



HIPS Production Release 4.1.0
Assisted Registration Service
Technical and Functional Specification

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Approved for external use

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1. Purpose

The purpose of this document is to specify the functional logic and the technical interfaces for the Assisted Registration services provided in the HIPS Production Release 4.1.0.

2. Background

Assisted Registration is a nationally funded NEHTA PCEHR project. The solution will interface with the Enterprise Service Bus (ESB) or other clinical systems to allow the fast and easy registration of patients to the PCEHR.

3. Service Overview

The Assisted Registration functions provided by HIPS include the following web services:

- Assisted Registration Services

4. Assisted Registration

4.1 Web Service Methods

4.1.1 Patients Without PCEHR List

The ListPatientsWithoutPcehr method returns a list of patients who do not have a PCEHR or who have a hidden PCEHR. The list will only return patients with a valid IHI that are currently admitted to hospital, that is, they have a current inpatient episode without a discharge date. The list may also be further restricted to a specific hospital based on the hospital code provided in the request.

4.1.2 Register Patient

The RegisterPatient method is used to assist an adult (or independent minor over 14 years of age) to register themselves for a PCEHR. Despite the name of the method, the applicant may or may not be a hospital patient, for example they could be a visitor.

HIPS contains a configuration setting that by default instructs HIPS to send the applicant's demographics to the HI service to obtain and/or verify the IHI before sending the request to the PCEHR. This can be changed to instead send the demographics direct to the PCEHR bypassing the HI service.

4.1.3 Re-Register Patient

The ReregisterPatient method is used to repeat the process of RegisterPatient in case the first attempt was unsuccessful. The "PatientMasterId", which is the internal HIPS identifier of the person record that was created in the first call, must be passed back into this method. HIPS will update that record and avoid creating additional, spurious person records.

4.1.4 Register Dependant

The RegisterDependant method is used to assist an authorised representative (parent) to register their dependant (child) for a PCEHR. The child may or may not be a hospital patient.

4.1.5 Re-Register Dependant

The ReregisterDependant method is used to repeat the process of RegisterDependant in case the first attempt was unsuccessful. The "PatientMasterId", which is the internal HIPS identifier of the person record that was created in the first call, must be passed back into this method. HIPS will update that record and avoid creating additional, spurious person records.

4.2 Functional Validations

The following errors may be generated due to functional validations of the registration request. In the table below, RP refers to the "RegisterPatient" service that is for assisting an individual to register for their own PCEHR, while RD refers to the "RegisterDependant" service that is for assisting a parent to register for their child's PCEHR.

HIPS Error Message	Applies to
Individuals details must be provided.	RP & RD
The Indigenous Status must be provided.	RP & RD
The Evidence Of Identity Type must be provided.	RP & RD
No given name provided. ¹	RP & RD
No family name provided. ¹	RP & RD
Cannot have future dated date of birth. ¹	RP & RD
Date of birth cannot be more than 140 years ago. ¹	RP & RD
Must include a Medicare or DVA number. ¹	RP & RD
Medicare number is incorrect. ¹	RP & RD
Medicare IRN must be a number between 1 and 9. ¹	RP & RD
Representative details must be provided.	RD only
Consent form {0} with size {1}B exceeds the 200,000B limit for uploading to PCEHR.	RP & RD
Filename contains path separator characters.	RP & RD
Consent form {0} has an invalid filename.	RP & RD
Consent form {0} is not a supported type for uploading to PCEHR.	RP & RD
Must provide a response for ACIR documents consent.	RP & RD
Must provide a response for AODR documents consent.	RP & RD
Must provide a response for MBS documents consent.	RP & RD
Must provide a response for MBS Past Assimilation documents consent.	RP & RD
Must provide a response for PBS documents consent.	RP & RD
Must provide a response for PBS Past Assimilation documents consent.	RP & RD
The latest terms and conditions have not been accepted.	RP & RD
IVC Correspondence Channel has not been specified.	RP & RD
Mobile phone number is required for IVC SMS correspondence.	RP & RD
Invalid mobile phone number.	RP & RD
Email address is required for IVC email correspondence.	RP & RD
Invalid email address.	RP & RD
Representative declaration is required for assisted registration.	RD only
Dependant cannot be older than 18 years.	RD only
There cannot be less than a 14 year age gap between the dependant and the representative.	RD only
The representatives Medicare number must be provided.	RD only
The dependant and the representative must be on the same Medicare card.	RD only
An individual cannot be less than 14 years old.	RP only

¹ Prefixed with "Representative: " or "Patient: " to indicate which person's demographics were invalid

4.3 Technical Structure

4.3.1 Data Transfer Objects and Enumerations

4.3.1.1 *PatientWithoutPcehrResponse*

This class defines the response from the ListPatientsWithoutPcehr service.

Property	Type	Description
HipsResponse	HipsResponse	Indicates success or reason for failure
PatientWithoutPcehrList	List of PatientWithoutPcehr	List of patient records matching the query

4.3.1.2 *PatientWithoutPcehr*

This class represents a patient with an IHI but without a recorded PCEHR.

Property	Type	Description
PatientMasterId	Integer	HIPS internal identifier for the enterprise master patient record.
Ihi	String	Patient's IHI number
IhiStatusId	Integer	HIPS internal identifier for the IHI status
IhiStatus	IhiStatus enumeration	IHI status
IhiRecordStatusId	Integer	HIPS internal identifier for the IHI record status
IhiRecordStatus	IhiRecordStatus enumeration	IHI record status
DateLastValidated	Date and time	Date and time when the IHI was last validated with the HI Service
DateOfBirth	Date and time	Patient's date of birth
MedicareNumber	String	Patient's Medicare card number (10 digits)
MedicareIrn	String	Patient's Medicare Individual Reference Number (one digit)
DVANumber	String	Patient's DVA file number
CurrentSexId	Integer	HIPS internal identifier for the current sex
Sex	SexEnumerator enumeration	Patient's sex as currently recorded on PAS
FamilyName	String	Patient's family name as currently recorded on PAS
GivenNames	String	Patient's given names as currently recorded on PAS
RegisteredSexId	Integer	HIPS internal identifier for the registered sex

Property	Type	Description
RegisteredSex	SexEnumerator enumeration	Patient's sex as recorded in the HI Service
RegisteredFamilyName	String	Patient's family name as recorded in the HI Service
RegisteredGivenName	String	Patient's given name as recorded in the HI Service
Suffix	String	Patient's name suffixes (like "Jr")
Title	String	Patient's titles (like "Dr", "Ms" or "Mr")
HospitalId	Integer	HIPS internal identifier for the hospital in which the patient is admitted
HospitalCode	String	Code for the hospital in which the patient is currently admitted, in the code system that was specified in the parameter.
Ward	String	Ward component of current patient location
Room	String	Room component of current patient location
Bed	String	Bed component of current patient location

4.3.1.3 PcehrRegistrationResponse

This class defines the response from the RegisterPatient, ReregisterPatient, RegisterDependant and ReregisterDependant methods of the AssistedRegistrationService service.

Property	Type	Description
HipsResponse	HipsResponse	Indicates success or reason for failure
IvcCode	String	The identity verification code (IVC) that the applicant or authorised representative can use to establish access to the PCEHR consumer portal
IvcExpiryDate	Date and time	The date and time when the IVC will expire
PatientMasterId	Integer	HIPS internal identifier for the person record. Use this number as the patientMasterId parameter to the appropriate Reregister method if the registration was unsuccessful and the user wishes to modify some information and try again.

4.3.1.4 Demographic

This class is a subclass of PatientIdentifierBase (see HIPS Document Production specification for details) that defines a person's demographic information for use within the registration process. This type of identification can only be used with Assisted Registration and cannot be used with other HIPS services that access the PCEHR system. This person will be registered as a visitor, not as a patient within the hospital.

Property	Type	Description
FamilyName	String	Person's family name
GivenName	String	Person's given name
DateOfBirth	Date	Person's date of birth
Sex	SexEnumerator enumeration	Person's sex
MedicareNumber	String	Person's Medicare card number
MedicareIrn	String	Person's Medicare individual reference number
DvaNumber	String	Person's DVA file number

4.3.1.5 EvidenceOfIdentityType

This enumeration defines the list of acceptable forms of evidence of identity. The user must select one of the following Identity Verification Methods used by the healthcare organisation to verify the consumer's or authorised representative's identity. The CIS must display the exact method description to the user as outlined below.

Entry	Description
IdentityVerificationMethod1	Attending third or more consultation and Medicare/DVA card
IdentityVerificationMethod2	Attending hospital with their clinical referral and Medicare/DVA card
IdentityVerificationMethod3	Attending emergency department with PHOTO ID with Medicare/DVA card
IdentityVerificationMethod4	Having prescriptions filled on three or more occasions in the past year and Medicare/DVA card
IdentityVerificationMethod5	Enrolled and attending Aboriginal Medical Service and Medicare/DVA card
IdentityVerificationMethod6	Attending third or more consultation and has a My eHealth Record
IdentityVerificationMethod7	Identity verified by referee consistent with My eHealth Record requirements
IdentityVerificationMethod8	Resident of Aged Care facility and Medicare/DVA card
IdentityVerificationMethod9	100pts of documentary evidence consistent with PCEHR Consumer Identity Framework
IdentityVerificationMethod10	Other criteria approved by the System Operator

4.3.1.6 *IndigenousStatus*

This enumeration defines the list of acceptable choices for indigenous status. The CIS may either prepopulate the Indigenous Status from the local patient record, or require the user to indicate the status. It must not default the status to a specific value.

Entry	Description
AboriginalNotTorresStraitIslander	Aboriginal but not Torres Strait Islander
TorresStraitIslanderNotAboriginal	Torres Strait Islander but not Aboriginal
BothAboriginalAndTorresStraitIslander	Both Aboriginal and Torres Strait Islander
NeitherAboriginalAndTorresStraitIslander	Neither Aboriginal nor Torres Strait Islander
NotStatedInadequatelyDescribed	Not Stated or Inadequately Described

4.3.1.7 *RegistrationDocumentConsent*

This class defines the applicant's response to the question of whether they consent to the inclusion of a particular type of documents from a repository into the newly created PCEHR. In order to successfully register for a PCEHR, the list of RegistrationDocumentConsent must have an entry for all 6 types of documents.

Property	Type	Description
DocumentConsentType	RegistrationDocumentConsentType enumeration	A type of document that can be automatically loaded into a newly created PCEHR.
DocumentConsentStatus	RegistrationDocumentConsentStatus enumeration	Records whether the applicant has given consent for this document type being loaded into the new PCEHR.

4.3.1.8 *RegistrationDocumentConsentType*

This enumeration lists the possible types of documents that can be automatically loaded from a repository into the newly created PCEHR.

Entry	Description
ACIR	Australian Childhood Immunisation Registry
AODR	Australian Organ Donor Registry
MBS	Future Medicare Benefits Scheme (MBS) records
MBSPastAssimilation	Past MBS records
PBS	Future Pharmaceutical Benefits Scheme (PBS) records
PBSPastAssimilation	Past PBS records

4.3.1.9 *RegistrationDocumentConsentStatus*

This enumeration lists the possible responses that the applicant may give for the consent to load a type of documents from a repository into the newly created PCEHR.

Entry	Description
ConsentGiven	The applicant gave consent for this type
ConsentNotGiven	The applicant did not give consent for this type

4.3.1.10 RegistrationCorrespondenceChannel

This defines the details of the response channel that the applicant wishes to use to receive their IVC.

Property	Type	Description
Channel	IvcCorrespondenceChannel enumeration	The channel the patient wishes to receive their identity verification code through.
email	String	The email address the patient wishes the IVC to be sent to.
phoneNumber	String	The phone number the patient wishes the IVC to be sent to.

4.3.1.11 IvcCorrespondenceChannel

This enumeration lists the possible channels that the applicant may choose for delivery of the IVC.

Entry	Description
notselected	The applicant did not choose a channel
email	The IVC will be emailed to the email address
sms	The IVC will be sent to the mobile phone number via SMS
response	The IVC will be returned in the web service response to be displayed on screen
mail	The IVC will be sent in a letter to the address on file with Medicare
none	No IVC will be provided

4.3.2 Web Service Methods

The "AssistedRegistrationService" class in the "HIPS.AppServer.ServiceHost" project implements the following web service methods:

- ListPatientsWithoutPcehr
- RegisterPatient
- ReregisterPatient
- RegisterDependant
- ReregisterDependant

4.3.2.1 *ListPatientsWithoutPcehr*

The service lists patients within HIPS that have an IHI but do not have a PCEHR. The list is restricted to only show patients that have a current episode without a discharge date. The list can be further restricted by the filters defined in the request.

This service takes the following parameters:

Input Parameter	Data Type	Description	Required/Optional
hospitalCodeSystem	string	The hospital code system. The service will only list patients who are admitted to hospitals that have a code in this code system.	Required
hospitalCode	string	The hospital code. If this parameter is provided then the service will only list patients who are admitted to the hospital that has this code in the code system specified in the previous parameter.	Optional

Return Parameter	Data Type	Description
response	PatientWithoutPcehrResponse	Response information including service message and list of patients.

4.3.2.2 *RegisterPatient*

This service method can be used to assist any person over 14 years of age to register for a PCEHR. The person need not be a patient in hospital.

To register a patient in hospital, use an identifier type of Mrn, StatePatientId, PatientMasterId or ValidatedIhi. HIPS will use the provided IHI or retrieve the previously obtained IHI from the database, and re-validate the IHI with the HI Service. NEHTA conformance requirements require the IHI to be re-validated at the time of registration even if it was last validated within the period of time that is configured for other services that access the PCEHR system.

To register a person who is not a patient in hospital, use an identifier type of Demographic. HIPS will maintain records of people who are registered using the Demographic type under a pseudo-hospital called the "visitor hospital". There must be one "visitor hospital" for each HPI-O that is assigned to a real hospital.

This service takes the following parameters:

Input Parameter	Data Type	Description	Required/Optional
patientIdentifier	Patient Identifier Base	Identifying information of the applicant. For a patient, this can be their MRN, State ID, PatientMasterId or Validated IHI. For a non-patient it must be a Demographic object.	Required

Input Parameter	Data Type	Description	Required/Optional
identityType	Evidence of Identity Type enumeration	Method used to verify the identity of the applicant.	Required
indigenousStatus	Indigenous Status enumeration	Indigenous status of the applicant.	Required
documentConsent	List of Registration Document Consent	List of the applicant's consent against each document type.	Required
correspondenceChannel	Registration Correspondence Channel	Correspondence method used to provide the Identity Verification Code	Required
acceptedTermsAndConditions	Boolean	Defines if the applicant has accepted the terms and conditions for creating a PCEHR.	Required
user	Boolean	Details of the user who is operating the system.	Required
consentForm	Attachment	Scanned copy of the consent form signed by the applicant.	Optional

Return Parameter	Data Type	Description
response	PcehrRegistrationResponse	Response information

4.3.2.3 ReregisterPatient

This service method can be used to retry submission of the request to the RegisterPatient method.

This service takes the following parameters:

Input Parameter	Data Type	Description	Required/Optional
patientMasterId	Integer	Value returned from the first RegisterPatient call	Required
patientIdentifier	Patient Identifier Base	Identifying information of the applicant. For a patient, this can be their MRN, State ID, PatientMasterId or Validated IHI. For a non-patient it must be a Demographic object.	Required
identityType	Evidence of Identity Type enumeration	Method used to verify the identity of the applicant.	Required

Input Parameter	Data Type	Description	Required/Optional
indigenousStatus	Indigenous Status enumeration	Indigenous status of the applicant.	Required
documentConsent	List of Registration Document Consent	List of the applicant's consent against each document type.	Required
correspondenceChannel	Registration Correspondence Channel	Correspondence method used to provide the Identity Verification Code	Required
acceptedTermsAndConditions	Boolean	Defines if the applicant has accepted the terms and conditions for creating a PCEHR.	Required
user	Boolean	Details of the user who is operating the system.	Required
consentForm	Attachment	Scanned copy of the consent form signed by the applicant.	Optional

Return Parameter	Data Type	Description
response	PcehrRegistrationResponse	Response information

4.3.2.4 RegisterDependant

This service method can be used to assist an authorised representative to register their dependant for a PCEHR. The dependant must be a child under 18 years of age, and the authorised representative must be at least 14 years older than the dependant.

If the dependant is a patient in hospital, use an identifier type of Mrn, StatePatientId, PatientMasterId or ValidatedIhi. HIPS will use the provided IHI or retrieve the previously obtained IHI from the database, and re-validate the IHI with the HI Service. NEHTA conformance requirements require the IHI to be re-validated at the time of registration even if it was last validated within the period of time that is configured for other services that access the PCEHR system.

If the dependant is not a patient in hospital, use an identifier type of Demographic. HIPS will maintain records of people who are registered using the Demographic type under a pseudo-hospital called the "visitor hospital". There must be one "visitor hospital" for each HPI-O that is assigned to a real hospital.

This service takes the following parameters:

Input Parameter	Data Type	Description	Required/Optional
patientIdentifier	Patient Identifier Base	Identifying information of the dependant. For a patient, this can be their MRN, State ID, PatientMasterId or Validated IHI. For a non-patient it must be a Demographic object.	Required

Input Parameter	Data Type	Description	Required/Optional
representativeDemographics	Demographic	Identifying information of the authorised representative.	Required
identityType	Evidence Of Identity Type enumeration	Method used to identify the authorised representative.	Required
indigenousStatus	Indigenous Status enumeration	The indigenous status of the dependant.	Required
documentConsent	List of Registration Document Consent	List of the authorised representative's consent response for each document type.	Required
correspondenceChannel	Registration Correspondence Channel	The correspondence method used to provide the Identity Verification Code to the authorised representative.	Required
acceptedTermsAndConditions	Boolean	Whether the authorised representative has accepted the terms and conditions for creating a PCEHR.	Required
representativeDeclaration	Boolean	Whether the parental declaration was completed.	Required
user	User Details	Details of the user who is operating the system.	Required
consentForm	Attachment	A scanned copy of the consent form signed by the authorised representative.	Optional

Return Parameter	Data Type	Description
response	PcehrRegistrationResponse	Response information

4.3.2.5 ReregisterDependant

This service method should be used to retry submission of the request to the RegisterDependant method. The parameters are identical to RegisterDependant with the addition of the person identifier that was returned from the initial call to RegisterDependant.

This service takes the following parameters:

Input Parameter	Data Type	Description	Required/Optional
patientMasterId	Integer	Value returned from the first RegisterDependant call	Required

Input Parameter	Data Type	Description	Required/Optional
patientIdentifier	Patient Identifier Base	Identifying information of the dependant. For a patient, this can be their MRN, State ID, PatientMasterId or Validated IHI. For a non-patient it must be a Demographic object.	Required
representativeDemographics	Demographic	Identifying information of the authorised representative.	Required
identityType	Evidence Of Identity Type enumeration	Method used to identify the authorised representative.	Required
indigenousStatus	Indigenous Status enumeration	The indigenous status of the dependant.	Required
documentConsent	List of Registration Document Consent	List of the authorised representative's consent response for each document type.	Required
correspondenceChannel	Registration Correspondence Channel	The correspondence method used to provide the Identity Verification Code to the authorised representative.	Required
acceptedTermsAndConditions	Boolean	Whether the authorised representative has accepted the terms and conditions for creating a PCEHR.	Required
representativeDeclaration	Boolean	Whether the parental declaration was completed.	Required
user	User Details	Details of the user who is operating the system.	Required
consentForm	Attachment	A scanned copy of the consent form signed by the authorised representative.	Optional

Return Parameter	Data Type	Description
response	PcehrRegistrationResponse	Response information

5. Reference Services

5.1 Functional Logic

The following items in the HIPS database are considered reference data and are cached in memory for faster access.

Schema Item	Tables	Information Represented
ResponseChannel	RegistrationResponseChannel	Registration response codes
DocumentConsentType	RegistrationConsentType	Registration document consent code
IndigenousStatusType	IndigenousStatusType	Indigenous status codes
IDEvidenceType	RegistrationIdentityEvidenceType	Identity evidence method codes