas.HIPS/Services/2012/01">
      <GetOperationStatusResult xmlns:b="http://schemas.datacontract.org/2004/07/HIPS.PcehrSchemas"
        xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <b:QueuedOperations
          xmlns:c="http://schemas.datacontract.org/2004/07/HIPS.PcehrDataStore.Schemas"/>
        <b:Response xmlns:c="http://schemas.datacontract.org/2004/07/HIPS.CommonSchemas">
          <c:HipsErrorMessage i:nil="true"/>
          <c:ResponseCode i:nil="true"/>
          <c:ResponseCodeDescription i:nil="true"/>
          <c:ResponseCodeDetails i:nil="true"/>
          <c:Status>OK</c:Status>
        </b:Response>
        <b:UploadedDocumentVersions
          xmlns:c="http://schemas.datacontract.org/2004/07/HIPS.PcehrDataStore.Schemas">
          <c:ClinicalDocumentVersion>
            <IsDirty xmlns="http://schemas.datacontract.org/2004/07/HIPS.Base.Schemas">
              false</IsDirty>
            <DateCreated xmlns="http://schemas.datacontract.org/2004/07/HIPS.Base.Schemas">
              2013-04-02T16:17:49.86</DateCreated>

```



```

    <DateModified xmlns="http://schemas.datacontract.org/2004/07/HIPS.Base.Schemas">
      2013-04-02T16:17:49.86</DateModified>
    <Id xmlns="http://schemas.datacontract.org/2004/07/HIPS.Base.Schemas">1</Id>
    <UserCreated xmlns="http://schemas.datacontract.org/2004/07/HIPS.Base.Schemas">
      HAD/sbiber01</UserCreated>
    <UserModified xmlns="http://schemas.datacontract.org/2004/07/HIPS.Base.Schemas">
      HAD/sbiber01</UserModified>
    <c:ClinicalDocumentId>1</c:ClinicalDocumentId>
    <c:ClinicalDocumentVersionId>1</c:ClinicalDocumentVersionId>
    <c:Package>UE..</c:Package>
    <c:SourceSystemDocumentId>
      1.2.36.1.2001.1005.26.1.1.3900^3900</c:SourceSystemDocumentId>
    <c:SupersededDate i:nil="true"/>
    <c:UploadedDate>2013-04-02T16:17:48.873</c:UploadedDate>
  </c:ClinicalDocumentVersion>
</b:UploadedDocumentVersions>
<b:UploadedDocuments
  xmlns:c="http://schemas.datacontract.org/2004/07/HIPS.PcehrDataStore.Schemas">
  <c:ClinicalDocument>
    <IsDirty xmlns="http://schemas.datacontract.org/2004/07/HIPS.Base.Schemas">
      false</IsDirty>
    <DateCreated xmlns="http://schemas.datacontract.org/2004/07/HIPS.Base.Schemas">
      2013-04-02T16:17:49.63</DateCreated>
    <DateModified xmlns="http://schemas.datacontract.org/2004/07/HIPS.Base.Schemas">
      2013-04-02T16:17:49.63</DateModified>
    <Id xmlns="http://schemas.datacontract.org/2004/07/HIPS.Base.Schemas">1</Id>
    <UserCreated xmlns="http://schemas.datacontract.org/2004/07/HIPS.Base.Schemas">
      HAD/sbiber01</UserCreated>
    <UserModified xmlns="http://schemas.datacontract.org/2004/07/HIPS.Base.Schemas">
      HAD/sbiber01</UserModified>
    <c:ClinicalDocumentId>1</c:ClinicalDocumentId>
    <c:ClinicalDocumentStatusId>1</c:ClinicalDocumentStatusId>
    <c:DocumentTypeCode>18842-5</c:DocumentTypeCode>
    <c:DocumentTypeDescription>Discharge Summary</c:DocumentTypeDescription>
    <c:DocumentTypeId>1</c:DocumentTypeId>
    <c:EpisodeId>2</c:EpisodeId>
    <c:RemovalReasonDescription>Not Removed</c:RemovalReasonDescription>
    <c:RemovalReasonId>-1</c:RemovalReasonId>
    <c:RemovedDate i:nil="true"/>
    <c:SourceSystemSetId>1.2.36.1.2001.1005.26.2.1^36</c:SourceSystemSetId>
  </c:ClinicalDocument>
</b:UploadedDocuments>
</GetOperationStatusResult>
</GetOperationStatusResponse>
</s:Body>
</s:Envelope>

```

5.8 Example Call to UploadOrRemoveImaging

This service allows a calling system to upload or remove a Diagnostic Imaging 3A Report. It is assumed the HIPS Core application has been configured with an Upload Directory for Diagnostic Imaging Reports, and a report named 'testdireport.pdf' exists in the directory.

The below request can be updated to make a call to the UploadOrRemovePathology by updating the soap:Body to be an UploadOrRemoveImagingRequest and to update the HL7Message to be a Pathology HL7 message.

5.8.1 Request

```

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:pceh="http://nehta.hips/2014/03/pcehr"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

```

```

xmlns:ns="http://nehta.hips/2014/03">
  <soap:Header/>
  <soap:Body>
    <pceh:UploadOrRemoveImagingRequest>
      <pceh:HL7Message><![CDATA[MSH|^~\&|SYNAPSE RIS|ROYAL CHAMONIX
HOSPITAL^RCH^L|||20151026171840+1000||ORU^R01^ORU_R01|1.1DI|P|2.4^AUS|||AL|NE|AUS|ASCII|EN^^ISO|
PID|1||2951051231^1^1^AUSHIC^MC~123456^^^RCH^MR||BOWDEN^LEONARDO^^^^^L||19831017|M|Tester^Unit|9|139 King
Street^^BUDERIM^QLD^4556^AUS^C|||||||9|AUS
PV1|1|O|SurgOP||||1234214^Jones^Steve^^Dr^^^NWMI.SynapseRIS|239654^Smith^James^^Dr^^^NWMI.SynapseRIS||Sur
gical|||||10458^^^NWMI.SynapseRIS|||||||||||||
ORC|RE||1726^NWMI^NWMI.SynapseRIS^L|10458^NWMI^NWMI.SynapseRIS^L|CM|||||239654^Smith^James^^^^^NWMI.Syn
apseRIS|NWMI^^Northwest MedicalImaging|||||||
OBR|1||1.1DI^NWMI^NWMI.SynapseRIS^L|CAPC^Abdomen / Pelvis
+(IV)CCT^NWMI.SynapseRIS||20151213111434+1000|||||239654^Smith^James^^Dr^^^NWMI.SynapseRIS|||||2016
0107112042+1000||RAD|P|^20111212000000+1000^R||||8003611566666859&GRIGNON&ADRIAN&JAMES&&DR&&&AUSHIC^^
^^^^^^|112233&Marks&Bettie&&&&NWMI.Synapse
OBX|2|RP|PDF^Display format in
PDF^AUSPDI||testdireport.pdf^^application^pdf||||P||20111213112042+1000||1234214^Jones^Steve^^^^^NWMI.S
ynapseRIS|Z^]]>
    </pceh:HL7Message>
    <pceh: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>
    </pceh:User>
  </pceh:UploadOrRemoveImagingRequest>
</soap:Body>
</soap:Envelope>

```

5.8.2 Response

The UploadOrRemoveImagingRequest will return an HIPS OK Message if initial validation passed, or a validation error if initial validation failed. If an OK message is returned then the report is added to the PCEHR Queue and an application acknowledge message will be returned either through the Mirth Connect component or the HIPS Ack Service.

```

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
s:mustUnderstand="1">http://nehta.hips/2014/03/pcehr/IPcehrServiceV2/UploadOrRemoveImagingResponse</a:Acti
on>
  </s:Header>
  <s:Body>
    <UploadOrRemoveImagingResponse xmlns="http://nehta.hips/2014/03/pcehr">
      <Status>OK</Status>
      <Messages xmlns:b="http://nehta.hips/2014/03" xmlns:i="http://www.w3.org/2001/XMLSchema-
instance"/>
    </UploadOrRemoveImagingResponse>
  </s:Body>
</s:Envelope>

```

5.9 Example Call to P2P HPI-O Search

This service allows a calling system to query to search for a HPI-O using Legal Name, Location, Organisation description or Name.

5.9.1 Request

```

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:prov="http://nehta.hips.p2p/2014/03/directory/provider_organisation"
xmlns:ns="http://nehta.hips.p2p/2014/03"
xmlns:hips="http://schemas.datacontract.org/2004/07/hips.P2P.Service.Contract.Common"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soap:Header/>
  <soap:Body>
    <prov:SearchRequest>
      <prov>User xsi:type="ns:LocalUser">

```

```

        <ns:AccessingHpio>8003621566687292</ns:AccessingHpio>
        <ns:Domain>DOMAIN</ns:Domain>
        <ns:FamilyName>Smith</ns:FamilyName>
        <ns:GivenNames>Simon</ns:GivenNames>
        <ns:Login>SSmith</ns:Login>
    </prov:User>
    <prov:Organisation>
        <ns:LegalName>DHSITESTORGA63</ns:LegalName>
    </prov:Organisation>
    <prov:Entities>
        <!--Zero or more repetitions:-->
        <hips:Entity>Organisation</hips:Entity>
    </prov:Entities>
    <prov:ProviderOrganisationLimit>1</prov:ProviderOrganisationLimit>
    <prov:ProviderOrganisationSkip>0</prov:ProviderOrganisationSkip>
</prov:SearchRequest>
</soap:Body>
</soap:Envelope>

```

5.9.2 Response

In this response, the health provider organisation details are returned and any associated Entities as requested in the hips:Entity element.

```

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
      s:mustUnderstand="1">http://nehta.hips.p2p/2014/03/directory/provider_organisation/IProviderOrganisationDi
      rectoryService/SearchResponse</a:Action>
    <ActivityId CorrelationId="349f9958-47ad-4aee-9038-02292066fe7a"
      xmlns="http://schemas.microsoft.com/2004/09/ServiceModel/Diagnostics">5f619c01-a522-48b0-8fdb-
      2b16891fe158</ActivityId>
    </s:Header>
    <s:Body>
      <SearchResponse xmlns="http://nehta.hips.p2p/2014/03/directory/provider_organisation">
        <Status>OK</Status>
        <Messages xmlns:b="http://nehta.hips.p2p/2014/03" xmlns:i="http://www.w3.org/2001/XMLSchema-
        instance"/>
        <Data xmlns:b="http://nehta.hips.p2p/2014/03" xmlns:i="http://www.w3.org/2001/XMLSchema-
        instance">
          <b:DocumentChannelPreferences/>
          <b:Individuals/>
          <b:InteractionRecords/>
          <b:Links/>
          <b:Locations/>
          <b:Organisations>
            <b:ProviderOrganisation>
              <b:Identifiers>
                <b:ProviderOrganisationIdentifier>
                  <b:Status i:nil="true"/>
                  <b:Type>
                    <b:Code>NHSD0</b:Code>
                    <b:Description>National Health Service Directory - Organisation</b:Description>
                  </b:Type>
                  <b:Value>urn:x-nhsd.au:org:18</b:Value>
                </b:ProviderOrganisationIdentifier>
              </b:Identifiers>
              <b:IsInSubscription>true</b:IsInSubscription>
              <b:LegalName>DHSITESTORGA63</b:LegalName>
              <b:OrganisationDescription/>
              <b:OrganisationId>urn:x-nhsd.au:org:18</b:OrganisationId>
              <b:OrganisationNames/>
            </b:ProviderOrganisation>
          </b:Organisations>
        </Data>
      </SearchResponse>
    </s:Body>
  </s:Envelope>

```

5.10 Example Call to P2P Add Area of Interest

This service allows a calling system to add an Area Of Interest definition to the accessing organisation's subscription.

5.10.1 Request

```
<soap:Envelope
  xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:sub="http://nehta.hips.p2p/2014/03/directory/subscription"
  xmlns:ns="http://nehta.hips.p2p/2014/03"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soap:Header/>
  <soap:Body>
    <sub:AddAreaOfInterestRequest>
      <sub:User xsi:type="ns:LocalUser">
        <ns:AccessingHpio>8003621566687292</ns:AccessingHpio>
        <ns:Domain>DOMAIN</ns:Domain>
        <ns:FamilyName>Smith</ns:FamilyName>
        <ns:GivenNames>Simon</ns:GivenNames>
        <ns:Login>SSmith</ns:Login>
      </sub:User>
      <sub:AreaOfInterest>
        <ns:Areas>
          <ns:GeographicalArea>
            <ns:State>VIC</ns:State>
          </ns:GeographicalArea>
        </ns:Areas>
        <ns:Classifications>
        </ns:Classifications>
        <ns:Description>TestAoI</ns:Description>
        <ns:ExtraMembers>
        </ns:ExtraMembers>
        <ns:Occupations>
          <ns:IndividualOccupation>
            <ns:URI>urn:x-nhsd.au:item:hiservice;16072014;provider_individual_type;2531</ns:URI>
          </ns:IndividualOccupation>
        </ns:Occupations>
      </sub:AreaOfInterest>
    </sub:AddAreaOfInterestRequest>
  </soap:Body>
</soap:Envelope>
```

5.10.2 Response

In this response, the newly added Area Of Interest details are returned.

```
<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
      s:mustUnderstand="1">http://nehta.hips.p2p/2014/03/directory/subscription/ISubscriptionService/AddAreaOfInterestResponse</a:Action>
    <ActivityId CorrelationId="f55e4249-2c64-4a36-bcea-72b15a7a2e04"
      xmlns="http://schemas.microsoft.com/2004/09/ServiceModel/Diagnostics">a47a40b9-563b-4d1d-97e9-11098a9ea6fd</ActivityId>
    </s:Header>
    <s:Body>
      <AddAreaOfInterestResponse xmlns="http://nehta.hips.p2p/2014/03/directory/subscription">
        <Status>OK</Status>
        <Messages xmlns:b="http://nehta.hips.p2p/2014/03" xmlns:i="http://www.w3.org/2001/XMLSchema-instance"/>
        <Data xmlns:b="http://nehta.hips.p2p/2014/03" xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
          <b:Areas>
            <b:GeographicalArea>
              <b:Postcode i:nil="true"/>
              <b:State>VIC</b:State>
              <b:Suburb i:nil="true"/>
            </b:GeographicalArea>
          </b:Areas>
          <b:Classifications/>
        </Data>
      </AddAreaOfInterestResponse>
    </s:Body>
  </s:Envelope>
```

```

        <b:Code>urn:x-nhsd.au:aoi:15593</b:Code>
        <b:Description>TestAoI1</b:Description>
        <b:ExtraMembers/>
        <b:Occupations>
            <b:IndividualOccupation>
                <b:Code>2531</b:Code>
                <b:DisplayName>Generalist Medical Practitioners</b:DisplayName>
                <b:URI>urn:x-nhsd.au:item:hiservice;16072014;provider_individual_type;2531</b:URI>
            </b:IndividualOccupation>
        </b:Occupations>
    </Data>
</AddAreaOfInterestResponse>
</s:Body>
</s:Envelope>

```

5.11 Example Call to P2P Delete Area of Interest

This service allows a calling system to delete an Area Of Interest definition from the accessing organisation's subscription.

5.11.1 Request

```

<soap:Envelope
  xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:sub="http://nehta.hips.p2p/2014/03/directory/subscription"
  xmlns:ns="http://nehta.hips.p2p/2014/03"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soap:Header/>
  <soap:Body>
    <sub>DeleteAreaOfInterestRequest>
      <sub>User xsi:type="ns:LocalUser">
        <ns:AccessingHpio>8003621566687292</ns:AccessingHpio>
        <ns:Domain>DOMAIN</ns:Domain>
        <ns:FamilyName>Smith</ns:FamilyName>
        <ns:GivenNames>Simon</ns:GivenNames>
        <ns:Login>SSmith</ns:Login>
      </sub>User>
      <sub:AreaOfInterest>
        <ns:Areas>
        </ns:Areas>
        <ns:Classifications>
        </ns:Classifications>
        <ns:Code>urn:x-nhsd.au:aoi:15593</ns:Code>
        <ns:Description>TestAoI1</ns:Description>
        <ns:ExtraMembers>
        </ns:ExtraMembers>
        <ns:Occupations>
        </ns:Occupations>
      </sub:AreaOfInterest>
    </sub>DeleteAreaOfInterestRequest>
  </soap:Body>
</soap:Envelope>

```

5.11.2 Response

In this response, the deleted Area Of Interest details are returned with a Status of OK.

```

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
      s:mustUnderstand="1">http://nehta.hips.p2p/2014/03/directory/subscription/ISubscriptionService/DeleteAreaOfInterestResponse</a:Action>
    <ActivityId CorrelationId="0d63422c-abc9-4c90-808c-893ec03ac3f7"
      xmlns="http://schemas.microsoft.com/2004/09/ServiceModel/Diagnostics">7555c7a2-a496-40e5-8541-4c8c7f0e70b6</ActivityId>
    </s:Header>
  <s:Body>

```

```

    <DeleteAreaOfInterestResponse xmlns="http://nehta.hips.p2p/2014/03/directory/subscription">
      <Status>OK</Status>
      <Messages xmlns:b="http://nehta.hips.p2p/2014/03" xmlns:i="http://www.w3.org/2001/XMLSchema-
instance"/>
        <Data xmlns:b="http://nehta.hips.p2p/2014/03" xmlns:i="http://www.w3.org/2001/XMLSchema-
instance">
          <b:Areas/>
          <b:Classifications/>
          <b:Code>urn:x-nhsd.au:aoi:15593</b:Code>
          <b:Description>TestAoI1</b:Description>
          <b:ExtraMembers/>
          <b:Occupations/>
        </Data>
      </DeleteAreaOfInterestResponse>
    </s:Body>
  </s:Envelope>

```

Appendix A Architecture

