Patient Access API Documentation

This document helps third party application owners develop and integrate their applications with Patient Access APIs. Medicare Members who consent to have their data shared with third party application providers of their choice can then access their clinical information on such applications.

There are three sections in this document which shows the entire workflow needed to integrate successfully: -

- **Developer Registration:** This section shows how a third-party application owner can register their application on the BCBSRI Developer Portal

- **Member Consent and Token Generation**: This section shows how the member providing consent to the third party application, provides his/her consent for their dependents. The Token generated in the process needs to be utilized for hitting the api endpoints and retrieving information.

- **API Endpoints**: This section shows the URLs and end point details that need to be utilized to retrieve the data

Developer Registration

Open Developer portal: https://developerportal.bcbsri.com/landing

Register as developer in developer portal

Blue Cross Blue Shield of Rhode Island

① step-1   ② step-2   ③ step-3   ④ step-4

Fields with * symbol are mandatory one.

PROFILE

Email Address *

| Enter Email Address | **Send Verification Code** |

Ensure your Email Address is in valid format.

Email has not been Verified

Password *

Enter Password

The password must be between 8 and 64 characters.

The password must have at least 3 of the following:

- a lowercase,uppercase,digit and special character.

Confirm Password *

Enter Confirm Password

Display Name *

Enter Display Name

FirstName *

Enter First Name

LastName *

Enter Last name

Fields with * symbol are mandatory one.

Organization

OrganizationName *

Enter OrganizationName

OrganizationTaxID *

Enter OrganizationTaxID

Organization StreetAddress

Enter OrgStreetAddress

Organization City

Enter OrgCity

Organization Country

Organization State

Enter State

Organization ZipCode

Enter OrgZipCode

Alternative Email

Enter AltEmail

Phone Number

Enter Phone Number

☐ Privacy Policy

Enter Privacy Policy Url

☐ Information Security Policy

☐ Application's CARIN Bio URL

Enter Application's CARIN Bio URL

Blue Cross & Blue Shield of Rhode Island (BCBSRI) asks that any Application (App) developer requesting to access BCBSRI's Patient Access API attest to compliance with the following statements. If you do not attest to compliance with these statements, we will inform any member that requests her/his protected health data using your App of the non-compliance and suggest that the member select an App that has attested to complying with these statements

Questions

☐ The App's privacy policy includes, in plain language, how the App will inform members of changes in its privacy practices.

☐ The App is a member of and fully complies with The CARIN Trust Framework and Code of Conduct for sharing data with consumer applications. (https://www.carinalliance.com/wp-content/uploads/2019/05/2019_CARIN_Code_of_Conduct_05082019.pdf)

☐ The App's privacy policy includes, in plain language, a requirement for express consent from a member before the member's health data is accessed, exchanged, or used, including receiving express consent before a member's health data is shared or sold (other than disclosures required by law or disclosures necessary in connection with the sale of the application or a similar transaction).

☐ The App's privacy policy includes, in plain language, if an App will access any other information from a member's device, including, but not limited to GPS location or other non-health data.

☐ The App's privacy policy includes, in plain language, how the member's health data may be accessed, exchanged, or used by any person associated with the App or any other entity, including whether the member's health data may be shared or sold at any time (including potential future uses).

☐ The App has a publicly available privacy policy, written in plain language, that has been affirmatively shared with the BCBSRI member prior to such member authorizing the App access to their health data. To "affirmatively share" means that the member must take an action to indicate s/he saw the privacy policy, such as click or check a box.

Previous   Next

After successful registration, login to developer portal and Register the app

App Registration   App Management   Profile Management   Resources

Fields with * symbol are mandatory one.

Register

Name of Application *

Enter Application Name

Application Purpose *

Enter Application Purpose Details.

Redirect Url *

Enter Redirect Url

Redirect Url must in format https://fqdn/resource

Choose Logo   Choose File   No file chosen

Image should be type of image only like .jpg/png

Once app successfully registered, client id and client secret is generated and it will be shown on the screen.
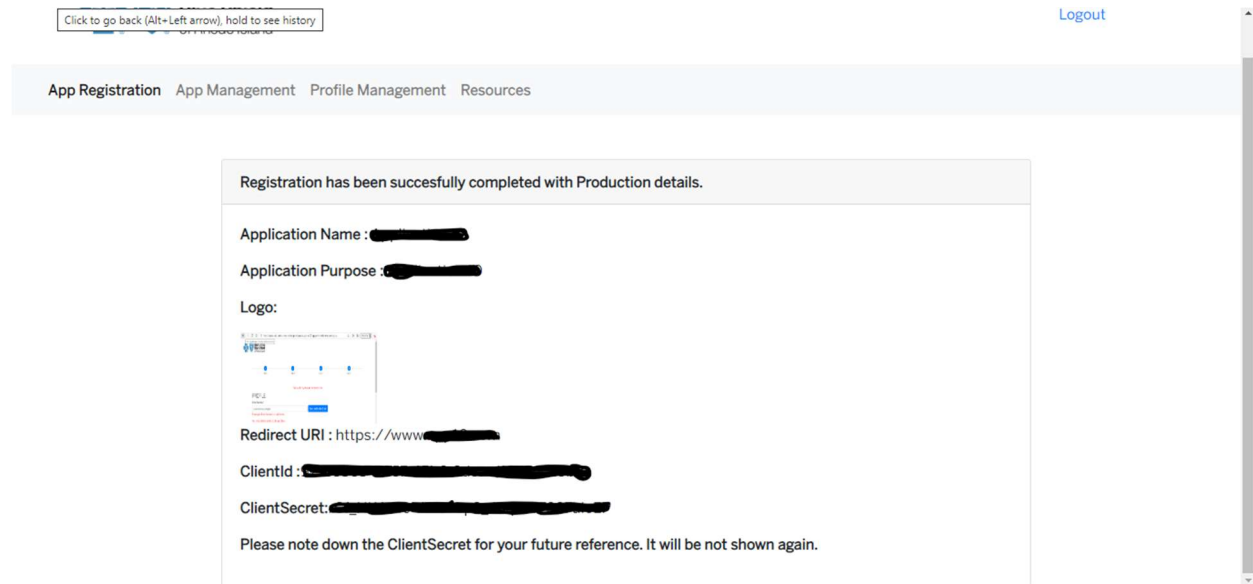
Member Consent and Token Generation

The metadata endpoint provides access to the FHIR Capability Statement of the server.

Endpoint: GET https://<baseurl>/metadata

Parameters: None

 Baseurl : https://api.bcbsri.com/PatientAccessAPI/fhir

Steps To Generate Authorization Token.

1. The third-party application developer refers to the metadata URL to configure & access the Patient Access APIs. Metadata listed the OAuth, resource endpoints & other required URL details.

2. The developer will integrate the OAuth URL with the required query parameters which are listed below.

OAuth URL:

https://b2cbcbsricmsprod.b2clogin.com/b2cbcbsricmsprod.onmicrosoft.com/oauth2/v2.0/authorize?p=B2C_1A_MemberPortal_signup_signin

Query parameters

a. Client_id: Registered Application Id

b. redirect_uri: Third Party Application Redirect URI

c. scope: OpenID: is an authentication protocol built on OAuth 2.0 that you can use to securely sign in a user to an application

d. response_type : code: <use to get the refresh token from redirect URI.

e. Prompt: login

Login page

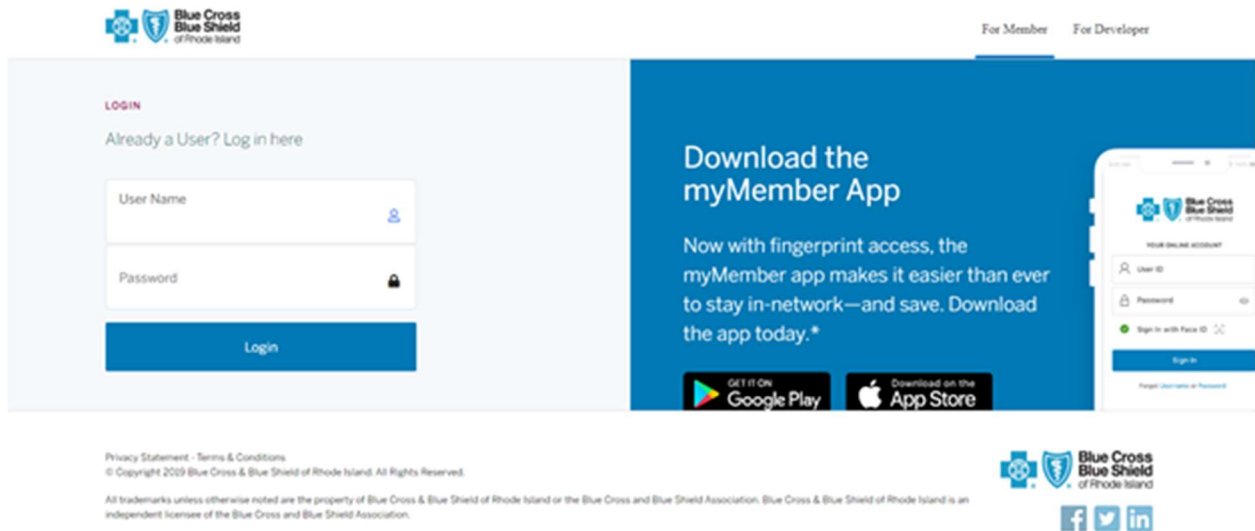
Integrated Authorization URL Example:

https://b2cbcbsricmsprod.b2clogin.com/b2cbcbsricmsprod.onmicrosoft.com/oauth2/v2.0/authorize?p=B2C_1A_MemberPortal_signup_signin&client_id=<client_id>&nonce=defaultNonce&redirect_uri=<redirect_url>&scope=openid&response_type=code&prompt=login

2.1. Developer uses the integrated Authorization URL, where it Navigate to the login page to provide user credentials.

2.2. Authentication URL redirects to Member Portal login.

2.3. Login to the registered app with BCBSRI User id and Password.

2.4. On the Successful Authentication, the Consent page will be prompted to the user and can consent to one or multiple members (If dependent is added). Consent page will be shown first time.
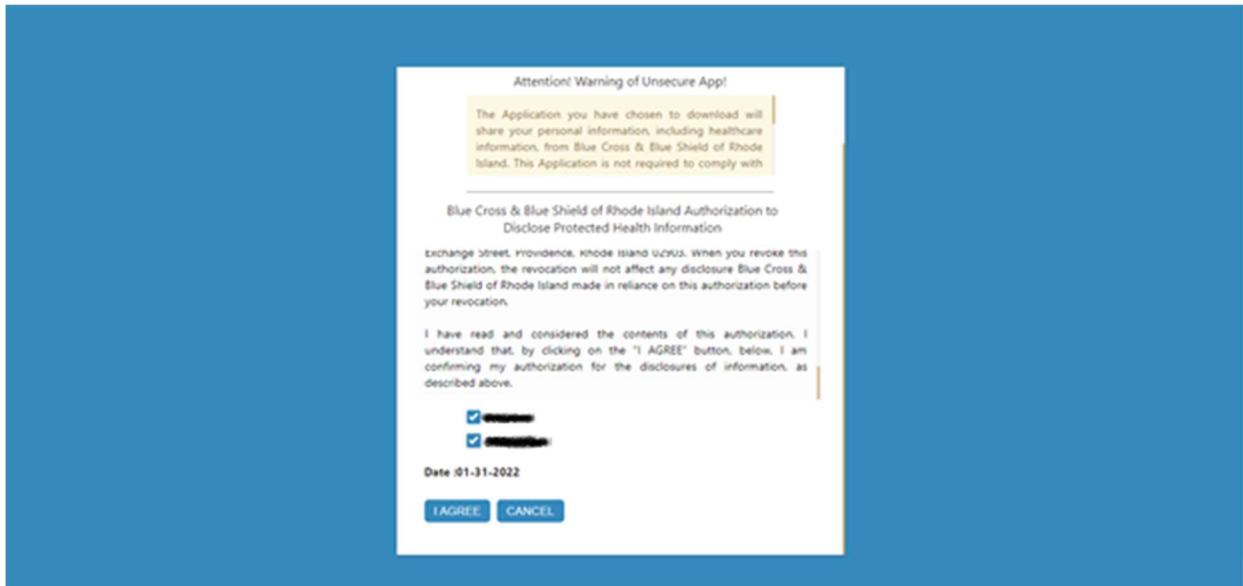
2.5. Once user gives consent and clicks on agree button Authorization code will be generated and will be returned in the response under "code".

Steps To Generate Access token and Refresh Token from the Authorization code generated in previous step.

1. Get a refresh token using below POST query

Token URL:

https://b2cbcbsricmsprod.b2clogin.com/b2cbcbsricmsprod.onmicrosoft.com/oauth2/v2.0/token?p=b2c_1a_memberportal_signup_signin

Post Header:

Content-Type: application/x-www-form-urlencoded

Post Body:

grant_type=authorization_code

client_id=<client id>

scope=<client id> offline_access openID

code=<AuthorizationCode generated in previous steps>

redirect_uri=redirect URL

Response Body:

{

   "access_token": "access token to BCBSRI patient access API",

"id_token": "can be used in place of access token to access BCBSRI patient Access API",

"token_type": "Bearer",

"not_before": ,

"expires_in": ,

"expires_on": ,

"resource": "",

"id_token_expires_in": 3600,

"profile_info": "",

"scope": "client_id openid offline_access",

"refresh_token": "refresh token to call refresh token URL and get new tokens once access token gets expires",

"refresh_token_expires_in": <refresh token expire time after this time expires User need to to relogin again via BCBSRI member portal>

}

2.   The Access Token will be generated in a Redirect URI.

3.   With the generated token the user can be able to access the Patient Access.

Note:

1. *Using generated bearer access token user can access data using Patient Access API end points provided in below section.*

2. *Token decoding is not required.*

Steps to generate Access Token using Refresh token from below POST query

Token URL:
https://b2cbcbsricmsprod.b2clogin.com/b2cbcbsricmsprod.onmicrosoft.com/oauth2/v2.0/token?p=b2c_1a_memberportal_signup_signin

Post Header:

Content-Type: application/x-www-form-urlencoded

POST Body:

grant_type=refresh_token

client_id=<client_id>

scope=<client_id> openid offline_access

refresh_token=<refresh token generated in previous step>

redirect_uri=Redirect URL

The Access Token will be generated in a Redirect URI.

API Endpoints

Resource Types which can be accessed via BCBSRI Patient API:

Sl.No.	Resource Types
1	Condition
2	Coverage
3	Claims
4	Device
5	DiagnosticReport
6	DocumentReference
7	Encounter
8	ExplanationOfBenefit
9	Immunization
10	Location
11	Medication
12	MedicationDispense
13	MedicationKnowledge
14	Observation
15	Organization
16	Patient
17	Practitioner
18	PractitionerRole
19	Procedure

20	Provenance

Requests – Params

Name	Required	Type	Description	Example
_id	false	Integer	System identifier of resource.	_id = d10956b0-8e50-49af-8db2-288xxxxx
_ lastUpdated	false	String	Last updated date of resource type	_lastUpdated = gt2010-10-01
_count	false	Integer	Size of results page	_count = 5

Brief descriptions for each resource types:

Condition

This resource is used to record detailed information about a condition, problem, diagnosis or other event, situation, issue or clinical concept that has risen to a level of concern.

Endpoint: GET https://<baseurl>/PatientAccessAPI/fhir/Condition?_id={Ids}[&_count][&_lastUpdated]
Parameters:

Name	Required	Type	Description
_id	False	integer	System identifier of resource.
_ lastUpdated	False	string	Last updated date of resource type
_count	False	integer	Size of results page

Condition By Id

Retrieve the Condition resource by id

Endpoint: GET https://<baseurl>/Condition/{id}

Parameters: None.

Coverage

The Coverage resource is intended to provide the high-level identifiers and descriptors of an insurance plan, typically the information which would appear on an insurance card, which may be used to pay, in part or in whole, for the provision of health care products and services.

The Patient Access API implements the FHIR Coverage Resource. The Coverage resource supports reading the current state of the resource using the Logical (Unique) ID. **Endpoint**: GET https://<baseurl>/Coverage?_id={Ids}[&_count][&_lastUpdated] **Parameters:**

Name	Required	Type	Description
_id	False	integer	System identifier of resource.
_ lastUpdated	False	string	Last updated date of resource type
_count	False	integer	Size of results page

Coverage By Id

The Patient Access API implements the FHIR Coverage Resource. The Coverage resource supports to Read current state of the resource using the Logical (Unique) ID.

Retrieve the Coverage resource by id. **Endpoint**:

GET https://<baseurl>/Coverage/{id}

Parameters: None.

Claim

The Claim resource is used to request the adjudication and/or authorization of a set of healthcarerelated goods and services for a patient against the patient's insurance coverages, or to request what the adjudication would be for a supplied set of goods or services should they be actually supplied to the patient.

Endpoint: GET https://<baseurl>/Claim?_id={Ids}[&_count][&_lastUpdated] **Parameters:**

Name	Required	Type	Description
_id	False	integer	System identifier of resource.
_ lastUpdated	False	string	Last updated date of resource type
_count	False	integer	Size of results page

Claim By Id

Retrieve the Claim resource by id.

Endpoint: GET https://<baseurl>/Claim/{id}
Parameters: None.

Device By Id

A type of a manufactured item that is used in the provision of healthcare without being substantially changed through that activity. This device may be a medical or non-medical.

Note : Id is mandatory

Endpoint: GET https://<baseurl>/Device/{id}

Parameters: None.

DiagnosticReport

The findings and interpretation of diagnostic tests performed on patients, groups of patients, devices and locations and/or specimens derived from these. The report includes clinical context such as requesting and providing information and some mix of atomic results, images textual and coded interpretations and formatted representation of diagnostic

Endpoint: GET https://<baseurl>/DiagnosticReport?_id={Ids}[&_count][&_lastUpdated] **Parameters:**

Name	Required	Type	Description
_id	false	integer	System identifier of resource.
_ lastUpdated	false	string	Last updated date of resource type
_count	false	integer	Size of results page

DiagnosticReport By Id

The findings and interpretation of diagnostic tests performed on patients, groups of patients, devices and locations and/or specimens derived from these. The report includes clinical context such as requesting and providing information and some mix of atomic results, images textual and coded interpretations and formatted representation of diagnostic.

Retrieve the Diagnostic Reports resource by id. **Endpoint**:

GET https://<baseurl>/DiagnosticReport/{id} **Parameters:**

None.

DocumentReference

A reference to a document of any kind for any purpose. Provides metadata about the document so that the document can be discovered and managed. The scope of a document is any serialized object with the mime-type, so includes formal patient centric documents (CDA), clinical notes, scanned paper and non-patient specific documents like policy text.

Endpoint: GET https://<baseurl>/DocumentReference?_id={Ids}[&_count][&_lastUpdated] **Parameters:**

Name	Required	Type	Description
_id	false	integer	System identifier of resource.
_ lastUpdated	false	string	Last updated date of resource type
_count	false	integer	Size of results page

DocumentReference By Id

Retrieve the DocumentReference resource by id. **Endpoint**:

GET https://<baseurl>/DocumentReference/{id}

Parameters: None.

Encounter

The interaction between a patient and healthcare provider for the purpose of providing healthcare service(s) or assessing the health status of a patient.

Endpoint: GET https://<baseurl>/Encounter?_id={Ids}[&_count][&_lastUpdated] **Parameters:**

Name	Required	Type	Description
_id	false	integer	System identifier of resource.
_ lastUpdated	false	string	Last updated date of resource type
_count	false	integer	Size of results page

Encounter By Id

Retrieve the Encounter resource by id.

Endpoint: GET https://<baseurl>/Encounter/{id}

Parameters: None.

ExplanationOfBenefit

The ExplanationOfBenefit (EOB) resource combines key information from a Claim, a ClaimResponse and optional Account information to inform a patient of the goods and services rendered by a provider and the settlement made under the patient's coverage in respect of that Claim. The ExplanationOfBenefit resource may also be used as a resource for data exchange for bulk data analysis, as the resource encompasses Claim, ClaimResponse and Coverage/Eligibility information.

The Patient Access API implements HL7 FHIR standards to meet the CMS requirements for interoperability. The API enables members to access their claims and encounter information using Third-Party client applications. A request for Explanation Of Benefit resource will initiate a fetch that returns claims for a patient from claims data sources **.**

Endpoint: GET https://<baseurl>/ExplanationOfBenefit?_id={Ids}[&_count][&_lastUpdated] **Parameters:**

Name	Required	Type	Description
_id	false	integer	System identifier of resource.
_ lastUpdated	false	string	Last updated date of resource type
_count	false	integer	Size of results page

ExplanationOfBenefit By id

Retrieve the Explanation of Benefits resource by id. **Endpoint**:

GET https://<baseurl>/ExplanationOfBenefit/{id} **Parameters:**

None.

Immunization

Describes the event of a Patient being administered a vaccine or a record of an immunization as reported by a patient, a clinician or another party.

Endpoint: GET https://<baseurl>/Immunization?_id={Ids}[&_count][&_lastUpdated]
Parameters:

Name	Required	Type	Description
_id	false	integer	System identifier of resource.
_ lastUpdated	false	string	Last updated date of resource type
_count	false	integer	Size of results page

Immunization By Id

Retrieve the Immunization resource by id. **Endpoint**:

GET https://<baseurl>/Immunization/{id}

Parameters: None.

Location By Id

A Location includes both incidental locations (a place which is used for healthcare without prior designation or authorization) and dedicated, formally appointed locations. Locations may be private, public, mobile or fixed and scale from small freezes to full hospital buildings or parking garages. Manage the collection of resources of type Location.

Note : Id is mandatory

Endpoint: GET https://<baseurl>/Location/{id}

Parameters: None.

Medication By Id

The Medication resource allows for medications to be characterized by the form of the drug and the ingredient (or ingredients), as well as how it is packaged. The medication will include the ingredient(s) and their strength(s) and the package can include the amount (for example, number of tablets, volume, etc.) that is contained in a particular container (for example, 100 capsules of Amoxicillin 500mg per bottle).

Note : Id is mandatory

Endpoint: GET https://<baseurl>/Medication/{id}

Parameters: None.

MedicationDispense

Indicates that a medication product is to be or has been dispensed for a named person/patient. This includes a description of the medication product (supply) provided and the instructions for administering the medication. The medication dispense is the result of the pharmacy system responding to a medication order.

Endpoint: GET https://<baseurl>/MedicationDispense?_id={Ids}[&_count][&_lastUpdated] **Parameters:**

Name	Required	Type	Description
_id	false	integer	System identifier of resource.
_ lastUpdated	false	string	Last updated date of resource type
_count	false	integer	Size of results page

MedicationDispense By Id

Retrieve the Medication Dispense resource by id. **Endpoint**:

GET

 https://<baseurl>/MedicationDispense/{id} **Parameters:**

None.

MedicationKnowledge By Code

This resource supports use cases for creation of and querying for drug information including attributes such as drug classifications, images of medications, drug costs and/or coverages, etc. This resource can be used to return drug information as part of a formulary or a catalogue.

Note: Search by code. **Endpoint**:

GET

https://<baseurl>/MedicationKnowledge?code={code}
Parameters:

Name	Required	Type	Description
code	true	string	System identifier of resource.

MedicationKnowledge By Id

This resource supports use cases for creation of and querying for drug information including attributes such as drug classifications, images of medications, drug costs and/or coverages, etc. This resource can be used to return drug information as part of a formulary or a catalogue.

Note : Id is mandatory

Endpoint: GET https://<baseurl>/MedicationKnowledge/{id} **Parameters:**

None.

Observation

This resource will retrieve all observation details associated with a patient using the patient identifier and formats the response to the Observation

Endpoint: GET https://<baseurl>/Observation?_id={Ids}[&_count][&_lastUpdated] **Parameters:**

Name	Required	Type	Description
_id	false	integer	System identifier of resource.
_ lastUpdated	false	string	Last updated date of resource type
_count	false	integer	Size of results page

Observation By Id

This resource will retrieve all observation details associated with a patient using the patient.identifier and formats the response to the Observation Retrieve the Observation resource by id. **Endpoint**: GET https://<baseurl>/Observation/{id} **Parameters:** None.

Organization By Id

The Organization resource is used for collections of people that have come together to achieve an objective. The Group resource is used to identify a collection of people (or animals, devices, etc.) that are gathered for the purpose of analysis or acting upon, but are not expected to act themselves.

Note : Id is mandatory

Endpoint: GET https://<baseurl>/Organization/{id}

Parameters: None.

Patient

This resource API implements the HL7 FHIR standards and provides the ability to access their data using Third-Party client applications supporting those standards.

The data in the Resource covers the "who" information about the patient: its attributes are focused on the demographic information necessary to support the administrative, financial and logistic procedures.

Endpoint: GET https://<baseurl>/Patient?_id={Ids}[&_count][&_lastUpdated] **Parameters:**

Name	Required	Type	Description
_id	false	integer	System identifier of resource.
_ lastUpdated	false	string	Last updated date of resource type
_count	false	integer	Size of results page

Patient By Id

This resource allows the members to access their data using Third-Party client applications.

Retrieve the Patient resource by id. **Endpoint**:

GET https://<baseurl>/Patient/{id}

Parameters: None.

Practitioner By Id

Practitioner covers all individuals who are engaged in the healthcare process and healthcare-related services as part of their formal responsibilities and this Resource is used for attribution of activities and responsibilities to these individuals.

Note : Id is mandatory

Endpoint: GET https://<baseurl>/Practitioner/{id}

Parameters: None.

PractitionerRole By Id

PractitionerRole covers the recording of the location and types of services that Practitioners are able to provide for an organization.

Note : Id is mandatory

Endpoint: GET https://<baseurl>/PractitionerRole/{id}

Parameters: None.

Procedure

This resource is used to record the details of current and historical procedures performed on or for a patient. A procedure is an activity that is performed on, with, or for a patient as part of the provision of care.

Endpoint: GET https://<baseurl>/Procedure?_id={Ids}[&_count][&_lastUpdated] **Parameters:**

Name	Required	Type	Description
_id	false	integer	System identifier of resource.
_ lastUpdated	false	string	Last updated date of resource type
_count	false	integer	Size of results page

Procedure By Id

Retrieve the Procedure resource by id.

Endpoint: GET https://<baseurl>/Procedure/{id}
Parameters: None.

Provenance By Id

Provenance of a resource is a record that describes entities and processes involved in producing and delivering or otherwise influencing that resource. Provenance provides a critical foundation for assessing, authenticity, enabling trust and allowing reproducibility Provenance assertions are a form of contextual metadata and can themselves become important records with their own provenance.

Provenance statements indicate clinical significance in terms of confidence in authenticity, reliability and trustworthiness, integrity and stage in lifecycle (e.g. Document completion – has the artifact been legally authenticated) all of which may impact security, privacy and trust policy.

Endpoint: GET https://<baseurl>/Provenance/{id} **Parameters:** None.