



**Australian Government**  
**Australian Digital Health Agency**



## **Clinical Information System to National Provider Portal (CIS to NPP) Technical Service Specification**

22 November 2019 v1.0

Awaiting approval for external information

Document ID: DH-2883:2019

**Australian Digital Health Agency** ABN 84 425 496 912, Level 25, 175 Liverpool Street, Sydney, NSW 2000  
Telephone 1300 901 001 or email [help@digitalhealth.gov.au](mailto:help@digitalhealth.gov.au)  
[www.digitalhealth.gov.au](http://www.digitalhealth.gov.au)



## **Acknowledgements**

### **Council of Australian Governments**

The Australian Digital Health Agency is jointly funded by the Australian Government and all state and territory governments.

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## Document information

### Key information

<b>Owner</b>	Director, Technology Delivery and Projects
<b>Date of next review</b>	17 May 2019
<b>Contact for enquiries</b>	Australian Digital Health Agency Help Centre
	Phone <a href="tel:1300901001">1300 901 001</a>
	Email <a href="mailto:help@digitalhealth.gov.au">help@digitalhealth.gov.au</a>

### Product or document version history

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<b>Product or document version</b>	<b>Date</b>	<b>Release comments</b>
1.0	22 November 2019	Initial release

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# 1 Introduction

The Clinical Information System to National Provider Portal (CIS to NPP) interface allows clinicians to have quick and easy direct access to a patient's My Health Record by embedding or launching the National Provider Portal (NPP) within or from the clinical information system (CIS) software.

## 1.1 Purpose

The purpose of the document is to provide detail of the backend design of the B2B CIS to NPP interface.

## 1.2 Intended audience

This is a technical specification document intended for use by CIS software vendors who choose to access the NPP directly via CIS and want to understand the CIS to NPP interface.

## 1.3 Scope

This document is limited to discussing following:

- CIS direct access to NPP flow diagram
- B2B CIS to NPP service overview to accept CIS to NPP direct access request via HTTPS
- Standard error codes

## 2 CIS direct access to NPP

This section details the solution components interaction for CIS to NPP direct access.

### 2.1 Flow diagram - CIS direct access to NPP authentication

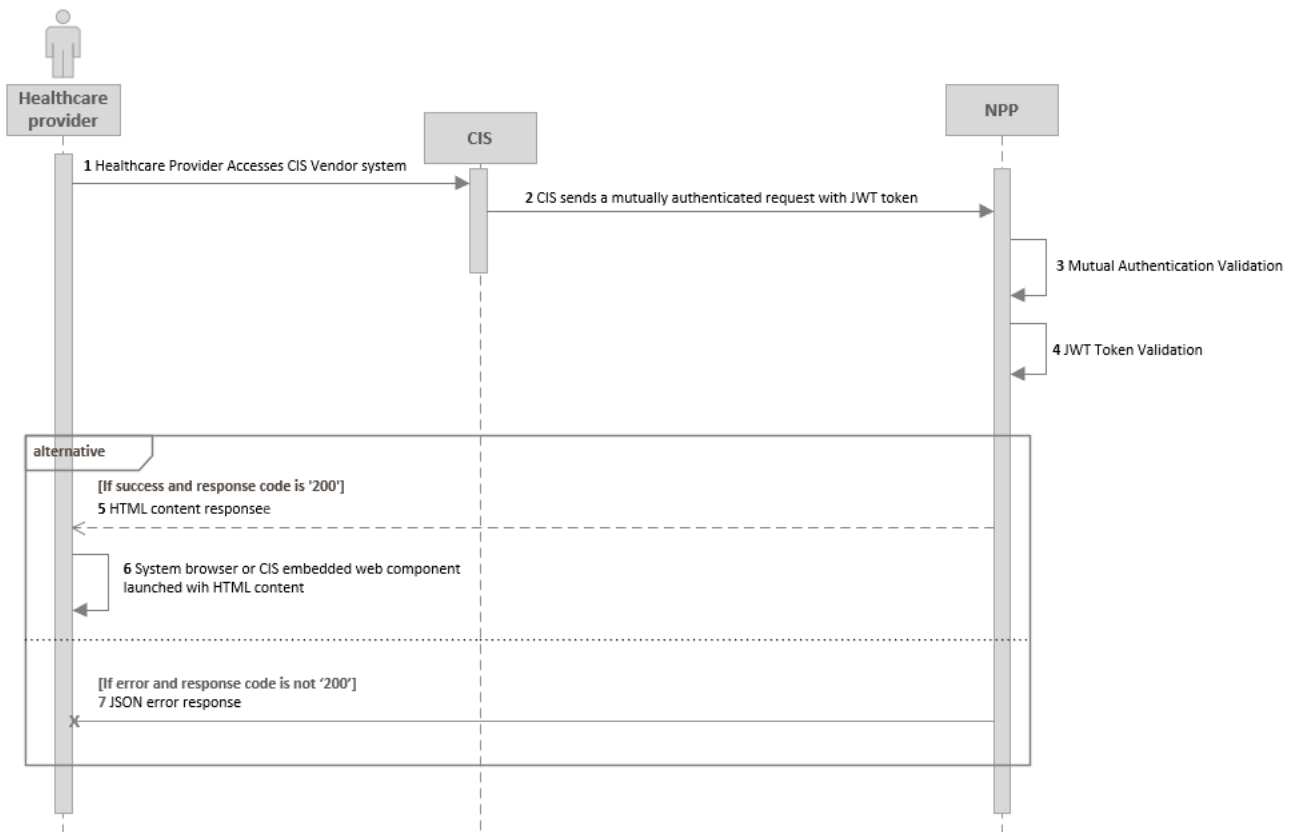


Diagram elements in flow diagram above.

Element	Description
	A synchronous message.
	A response.
	A synchronous message/response that results in the termination of the flow.

CIS direct access to NPP sequence and descriptions

Message Sequence	Description
1.	User accesses CIS & searches for a patient within the CIS and then triggers CIS to NPP direct access (e.g. clicks on a button)
2.	<p>CIS sends NASH certified mutually authenticated POST request with a NASH signed JSON Web Token (JWT). JWT Parameters to include (but not limited to)</p> <ul style="list-style-type: none"><li>• Patient Medicare number (IRN)/DVA number/IHI</li><li>• Patient Family Name</li><li>• Patient First Name (optional)</li><li>• Patient DOB</li><li>• HPIO</li><li>• HPII</li></ul> <p>Note: The priority of the patient identifiers is as follows if a Medicare number, DVA number and IHI are all available for the request:</p> <ol style="list-style-type: none"><li>1. IHI</li><li>2. MCN (IRN)</li><li>3. DVA</li></ol>
3.	<p>NPP performs validation of Mutual Authentication by inspecting (but not limited to):</p> <ul style="list-style-type: none"><li>• Trusted CA</li><li>• Certificate Expiry date</li><li>• CRL Revocation</li></ul>
4.	<p>NPP performs validation of JWT Token – validating parameters (but not limited to):</p> <ul style="list-style-type: none"><li>• JWT Signature</li><li>• Expiry (exp) validation</li><li>• Iss validation</li><li>• Check if HPIO number matches the certificate HPIO</li><li>• Check if HPII is linked to provided HPIO</li></ul>
5.	If response code is 'OK 200' then NPP returns a body with HTML content.
6.	System browser or CIS web browser component is launched with the returned HTML content for the healthcare provider to view.
7.	<p>If response code is not 'OK 200' then NPP returns a response with JSON object detailing the type of error, as seen in the example below. The message must be conveyed to the end user.</p> <pre>{   "code" : "400 Bad Request",   "severity" : "error",   "message" : "The request includes an invalid sex." }</pre>

### 3 B2B CIS to NPP service

This is an interface hosted by the My Health Record system to enable clinical information systems and healthcare providers to authenticate, authorise and gain access to a patient’s My Health Record via the National Provider Portal.

#### 3.1 Purpose and functional description

The CIS will pass healthcare organisational, individual, and patient data via a signed JSON Web Token using REST POST call with mutual authentication to the interface endpoint.

#### 3.2 Interface trigger events

A call to the B2B CIS to NPP interface endpoint is triggered when a preconfigured healthcare provider is in a single patient context within the CIS and initiates an action within CIS to view the patient in context’s My Health Record via the National Provider Portal.

#### 3.3 Message specifications

<b>Service Name</b>	CIStoNPP
<b>Service Description</b>	Performs mutual authentication and JWT verification from a healthcare provider using a Clinical Information System.
<b>Technology</b>	HTTPS/JSON



### 3.4 Request message

#### 3.4.1 Message request

Below table provides details on B2B\_CIS to NPP message header specifications.

HTTP Method	POST					
Request Headers	Data Type	Format	Min Length	Max Length	Cardinality	Comments
contentType	string	-	-	-	1..1	application/x-www-form-urlencoded
productName	string	-	-	-	1..1	Vendor product name registered with MHR
productVersion	string	-	-	-	1..1	Version of the product registered with MHR
Request Parameters/ Search Support						
assertion	string	string	-	-	1..1	Must be set to the JWT bearer token, base64url-encoded.
format	MIME-type	MIME-type	4	4	0..1	The supported value is 'json'.
alg	String	String	-	-	1..1	Hashing algorithm used = RS256

#### 3.4.2 Message body (JWT)

Below table provides details on B2B\_CIS to NPP JWT specifications.

Claim	Description	Min Length	Max Length	Cardinality	Example
exp	Expiration time integer for this authentication JWT, expressed in seconds since the "Epoch" (1970-01-01T00:00:00Z UTC). This time MUST be no more than five minutes in the future.	-	-	1..1	1477025181
iat	The time the assertion was issued (iat) expressed in seconds since the "Epoch" (1970-01-01T00:00:00Z UTC).	-	-	1..1	1477025181
jti	A nonce string value that uniquely identifies this authentication JWT bearer token.	1	255	1..1	uuid:98145613-756b-445f-909f-d16d6c49d000

Claim	Description	Min Length	Max Length	Cardinality	Example
iss	Issuer of the JWT	1	255	1..1	
organisationID	Custom JWT claim that captures the organisation ID of the HPI-O.	16	16	1..1	8003629900020187
userID	Custom JWT claim that captures the user identifier (HPI-I).	16	16	1..1	8003611566666701
ihi	IHI of the patient the healthcare provider is attempting to gain access to. It is a conditional mandatory claim that must be provided if dva and mcn are not provided.	16	16	0..1	8003608000073420
dva	DVA of the patient the healthcare provider is attempting to gain access to. It is a conditional mandatory claim that must be provided if ihi and mcn are not provided.	9	9	0..1	VX479067
mcn	Medicare number (including irn) of the patient the healthcare provider is attempting to gain access to. It is conditional mandatory that must be provided if ihi and dva are not provided.	11	11	0..1	1234567891
name	Full name of the patient the healthcare provider is attempting to gain access to.	1	255	0..1	John Doe
given_name	First name of the patient the healthcare provider is attempting to gain access to.	1	40	0..2	John
family_name	Surname of the patient the healthcare provider is attempting to gain access to.	1	40	1..1	Doe
dob	Date of birth of the patient the healthcare provider is attempting to gain access to.	10	10	1..1	Format: {YYYY-MM-DD}
sex	Sex of the patient the healthcare provider is attempting to gain access to.	1	1	1..1	Must contain one of the following values: "M"- Male "F"- Female "I"- Intersex "N"- Not Stated

### 3.5 Status codes and error descriptions

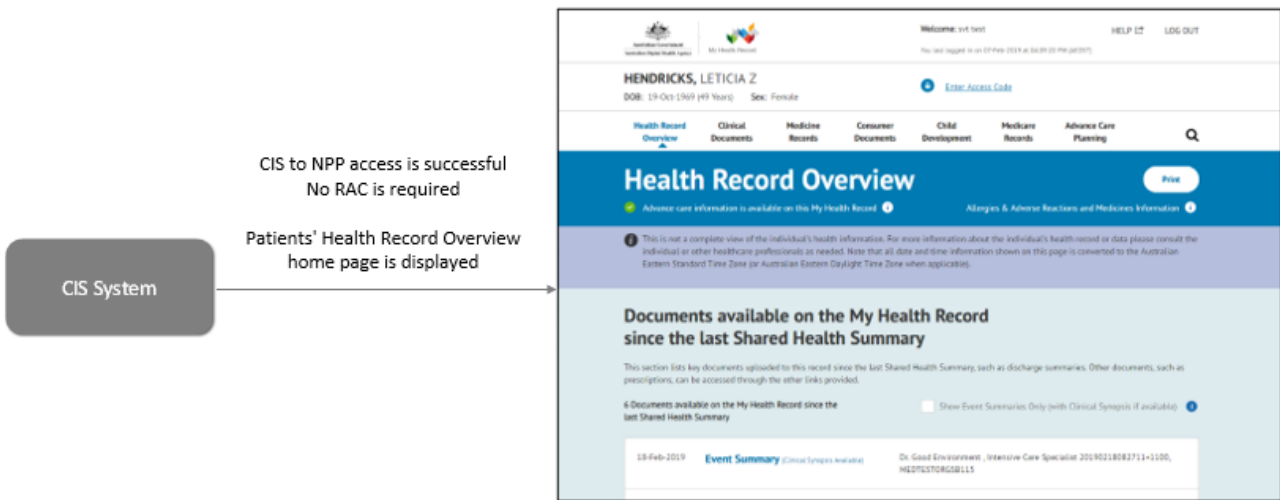
This section lists the error messages along with HTTPS response.

#	Issue Severity	Error Description	Comments	HTTP Error Code
1	error	System authorisation denied. HPIO relationship does not exist.	HPIO relationship doesn't exist.	401 Unauthorized
2	error	System authorisation denied. Inactive HPIO participation status.	HPIO is not participating in MHR or has been revoked.	401 Unauthorized
3	error	System authorisation denied. HPIO number in JWT token is different to the HPIO number in the certificate used for mutual authentication.	Provided HPIO from JWT does not match certificate HPIO.	401 Unauthorized
4	error	System authorisation denied. HPII is not linked to HPIO.	Provided HPII is not linked to the provided HPIO.	401 Unauthorized
5	error	The request is missing a mandatory parameter <parameter name>.	The request is missing a mandatory parameter.	400 Bad Request
6	error	The request includes an invalid <parameter name>.	The request contains an invalid or malformed parameter.	400 Bad Request
7	error	Internal Server Error	-	501 Internal Server Error

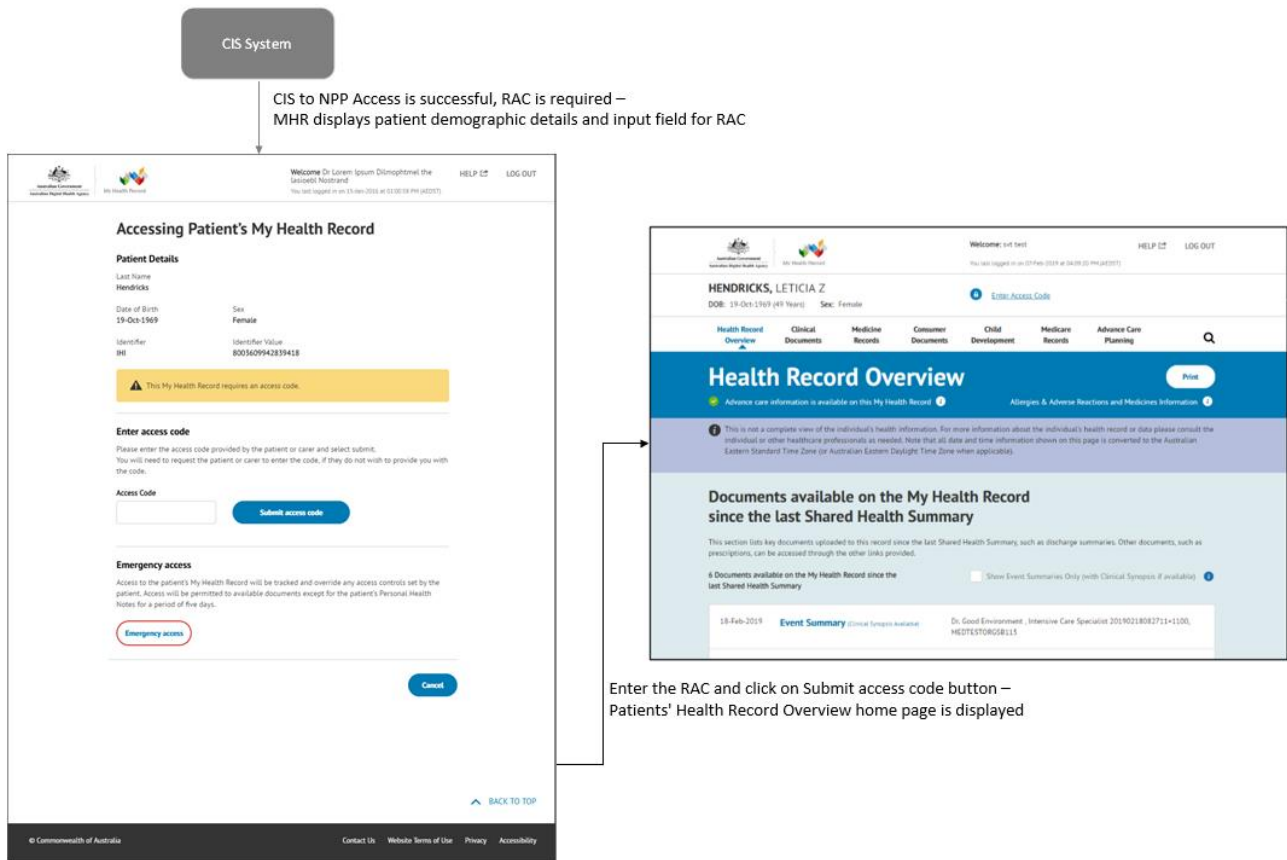
# Appendix

This section includes an indicative flow from CIS to NPP via B2B CIS to NPP gateway under various scenarios where an individual healthcare provider would like to directly access patient records in the NPP via CIS, PRODA or NASH.

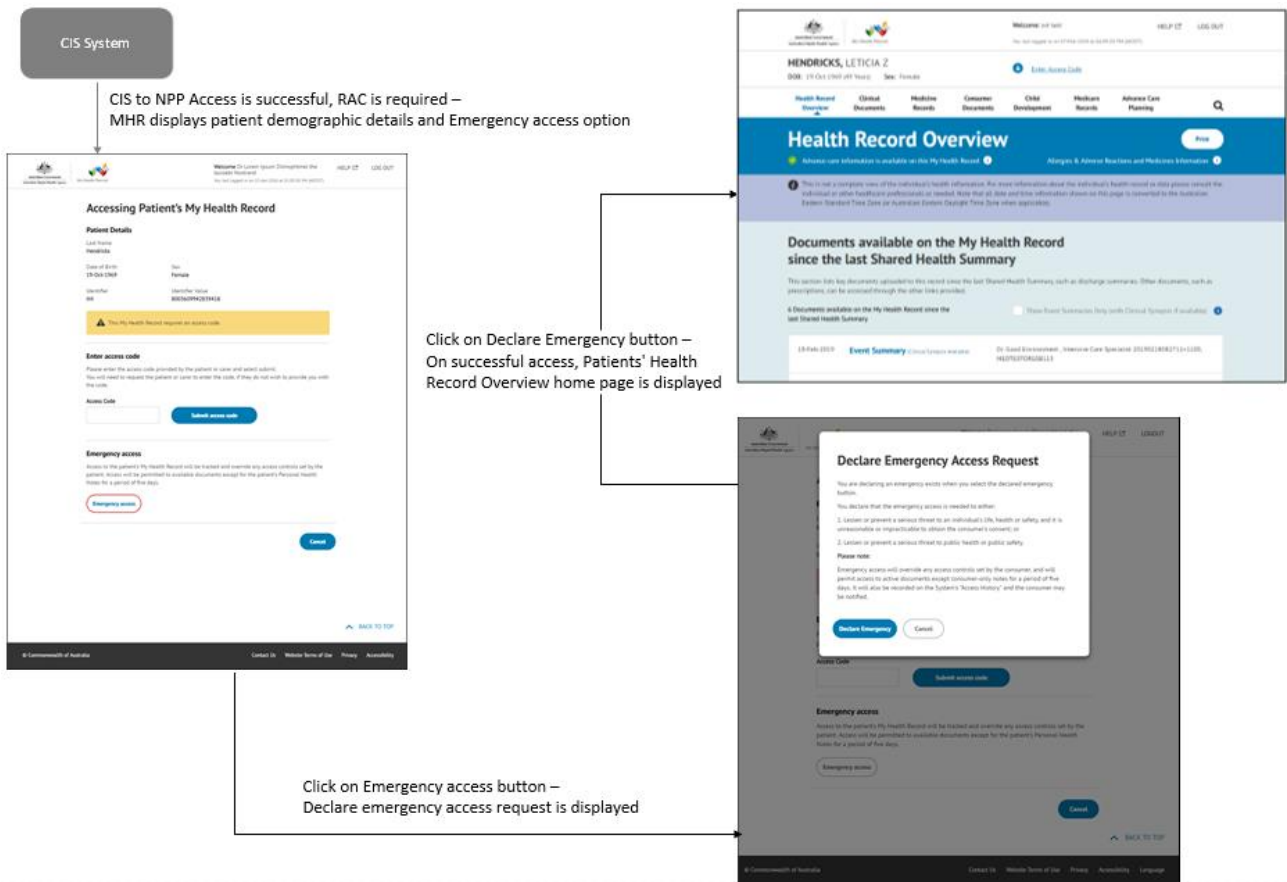
Scenario 1 - Access to patient's My Health Record is permitted and Record Access Code (RAC) is not required



Scenario 2 - Access to patient's My Health Record is permitted but patient has Record Access Code (RAC) set on the record and healthcare provider wishes to enter RAC.



Scenario 3 - Access to patient's My Health Record is permitted but patient has Record Access Code (RAC) set on the record and healthcare provider wishes to gain emergency access.



## Acronyms

Acronym	Description
B2B	Business to Business
CIS	Clinical Information System
HPI-I	Healthcare Provider Identifier – Individual
HPI-O	Healthcare Provider Identifier – Organisation
IHI	Individual Healthcare Identifier
JSON	JavaScript Object Notation
JWT	JSON Web Token
MHR	My Health Record
NASH	National Authentication Service for Health
NPP	National Provider Portal
PRODA	Provider Digital Access
RAC	Record Access Code