



**eHealth Integration Sample Code v2.0
Evaluation Guide**

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Approved for external use

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1. Purpose

The purpose of this document is to provide an evaluation guide, so that Release 2.0 of the Healthcare Identifier and PCEHR communications solution developed by NEHTA can be integrated with local systems.

Please read this document before commencing installation.

2. Testing

The software in this release has been through extensive testing and is now in production use in many locations across Australia. NEHTA CCA does require testing of some conformance requirements after integration with participating organisational systems.

For the purpose of software registration in the HI Service and PCEHR System any system connecting to these services **must be registered**. Thus, a unique product name and version number must be chosen to register the product.

For example, if the product name from organisation “RightWell Health” was chosen as “RightWell-eHISC” (a *fictional organisation and product name*) the following key strings would need to be registered:

- HI Service Vendor name is “RightWellHealth” and the PCEHR Vendor Name is “RightWellHealth”.
- HI and PCEHR Service Product Name “RightWell-eHISC”
- HI and PCEHR Product Version “1.0”

Registration to both the test systems at Medicare and PCEHR must be completed before connectivity will be successful. This registration process will then have to be performed again for Production.

Test Description	Participating Organisational Testing Status
• HL7 PAS Unit Tests	Required by eHISC
• HL7 EMPI Unit Tests	Required by eHISC
• PCEHR Service Unit Tests	Required by eHISC
• System Integration Test	Recommended
• Performance and Load Test	Recommended
• Security Test	Recommended
• Healthcare Identifiers CCA Test	Required by eHISC
○ IHI Search: UC.005, UC.010 and UC.015	• Required by eHISC
○ HPI-I Search: UC.131	• Required by eHISC
• PCEHR CIS CCA Test	Required by eHISC, however participating organisations will need to CCA test the following if the functionality is integrated into local clinical systems:
○ 19048: Enter provider access consent code	• Required
○ 19116: Display conditions of emergency access	• Required
○ 19042: Withdraw consent	• Required
○ 17839: Preclude automatic or require explicit upload	• Required

Test Description	Participating Organisational Testing Status
○ 19377: Ability to remove previously uploaded docs	• Required
○ 18721: Show date and time downloaded	• Required
○ 19048: Allow user to save or print	• Required
○ 19048: Show user when hash value invalid	• Required
○ 19048: Show document list and version history list	• Recommended
○ 19119: Allow user to sort and filter document list	• Recommended
○ 19378: Show user when demographics do not match	• Recommended
○ CDAR_AS_01: Authoring Systems	• Required
○ CDAR_RS_01: Rendering Systems	• Required
○ CPCD_Common_Producer	• Required
○ CPCD_DS_Producer	• Required
○ CPCD_Common_Consumer	• Required
○ Amendment 1: Assisted Registration	• Required
• Healthcare Identifiers NOC Test	Required by eHISC for these services:
○ IHI Inquiry Search via B2B (TECH.SIS.HI.06)	• Required by eHISC
○ Search for Provider Individual Details (TECH.SIS.HI.31)	• Required by eHISC
○ Search Provider Individual Batch Async (TECH.SIS.HI.33)	• Required by eHISC
• PCEHR NOC Test	Required by eHISC for these services:
○ getChangeHistoryView	• Required by eHISC
○ getDocumentList	• Required by eHISC
○ doesPCEHRExist	• Required by eHISC
○ gainPCEHRAccess	• Required by eHISC

Test Description	Participating Organisational Testing Status
○ uploadDocument	<ul style="list-style-type: none">• Discharge Summary• Specialist Letter• Event Summary• Shared Health Summary• PCEHR Prescription Record• PCEHR Dispense Record
○ getDocument	<ul style="list-style-type: none">• Completed
○ removeDocument	<ul style="list-style-type: none">• Completed
○ getView	<ul style="list-style-type: none">• Prescription and Dispense View
○ RegisterPCEHR	<ul style="list-style-type: none">• Completed

3. Evaluation Prerequisites

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

Registration and contact assistance for Software Vendors can be found at Online Technical Support (OTS) help desk from the DHS at <http://www.medicareaustralia.gov.au/provider/vendors/helpdesk.jsp>

A summary of the contact details for OTS is defined in the following document and it is the OTS Liaison that can help direct your queries if you are unsure who should be contacted.

<http://www.medicareaustralia.gov.au/provider/vendors/files/software-vendors2.pdf>

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 eHISC access using a certificate in their pack.

The eHISC compiled binaries, registered as a product, needs to provide the following details to be able to identify itself to the HI Service:

Field	Description	Application Config Setting
Vendor ID	The registered product Vendor ID	lhiVendorId
Product Name	The registered Product Name	lhiProductName
Product Version	The registered product version number	lhiProductVersion

(Note: eHISC compiled binaries will require specific registration to the HI Service.)

3.2 Registration to PCEHR 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 CCA testing. Each organisation may request a pack from DHS and request the National Infrastructure Operator (NIO) to configure the PCEHR SVT Environment to allow eHISC 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 eHISC compiled binaries, registered as a product, needs to provide the following details to be able to identify this version of the product to the PCEHR system:

Field	Description	Application Config Setting
Vendor	The registered Product Vendor Name	PcehrVendorId
Product Name	The registered Product Name	PcehrProductName
Product Version	The registered product version number	PcehrProductVersion

(Note: eHISC compiled binaries will require specific registration to the PCEHR System.)

4. eHISC Demo Harness

4.1 Overview

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

The demo harness connects to the eHISC 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 PCEHR.
- Consent Service – to withdraw consent to upload documents for an episode of care, disclose existence of a PCEHR, or query patient participation status.
- PCEHR Service – to check whether a PCEHR 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 PCEHR Data Store 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 eHISC 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 SA Health specific hospital codes (e.g. RAH or FMC) that must be changed to match the hospital codes you have configured for eHISC.
- 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
- eHISC services are invoked using MRN identifier, not using State Patient ID or Validated IHI
- Some eHISC 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 eHISC with the Validated IHI parameter, an alternative web service testing tool, such as soap-UI, is required: See Section 6 for details.

4.3 eHISC Demo Harness Configuration

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

eHISC 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.

4.5 Endpoint Addresses

Six endpoints must be configured for each eHISC environment, being the Database Loader Service, IHI Service, PCEHR Service, PCEHR Service V2, CDA service and Consent 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 eHISC application server name, HTTP port and the environment identifier (DEV / SYSTEST / PREPROD / PROD) for each of the endpoints in the demo harness configuration file.

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 eHISC 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 eHISC IHI Service using the web service at this URL

Section	Suggested Value	Description
Endpoints named PCEHR Service	http://hostname:port/HIPSServer_ENV/HIPS.Service.PCEHRService.svc/HIPS.Service.PCEHRService	The demo harness will connect to the eHISC 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 eHISC 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 eHISC 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 eHISC Consent Service using the web service 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 eHISC, and to select which user role and details to assert to eHISC.

The screenshot shows the 'Authentication' tab of the HIPS Demo Harness. The 'Environment' dropdown is set to 'HIPS System Testing'. The 'User Role' section has three radio buttons: 'Interactive User' (selected), 'Health Provider Individual', and 'Authorised Employee for Background Process'. The 'User Name' field contains 'simon'. The 'User Login' field contains 'simon'. The 'User Domain' field contains 'SIMONBIBER0406'.

Figure 1 – Selecting an application environment and user role

4.6.2 Register or Update Patient Tab

Paste HL7 Message below, or select one from this list: **ALEXANDER DUNCAN (IHI 8003603456799528)**

MSH|^~|^&HIPS|SAH|ADT|RAH|20120801070340|U4VX|ADT^A01|4200016|P|2.3.1|||ALINE|AU|ASCI|EN
EVN|A01|20120801070339.74|ID|SU|ALEE
PID|I|TEST-CCA.13~FMC~MR~59500730912~MC|DUNCAN~ALEXANDER~LI|20090505|MI|1~Aboriginal but not Torres Strait Islander origin~ISAAC|26 CCA FAITH
ST~PARAMATTA~NSW~2150~H||~WPN~PH~0884251461||8407~Cuba~ABS|Y||

Message Response

MSH|^~|^&HIPS|SAH|ADT|RAH|20140620122744~0930|U4VX|ADT^A01|TorvFCC|K|qpvj|C|q|E|P|2.3.1|||ALINE|AU|ASCI|I
MSA|AA|4200016

PCEHR Data Store Results

Name: ALEXANDER DUNCAN IHI: 8003603456799528
Date Of Birth: 05/05/2009 IHI Record Status: Verified
Sex: Male IHI Status: Active
Medicare: 5950073091 PCEHR is Advertised
DVA: Date Last Validated: 20/06/2014 12:27

IHI Lookup Audits

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

☒ Format XML

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 PCEHR advertised check.

Participating Organisations evaluating eHISC should use this tab to register a patient whose demographics match a test patient from their PCEHR 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 eHISC database.

```

MSH|^~\&|ADT|LMH|HIB|HIB|20121123072334||ADT^A01|2012112307233417184242|P|2.3.1|||AL|NE|AU|ASCII|EN
EVN|A08|20121123072334
PID||StatePatientId^^SAUHI|MedicalRecordNumber^^LMH^MR~|MedicareCardNumberWithIrn^^022015^LMH^MC||Famili
yName^FirstName^MiddleNames^^Title^^L^A||DateOfBirth|SexCode|TESTSURN^TESTFORE^TESTMDL^^A^A|4^Neithe
r 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^M
arried/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||^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^^ADT&LMH^L^^NTE
RNAL^LMH~234567F^ProviderOneSurname^ProviderOneFirstName^^PROF^^ADT&LMH^L^^PROVIDER^LMH|1269^P
roviderTwoSurname^ProviderTwoFirstName^^ADT&LMH^^INTERNAL^LMH~123456VJ^ProviderTwoSurname^Provi
derTwoFirstName^^ADT&LMH^^PROVIDER^LMH|128^ProviderOneSurname^ProviderOneFirstName^^PROF^^A
DT&LMH^L^^INTERNAL^LMH~234567F^ProviderOneSurname^ProviderOneFirstName^^PROF^^ADT&LMH^L^^PRO
VIDER^LMH|OBST||||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 eHISC 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, eHISC will validate the IHI before using it in any call to the PCEHR 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

The screenshot shows a web application window titled "HIPS Demo Harness - hipstest.chamonix.net.au". The "Check for PCEHR" tab is active. The interface includes a patient selection dropdown showing "BELL, MABEL". A "Get Validated IHI" button is present. Below this, the "Service Return Status" is "OK". The "IHI" is "8003608166708487", "IHI Status" is "Active", "IHI Record Status" is "Verified", and "Last Validated Date/Time" is "20/06/2014 12:29". A "Check PCEHR Status" button is also visible. Below this, the "Service Return Status" is "OK", "Advertised Status" is "Yes, an advertised PCEHR exists.", and "Access Status" is "Your organisation has already gained access to this PCEHR.". The "Status" is "OK".

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

Given Names: MABEL

IHI Status: Active

Family Name: BELL

IHI Record Status: Verified

Sex: Female

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

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 PCEHR 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 eHISC.

4.6.4 Consent and Participation Tab

Record Consent Section:

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

List Recent Patient Participation Section:

Since Date: Wednesday, 18 June 2014
 Status: OK

Check Single Patient Participation Section:

Status:

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 PCEHR

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 PCEHR 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 PCEHR (either having an advertised PCEHR 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, eHISC 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 PCEHR. Key points from the business logic are demonstrated here:

- eHISC 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 eHISC will refuse to queue the document for uploading.
- If eHISC 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 PCEHR, 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, eHISC 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

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:

Episode:

Document:

Reason:

Status:

Required Data for Remove Document Web Service Call

Hospital Code System:

Hospital Code:

Medical Record Number:

Admission Date:

Document Set ID:

Reason Code:

PCEHR Audits

PcehrAuditId	PatientMasterId	ServiceName	ServiceMessage	Request	Response	Ihi	HpiO	User
469	1	Does PCEHR Exist	OK	<? Envelope xmlns=...	<soap:Envelope ...	8003608000002519	8003621566687292	simon
470	1	Remove Document	OK PCEHR_SU...	<? 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 eHISC previously uploaded to the PCEHR. 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:

Required Data for Web Service Call

Hospital Code System:

Hospital Code:

Medical Record Number:

Date of Birth:

PCEHR Return Status:

Advertised Status:

Access Status:

Access Method

☐ Access With Code

☒ Access Without Code

☐ Emergency Access

IHI:

IHI Status:

IHI Record Status:

Access Permission:

Status: OK

Figure 7 - Choose a patient, check for PCEHR existence and gain access to the PCEHR.

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 PCEHR for the selected patient, or if not, whether a code is required to gain access.
- **Gain Access with Code:** Gain access to a PCEHR 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 PCEHR without supplying an access code, thus gaining general access for 3 years.
- **Gain Emergency Access:** Gain emergency access to a PCEHR, 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

Creation End Date/Time: Friday, 20 June 2014

Service Start Date/Time: Friday, 20 June 2014

Service End Date/Time: Friday, 20 June 2014

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 PCEHR.

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 eHISC with your clinical system.

4.6.9 Download Document Tab

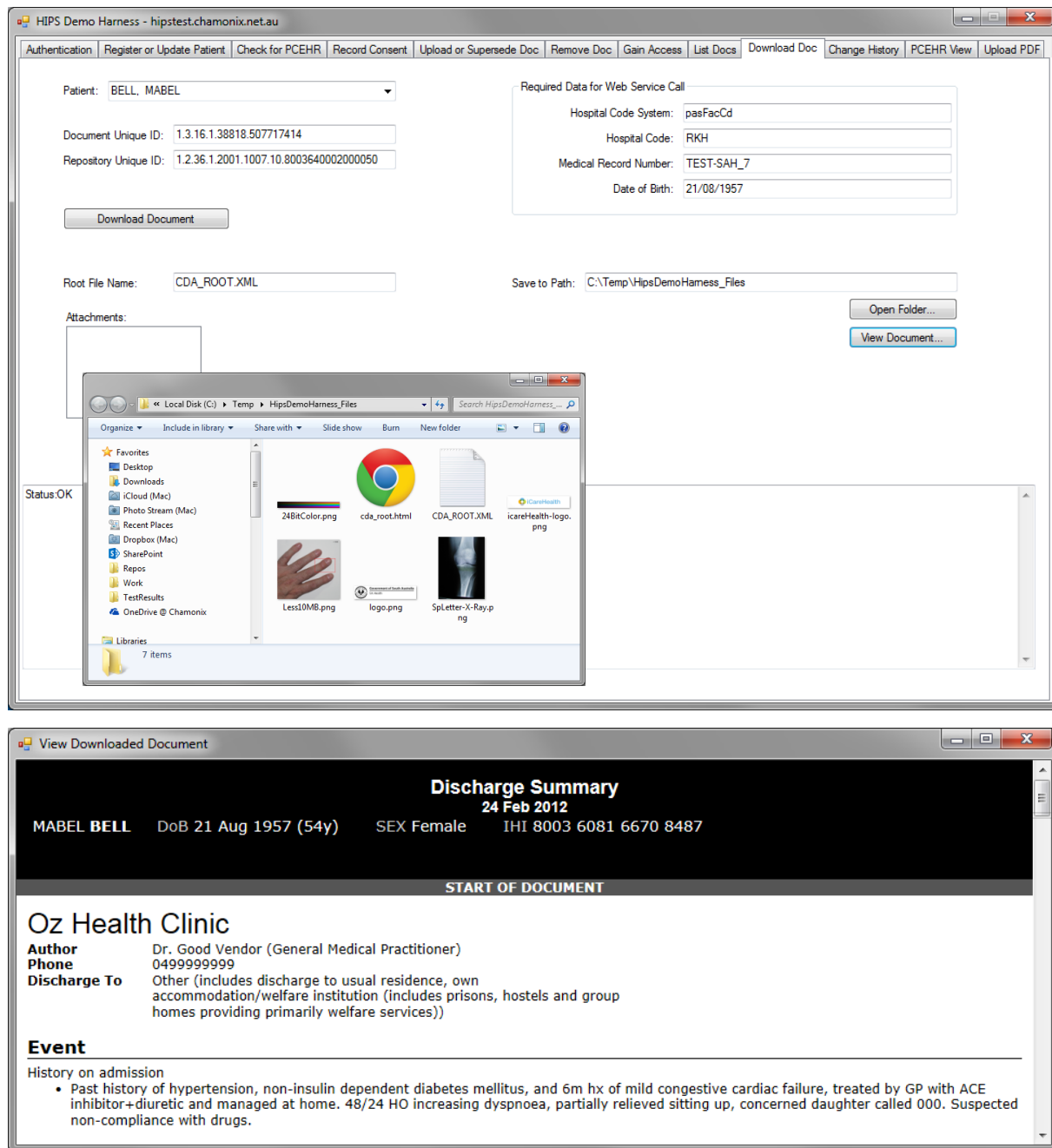


Figure 9 - Choose a patient and enter the Unique ID and Repository ID of a document to download.

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

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 eHISC with your clinical system.

4.6.11 PCEHR View Tab

The screenshot shows a web application window titled "HIPS Demo Harness - hipstest.chamonix.net.au". The top navigation bar includes links: 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 (active), and Upload PDF. Below the navigation bar, a "Patient:" dropdown menu is set to "BELL, MABEL". The main content area features a "Patient Summary for BELL, MABEL" section with a "Gain Access" button. Below this is a "Discharge Summary" button with a "3" icon. A search bar with the placeholder "Type to search..." is present. A table displays three entries of PCEHR records. The table has columns: Service Start, Service End, Creation, Organisation, Author, and Actions. The entries are as follows:

Service Start	Service End	Creation	Organisation	Author	Actions
12/11/2013	16/06/2014	16/06/2014	DHSITESTORG46	a, a	
12/11/2013	15/06/2014	15/06/2014	DHSITESTORG46	BIGHT, SIGHT	
21/02/2012	24/02/2012	24/02/2012	MEDTESTORGSC4	Vendor, Good	

Below the table, it says "Showing 1 to 3 of 3 entries". At the bottom right, there are pagination controls: First, Previous, 1 (selected), Next, Last.

Figure 11 - Choose a patient and show the embedded PCEHR viewer.

This page demonstrates the Patient Landing Page feature of WP7 eHISC UI Enhancements that allows a clinical system to embed the eHISC PCEHR Web Viewer as a component of an existing clinical application.

4.6.12 Upload PDF Tab

The screenshot shows the 'HIPS Demo Harness' web application with the 'Upload PDF' tab selected. The interface is divided into several sections:

- Patient:** A dropdown menu showing 'BELL, MABEL'.
- Encounter Period:** Fields for 'Admission Date/Time' (12 / 11 / 2013 10 : 20) and 'Discharge Date/Time' (20 / 06 / 2014 12 : 41).
- Document Author:** Fields for 'Family Name' (Windsor), 'Given Name' (Mary), 'Title' (Princess), 'Suffix' (of Scots), and 'Identifier' (maryofscots). There are radio buttons for 'Type' (HPI and Local Identifier).
- Discharge Summary:** Fields for 'Select PDF' (DischargeSummary.pdf (4465401 bytes)), 'Document Status' (Final), 'Creation Date/Time' (19 / 06 / 2014 12 : 41), 'Clinical Specialty' (Oncology), and 'Mode of Separation' (Self Discharge). There are buttons for 'Add Attachment...' and 'Remove Attachment'.
- Attachments:** A table listing attachments:

Name	Size
logo.png	13,375 bytes
asthma_fact_sheet_en.pdf	126,416 bytes
- Status:** A text area showing 'Status: OK', 'Document ID: 1.2.36.1.2001.1005.49.1.8003621566687292.29^29', and 'Document Set ID: 1.2.36.1.2001.1005.49.2.8003621566687292^2'.
- Buttons:** 'Upload or Supersede' and 'Upload PDF' (in the top navigation bar).

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 PCEHR system.

5. Invoke eHISC services with soapUI

SoapUI is an open source, cross-platform application for testing web services. The latest 32 or 64 bit Windows releases can be downloaded from:

- <http://sourceforge.net/projects/soapui/files/soapui/4.6.4/SoapUI-x32-4.6.4.exe/download> (32)
- <http://sourceforge.net/projects/soapui/files/soapui/4.6.4/SoapUI-x64-4.6.4.exe/download> (64)

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

For PCEHR services (e.g. IsPcehrAdvertised or UploadOrSupersedeDocument) use:

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

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

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

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

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

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

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

5.1 Adding WS-Addressing Header

All of the eHISC 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 eHISC 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:57500/HIPSServer_DEV/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 PCEHR, 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 PCEHR 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 PCEHR 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 eHISC 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 PCEHR 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|k6b5DsqqHzEuSjkQPNmnX|P|2.3.1|||AL|NE|AU|ASCII
        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>
        <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 eHISC for packaging and uploading to PCEHR. 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>
        PD94bWwgdmVyc2lvcj0iMS4wIiB1bmNvZGluz0iVVVRLTgiPz4NCjxDbGluaWNhbERvY3Vt
        ...
        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>
        <hips:GivenName>JAKE</hips:GivenName>
        <hips:Ihi>8003608000002519</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>
  </ns:UploadOrSupersedeDocument>
</soap:Body>
</soap:Envelope>

```

```
<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>
      </ns:patientIdentifier>
    </ns:GetOperationStatus>
  </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: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>
```

Appendix A Architecture

