Getting Started

Welcome to the Blue Cross Blue Shield of Alabama Developer Portal! The portal provides access to BCBSAL's APIs, which are based on the **Health Level 7® (HL7) Fast Healthcare Interoperability Resources (FHIR®) standards**.

BCBSAL interoperability APIs enable BCBSAL members to consent to have their data shared with third-party applications. It also allows third-party application owners to connect to provider and pharmacy directories. These APIs provide the following capabilities:

- Enable developers to register member-facing applications

- Enable members to provide consent for an application to access their data

- Use the **HL7 FHIR** standard for member data and the **OAuth 2.0 Connect** standard for member authorization

- Use the **HL7 FHIR** standard for sharing public non-member specific data

There are Several BCBSAL APIs, giving you the ability to build applications for BCBSAL customers and providers based on the following:

- The Patient Access API allows BCBSAL customers to access their claims and encounter information (including cost), as well as a defined sub-set of their clinical information.
- The Pharmacy Explanation of Benefit API
- The Provider Directory API facilitates searches for BCBSAL providers, as well as allowing providers to search for other in-network providers.
- The Formulary API provides access to the BCBSAL drug formularies.

You'll find several resources on the portal to help you create your applications. These include a Quick Start Guide to help you get your developer account registered and your application authorized; the How to Connect topics that provide steps on how to get your application connected to the BCBSAL FHIR server; and Implementation Guides, which provide information on the how the FHIR spec is implemented, along with interactive access to the API so you can try it out within your browser.

Quick Start Guide

Follow these steps to register your developer account and get your application authorized, so you can begin building your application.

1. To begin, email fhirsupport@bcbsal.org , stating that you would like to connect to the BCBSAL API.
2. Provide the details for your application. In the application registration form, you will be asked to provide the name of your application, the callback URL and the scopes (currently, the following scopes are available and enabled by default: `patient/*.read`, `user/Location.read`, `user/Practitioner.read`, `user/Organization.read`, `user/HealthcareService.read`, `user/PractitionerRole.read`, `user/InsurancePlan.read`, `user/OrganizationAffiliation.read`, `user/MedicationKnowledge.read`
3. You will receive an email back containing the connection security and parameters needed to access the API.
4. Store your application's *Client ID* and *Client Secret* information. After you register your application, you will be given a *Client ID* and *Client Secret* for your application. You will need these (along with the callback URL and scope) to use during authentication.

   Note: If you fail to store your application's *Client ID* and *Client Secret*, you will have to restart the application registration process.

5. Start using the BCBSAL APIs with your newly registered application. Once you have successfully registered your application, you can begin using the APIs.

How to Connect

Follow these steps to use your application's Client ID, Client Secret, and tokens to securely connect your application to the Patient Access API.

Authorization Overview

The Patient Access API is based on the **FHIR SMART app framework**, and relies on the **OAuth 2.0 specification** for securing connections.

Note:

- If your application will be using the Patient Access portion of the BCBSAL APIs, you will need to utilize member authentication protocols to connect to the BCBSAL FHIR server.
- If your application will only be using the Provider Directory API, you don't need to implement the member authentication protocols. However, if your application will be using both, you will need to incorporate the authentication and authorization steps.

Application Registration

To begin, you must first establish a record of your application with our software and receive your client ID and secret. This is done using the email address provided above. When you register your application, you will need to have a callback URL (aka redirect URI) to assign to your application, which will be used during the authorization flow.

In addition, you need to define the scope, which is used to define the authorization components of the BCBSAL customer that will be using your application. The BCBSAL API has implemented the **SMART App Launch: Scopes and Launch Context** to manage access to a BCBSAL customer's data.

Currently, the following scopes are available and enabled by default:

Scope	Grants
`patient/*.read`	This scope permits your application to access the supported resources for the BCBSAL customer that has logged into your application.
patient/AllergyIntolerance.read	Read access to AllergyIntolerance
patient/CarePlan.read	Read access to CarePlan
patient/CareTeam.read	Read access to CareTeam
patient/Condition.read	Read access to Condition
patient/Coverage.read	Read access to Coverage
patient/Device.read	Read access to observations from implanted or attached devices
patient/DiagnosticReport.read	Read access to DiagnosticReport
patient/DocumentReference.read	Read access to documents (currently not used)
patient/Encounter.read	Read access to Encounters data
patient/ExplanationOfBenefit.read	Read access to Explanation Of Benefit for all but Pharmacy
patient/Goal.read	Read access to Goal resources
patient/Immunization.read	Read access to Immunization resources
patient/Medication.read	Read access to Medication
patient/MedicationRequest.read	Read access to MedicationRequest resources
patient/Observation.read	Read access to Observationz
patient/Patient.read	Read access to Patient resource
patient/Procedure.read	Read access to Procedure resource
patient/DetectedIssue.read	Read access to DetectedIssue
patient/ResearchStudy.read	Read access to ResearchStudy

Scope	Grants
patient/ImmunizationRecommendation.read	Read access to ImmunizationRecommendation
patient/ServiceRequest.read	Read access to ServiceRequest
patient/MedicationStatement.read	Read access to MedicationStatement
patient/MedicationDispense.read	Read access to MedicationDispense
user/Location.read	Read access to Location
user/Practitioner.read	Read access to Practitioner
user/Organization.read	Read access to Organization
user/HealthcareService.read	Read access to HealthcareService
user/PractitionerRole.read	Read access to PractitionerRole
user/InsurancePlan.read	Read access to InsurancePlan
user/OrganizationAffiliation.read	Read access to OrganizationAffiliation
user/MedicationKnowledge.read	Read access to MedicationKnowledge

After registering your application, you will be assigned a Client ID and Client Secret. Store your Client Secret in a safe location. The Client Secret should only be used if it can be kept confidential, such as communication between your server and the BCBSAL API.

You will use the Client ID and Client Secret that you received after registering your application in an exchange with the Identity Server to receive your JSON Web Token (JWT).

Standard Authorization Code Flow

In the standard authorization code flow, to connect to the Patient Access API, you will need to use the OAuth 2.0 flow for authentication. This flow should only be used by sites that can safely protect the Client ID and Client Secret, such as a site running on a secure server.

In this flow, after your application has been selected by a BCBSAL customer, your application will send a request to the BCBSAL Identity Server to perform authentication. Then the BCBSAL Identity Server will redirect the BCBSAL customer to a BCBSAL login screen. There, the BCBSAL user will login, and they will authorize the data that your application will be able to access on their behalf. In addition to authorizing the data, the customer will also be prompted to complete a HIPAA Authorization Form online. This is required in order to proceed with access to the API.

Upon the BCBSAL customer successfully logging in and providing authorization, the Identity Server will redirect the user back to your application at your registered redirect URI, and the authorization code will be included in the query parameters. The authorization code can then be exchanged for a JWT. The JWT should be included in FHIR requests as an authentication bearer token (within the request header). This token gives your application access to the FHIR server on behalf of the BCBSAL customer that logged in, allowing you to pass data back to the BCBSAL customer.

Request authorization from user

To allow a user to authorize your application, direct them to BCBSAL's `/authorize` endpoint: `https://fhirapi.bcbsal.org/oauth/authorize`. This allows the user to securely login on behalf of your application.

The request must include the `response_type` set to `code`, your application's `client_id`, and your application's `redirect_uri`.

The following is an example of a web application's authorization request:

```
GET
https://fhirapi.bcbsal.org/oauth/authorize?response_type=code&state=&client_id=
8981c3bd-9a8b-4503-a524-97c8105d37bf_2021-06-14_17-03-
51&scope=&redirect_uri=https://your.redirectURL.com
```

Authorize Components

```
GET
https://{{domain}}/oauth/authorize?response_type={{response_type}}&state={{stateR
andom}}&client_id={{client_id}}&scope={{scope}}
```

- URL protocol: https
- Domain: The domain of the BCBSAL API site.
- Response_Type: `code`
- **State**: A random number that your application generates. (Optional)
- Client ID: The Client ID that you received when you registered your application.
- Scope: `patient/*.read`
  Note: the member will be given the opportunity to disable some scopes if they desire so you may not always get all patient resources.

Exchange Code for Token

After your application sends the authorization request, the BCBSAL customer will be directed to a BCBSAL sign in page through browser re-directs, where they will provide their BCBSAL credentials to authenticate themselves. Upon completing

sign-in, the BCBSAL customer will be presented with an authorization page. Once the customer authorizes your application, your application can now exchange the code provided in the redirected request for a full token to make calls to the BCBSAL FHIR server.

You will send a POST request to the BCBSAL /token endpoint: POST https://fhirapi.bcbsal.org/oauth/token
You must pass the client_id and client_secret as a BASIC Auth header

The POST request must contain the following in the request body:

```
grant_type: "authorization_code"
code: "code-appended-to-redirect-url"
client_id: "xxxxxxxxxxxxxxxxxxxxxxxxxxxx"
redirect_uri: "https://oauth.somedomain.com/vX/callback"
```

The response body will contain the following:

```
{
    "access_token":
"eyJraWQiOiIwZGgxejZhYnF2MjAyMTA2MDIxNDA5.2FsaG9zdDoxODA4OCIsImh0dHA6Ly9sb2NhbGhvc3Q6MTkwNjAiL
CJodHRwczovL2xvY2FsaG9zdDoxMTQ0MyIsImh0dHBzOi8vbG9jYWxob3N0OjE4MDg4IiwiaHR0cHM6Ly9sb2NhbGhvc3Q
6MTkwNTgiXSwiZXh0cmFfcHJvcGVydGllcyI6eyJyZXF1ZXN0SWQiOiI1ZjBlYTJmZmM1OWI0NTcyOTcyZTRmYmE0MGVjO
TIzYiIsImNvcnJlbGF0aW9uSWQiOiI4ZmNlNjA2OTZhNDY0MjVlODdmMDNiN2MwZTEwMzUwNCJ9LCJncmFudF90eXBlIjo
iYXV0aG9yaXphdGlvbl9jb2RlIiwiYXV0aG9yaXphdGlvbl9jb2RlIjoiNDc5NzgzMzEwZjJlmZjc2MzM0ZmJlN2M4MmI3O
GM3IiwiZmhpclVzZXIiOiJQYXRpZW50LzM0NTU3MSJ9.x01AP27BR5Yc1xCdJgG92Q26_JGRPzPZGH4DtWZhkBJOSEiH3J
IVoJVbQH4sb9i9TACOopUYINIm_RQbbultVbGfrGijzx4WwK9d-c0Q3NOxbhbHkhcRSA",
    "expires_in": 300,
    "family_name": "LastName",
    "fhirUser": "Patient/999999",
    "given_name": "FirstName",
    "id_token":
"eyJraWQiOiIwZGgxejZhYnF2MjAyMTA2MDIxNDA5MjEiL.eyJpc3MiOiJodHRwczovL3Byb3BlcnRpZXMiOnsicmVxdWV
zdElkIjoiNWYwZWEyZmZjNTliNDU3Mjk3MmU0ZmJhNDBlYzkyM2IiLCJjb3JyZWxhdGlvbklkIjoiOGZjZTYwNjk2YTQ2N
DI1ZTg3ZjAzYjdjMGUxMDM1MDQifX0.yZmZjNTliNDU3Mjk3MmU0ZmJhNDBlYzkyM2IiLCJjb3JyZWxhdGlvbklkIjoiOG
ZjZTYwNjk2YTQ2NDI1ZTg3ZjAzYjdjMGUxMDM1MDQifX0.qziPzZ3klOchrOAXcxMkWoUvZ-fvw8cdHN-
b7eKObLG34YC8ky0fJoNUCJqK84w6ZZhzR3bpi1E64xstCaj7wBbdeNlxCPecWEJnB-nFeH0oyyGJfH87rljD6FEazqm-
hivIHqa5E8Oqq2inZGRvHXMdWs9XLy4dBfwWLocEMxxirTGIvCTwbRv0TEjmVrLIuvnh0RhLci3OYQ3w06BbQntAv8s5EC
CJBkC9cPhbjSmWJJu2Eko5-
adB1T3kaEQn84WnC4q_6x8y5C3G139Wg5zgpnkCZmAvGl5Hkv3XfvCiI1M2PkwTlwca0cSqzepk0l2BVT0sib6ueGaa_mc
JFA",
    "scope": "patient/AllergyIntolerance.read patient/Encounter.read
patient/ExplanationOfBenefit.read patient/Observation.read patient/Patient.read",
    "token_type": "Bearer"
}
```

Please Note: The values shown in this example are not valid responses.
You can now use this token within the request header in your calls to the BCBSAL FHIR server.

Patient Access Overview

The Patient Access API is used to build applications that enable BCBSAL customers to easily access their claims and encounter information (including cost), as well as a defined sub-set of their clinical information. This is a RESTful API that conforms to the FHIR standard and provides access to a BCBSAL customer's data.

This section describes the FHIR profiles, resources and RESTful capabilities that the Patient Access API supports. A **profile** is a set of rules which allows a resource to be constrained, or to include extensions, so the resource can add additional attributes. The RESTful capabilities are discussed in further detail below.

Note:

- The descriptions and list of supported resources in this Implementation Guide were based on draft versions of select HL7® FHIR® Implementation Guides (CARIN Consumer Directed Payer Data Exchange, DaVinci Payer Coverage Decision Exchange, and DaVinci Payer Data Exchange US Drug Formulary). These are subject to change.

Conformance Language
This specification uses the conformance verbs **SHALL**, **SHOULD** and **MAY**:

- SHALL: An absolute requirement for all implementations. The FHIR server must return this data.
- SHOULD: A best practice or recommendation for the implementation. The FHIR server is recommended to return this data.
- MAY: An optional inclusion for the implementation; not a requirement. The FHIR server may return the data, but there is no requirement to do so.

Security
BCBSAL API requests often make use of patient-specific information which could be exploited by malicious actors resulting in exposure of patient data. For this reason, all BCBSAL Patient Access/patient transactions must be secured appropriately, and directed by regulations, with access limited to authorized individuals, data protected in transit, and appropriate audit measures taken.

Developers of third-party applications SHOULD be aware of these **security considerations** associated with FHIR transactions, particularly those related to:

- **Communications**
- **Authentication**

- **Authorization/Access Control**
- **Audit Logging**
- **Digital Signatures**
- **Security Labels**
- **Narrative**

The purpose of BCBSAL's Implementation Guide, security conformance requirements are as follows:

- Systems SHALL establish a risk analysis and management regime that conforms to the HIPAA security regulatory requirements. In addition, US Federal systems SHOULD conform to the risk management and mitigation requirements defined in NIST 800 series documents. This SHOULD include security category assignment in accordance with NIST 800-60 vol. 2 Appendix D.14. The coordination of risk management and the related security and privacy controls - policies, administrative practices, and technical controls - SHOULD be defined in the Business Associate Agreement when available.
- Systems SHALL reference a single time source to establish a common time base for security auditing, as well as clinical records, among computing systems. The selected time SHOULD be documented in the Business Associate Agreement.
- Systems SHALL keep audit logs of the various transactions.
- Systems SHALL use TLS version 1.2 or higher for transmissions not taking place over a secure network connection. (Using TLS even within a secured network environment is still encouraged to provide defense depth.) US Federal systems SHOULD conform to FIPS PUB 140-2.
- Systems SHALL conform to **FHIR Communications Security** requirements.
- For Authentication and Authorization, Systems SHALL support the **SMART App Launch Framework** for client <-> server interactions.

    Note: The SMART on FHIR specifications include the required OAuth 2.0 scopes for enabling security decisions.

- Systems SHALL implement consent requirements per their state, local, and institutional policies. The Business Associate Agreements SHOULD document systems mutual consent requirements.

Authorization, Authentication, and Registration
Client applications and systems of record SHALL support the standalone launch sequence of the **SMART App Launch framework** for user authorization and client

authentication. Systems of record SHALL publish their authorization and token endpoints for discovery in accordance with the SMART App Launch framework.

FHIR RESTful API Capabilities

- Implements RESTful behaviors according to the FHIR specification.
- Returns the following http status codes:

HTTP Status Code	Description
200	Successful Request
400	Invalid Parameter
401	Not Authorized
403	Insufficient Scope
404	Unknown Resource
410	Deleted Resource
500	System Error

- Supports JSON source formats for all US Core interactions.

Note: For more information about the FHIR RESTful API, please refer to the **HL7® FHIR® RESTful API** topics.

RESTful Capability by Resource, with Alignment to Profiles
Read (Fetch) Syntax
To fetch resource interactions, use the following syntax:

```
GET [base]/[Resource-type]/[id] {parameters}
```

- `GET`: the HTTP verb used to fetch the resource
- Content surrounded by " " are mandatory for the client to supply, and will be replaced by the string literal identified.
    - `base`: The Service Root URL
    - `Resource-type`: The name of the resource type (e.g "Patient")
    - `id`: The logical ID for a resource (e.g. "24342")
- Content surrounded by "{ }" is optional for the client to supply, and will be replaced by the string literal identified.
    - `parameters`: optional - definition for the particular interaction

Search Syntax
To search resource interactions, use the following syntax:

```
GET [base]/[Resource-
type]?[parameter1]{:m1|m2|...}={c1|c2|...}[value1{,value2,...}]{&[parameter2]{:m1
|m2|...}={c1|c2|...}[value1{,value2,...}]&....}
```

- `GET`: the HTTP verb used to fetch the resource
- Variables surrounded by " " are mandatory for the client to supply, and will be replaced by the string literal identified.
- Variables surrounded by "{ }" are optional for the client to supply, and will be replaced by the string literal identified.
  - `base`: The Service Root URL
  - `Resource-type`: The name of a resource type (e.g. "Patient")
  - `parameter`: The search parameters as defined for the particular interaction (e.g. "?patient=Patient/123")
  - `value`: the search parameter value for a particular search

    Note: For values of type Token, the syntax `{system|}[code]` means that the system value is optional for the client to supply.

  - `{:m1|m2|...}`: The list of supported search parameter modifiers
  - `{c1|c2|...}`: The list of supported search parameter comparators
  - `{,value2,...}`: Optional multiple "OR" values
  - `{&parameter2={:m1 m2 ...}={c1 c2 ...}[value1{,value2,...}&...}`: Optional multiple "AND" search parameters

In the simplest case, a search is executed by performing a GET operation in the RESTful framework:

```
GET [base]/[Resource-type]?name=value&...
```

For this RESTful search, the parameters are a series of `name=[value]` pairs encoded in the URL. The search parameter names are defined for each resource. For example, the Observation resource the name "code" for search on the LOINC code.

Note: For searches where the client does not supply a status parameter, an implementation's business rules may override the FHIR RESTful search expectations and require a status parameter to be provided. These systems are allowed to reject such requests as follows:

- SHALL return an http 400 status.
- SHALL return an **OperationOutcome** specifying that status(es) must be present.

- SHALL support search with status if status is required.
- SHALL NOT restrict search results (i.e. apply 'hidden' filters) when a client includes status parameters in the query.
  - o If a system doesn't support a specific status code value that is queried, search results SHOULD return an http 200 status with a search bundle containing resources matching the search criteria and an OperationOutcome warning the client which status code value is not supported.
  - o For example, in a query enumerating all the `AllergyIntolerance.verificationStatus` statuses to a system that supports concepts `unconfirmed`, `confirmed`, `entered-in-error but not refuted`, the search parameter is referring to an unsupported code since `refuted` is not known to the server.

For more information about how the search resource interactions are handled, refer to the **HL7® FHIR® Search** topic.

Patient Access Resources

These are the endpoints and resources available with the Patient Access API. The Patient Access API supports the following FHIR approved implementation guides, and supports the following profiles:

Implementation Guides

- **US Core Implementation Guide**
- **CARIN Consumer Directed Payer Data Exchange Implementation Guide**
- **DaVinci Payer Coverage Decision Exchange Implementation Guide**
- **DaVinci Payer Data Exchange US Drug Formulary Implementation Guide**

Supported Profiles

- **US Core Profiles**
- **CARIN BB Profiles**
- **DaVinci PDEX CoveragePlan Profile**
- **DaVinci PDEX FormularyDrug Profile**

Base URL

The base url for each endpoint is: https://fhirapi.bcbsal.org/edifecs/fhir/R4/

** Note that the Pharmacy Explanation of Benefit base URL is different.

AllergyIntolerance

A record of a clinical assessment of an allergy or intolerance (generally, a risk of adverse reaction to a substance).

Substances include, but are not limited to the following: a therapeutic substance administered correctly at an appropriate dosage for the individual; food; material derived from plants or animals; or venom from insect stings.

The **US Core AllergyIntolerance Profile** is based upon the core **FHIR AllergyIntolerance Resource** and created to meet the 2015 Edition Common Clinical Data Set 'Medical allergies' requirements.

Fetch and Search Criteria:

- The BCBSAL FHIR server SHALL be capable of returning a AllergyIntolerance resource using:

  `GET [base]/AllergyIntolerance/[id]`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

  `GET [base]/AllergyIntolerance?[parameter=value]&_revinclude=Provenance:target`

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
MAY	**clinical-status**	The clinical status of the allergy or intolerance.	**token**	GET [base]/AllergyIntolerance?clinical-status=[system]|[code]
SHALL	**patient**	The patient who has the allergy or	**reference**	GET [base]/AllergyIntolerance?patient=[patient]

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		intolerance.		

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHOULD	patient+clinical-status	reference+token	`GET [base]/AllergyIntolerance?patient=[patient]&clinical-status=[system]|[code]`

CarePlan

The healthcare plan for a patient or a group.

The **US Core CarePlan Profile** is based upon the core **FHIR CarePlan Resource** and created to meet the 2015 Edition Common Clinical Data Set 'Assessment and Plan of Treatment' requirements.

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning a CarePlan resource using:

  `GET [base]/CarePlan/[id]`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

  `GET [base]/CarePlan?[parameter=value]&_revinclude=Provenance:target`

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
MAY	**category**	Identifies what "kind" of plan this is to support differentiation between	**token**	`GET [base]/CarePlan?category=[system]|[code]`

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		multiple co-existing plans; e.g. "Home health", "psychiatric", "asthma", "disease management", "wellness plan", etc.		
MAY	**date**	The time period that the plan covers.	**date**	`GET [base]/CarePlan?date=[date]`
MAY	**patient**	Who the care plan is for.	**reference**	`GET [base]/CarePlan?patient=[patient]`
MAY	**status**	Indicates whether the plan is currently being acted upon, recodesents future intentions or is now a historical record. Draft; active; on-hold; revoked; completed; entered-in-	**token**	`GET [base]/CarePlan?status=[status]`

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		error; or unknown.		

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHOULD	patient+category	reference+token	GET [base]/CarePlan?patient=[patient]&category=[system]|[code]
SHOULD	patient+category+date	reference+token+date	GET [base]/CarePlan?patient=[patient]&category=[system]|[code]&date=[date]
SHALL	patient+category+status+date	reference+token+token+date	GET [base]/CarePlan?patient=[patient]&category=[system]|[code]&status=[status]&date=[date]
SHOULD	patient+category+status	reference+token+token	GET [base]/CarePlan?patient=[patient]&category=[system]|[code]&status=[status]

Date Modifiers

- comparator : `gt`
- comparator : `lt`
- comparator : `le`

Status Modifiers

- mulitpleOr : `True`

CareTeam

The Care Team includes all the people and organizations who plan to participate in the coordination and delivery of care for a patient.

The **US Core CareTeam Profile** is based upon the core **FHIR CareTeam Resource** and created to meet the 2015 Edition Common Clinical Data Set 'Care team member(s)' requirements.

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning a CareTeam resource using:

  `GET [base]/CareTeam/[id]`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

  `GET [base]/CareTeam?[parameter=value]&_revinclude=Provenance:target`

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
MAY	**patient**	Who the care team is for.	**reference**	`GET [base]/CareTeam?patient=[patient]`
MAY	**status**	Indicates the current state of the care team: proposed; active; suspended inactive; or entered-in-error.	**token**	`GET [base]/CareTeam?status=[status]`

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHALL	patient+status	reference+token	`GET [base]/CareTeam?patient=[patient]&status=[status]`

Status Modifers

- mulitpleOr : `True`

Condition
A clinical condition, problem, diagnosis, or other event, situation, issue, or clinical concept that has risen to a level of concern.

The **US Core Condition Profile** is based upon the core **FHIR Condition Resource** and created to meet the 2015 Edition Common Clinical Data Set 'Problems' and 'Health Concerns' requirements.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning a Condition resource using:

```
GET [base]/Condition/[id]
```

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

```
GET [base]/Condition?[parameter=value]&_revinclude=Provenance:target
```

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
MAY	**category**	The category of the condition.	**token**	`GET [base]/Condition?category=[system]|[code]`
MAY	**clinical-status**	The clinical status of the condition.	**token**	`GET [base]/Condition?clinical-status=[system]|[code]`
SHALL	**patient**	Who has the condition.	**reference**	`GET [base]/Condition?patient=[patient]`
MAY	**onset-date**	Date related onsets (dateTim	**date**	`GET [base]/Condition?onset-date=[onset-date]`

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		e and Period).		
MAY	**code**	Code for the condition.	**token**	GET [base]/Condition?code=[system]|[code]

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHOULD	patient+onset-date	reference+date	GET [base]/Condition?patient=[patient]&onset-date=[onset-date]
SHOULD	patient+category	reference+token	GET [base]/Condition?patient=[patient]&category=[system]|[code]
SHOULD	patient+clinical-status	reference+token	GET [base]/Condition?patient=[patient]&clinical-status=[system]|[code]
SHOULD	patient+code	reference+token	GET [base]/Condition?patient=[patient]&code=[system]|[code]

OnSet-Date Modifiers

- mulitpleAnd : `True`
- comparator : `gt`
- comparator : `lt`
- comparator : `le`

Example: `GET [base]/Condition?patient=[reference]&onset-date={gt|lt|ge|le}[date]{&onset-date={gt|lt|ge|le}[date]&...}`

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.

Supports the **CARIN BB Coverage Profile**.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning a Coverage resource using:

  `GET [base]/Coverage/[id]`

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHOULD	patient	Retrieves coverages for a patient.	**reference**	`GET [base]/Coverage?patient=[patient]`

Device

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

The **US Core Implantable Device Profile** is based upon the core **FHIR Device Resource** and created to meet the 2015 Edition Common Clinical Data Set 'Unique device identifier(s) for a patient's implantable device(s)' requirements.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning a Device resource using:

  `GET [base]/Device/[id]`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

  `GET [base]/Device?[parameter=value]&_revinclude=Provenance:target`

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**patient**	Patient information,	**reference**	`GET [base]/Device?patient=[patient]`

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		if the resource is affixed to a person.		
MAY	**type**	The type of device.	**token**	`GET [base]/Device?type=[system]|[code]`

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHOULD	patient+type	reference+token	`GET [base]/Device?patient=[patient]&type=[system]|[code]`

DiagnosticReport

A diagnostic report, which can be a combination of request information, atomic results, images, interpretation, as well as formatted reports.

The US Core Diagnostic Report Profile is based upon the core **FHIR DiagnosticReport Resource** and created to meet the 2015 Edition Common Clinical Data Set 'Laboratory test(s) and Laboratory value(s)/result(s)' requirements, and supports the **US Core DiagnosticReport Profile for Report and Note exchange** and **US Core DiagnosticReport Profile for Laboratory Results Reporting**.

Fetch and Search Criteria

- The BCBSAL FHIR server SHOULD be capable of returning a DiagnosticReport resource using:

  `GET [base]/DiagnosticReport/[logicalID]`

- The BCBSAL FHIR server SHOULD be capable of supporting the following `_revinclude` parameter:

  `GET [base]/DiagnosticReport?[parameter=value]&_revinclude=Provenance:target`

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
MAY	**status**	The status of the report.	**token**	`GET [base]/DiagnosticReport?status=[system]|[code]`
SHALL	**patient**	The subject of the report.	**reference**	`GET [base]/DiagnosticReport?patient=[patient]`
MAY	**category**	Which diagnostic discipline/department created the report.	**token**	`GET [base]/DiagnosticReport?category=[system]|[code]`
MAY	**code**	The code for the report (as opposed to the codes for the atomic results), which are the names on the observation resource referred to from the result.	**token**	`GET [base]/DiagnosticReport?code=[system]|[code]`
MAY	**date**	The clinically relevant time of the report.	**date**	`GET [base]/DiagnosticReport?date=[date]`

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHALL	patient+category+date	reference+token+date	`GET [base]/DiagnosticReport?patient=[patient]&category=[system]|[code]&date=[date]`
SHOULD	patient+status	reference+token	`GET [base]/DiagnosticReport?patient=[reference]&status=[system]|[code]`
SHOULD	patient+code+date	reference+token+date	`GET [base]/DiagnosticReport?patient=[reference]&code=[system]|[code]&date=[date]`

Confor mance	Search Parameters	Search Parameter Type	Example
SHALL	patient+code	reference+token	`GET [base]/DiagnosticReport?patient=[reference]&code=[system]|[code]`
SHALL	patient+category	reference+token	`GET [base]/DiagnosticReport?patient=[reference]&category=[system]|[code]`

Status Modifiers

- mulitpleOr : `True`

Date Modifiers

- comparator : `gt`
- comparator : `lt`
- comparator : `le`

DocumentReference

A DocumentReference resource is used to index a document, clinical note, and other binary objects to make them available to a healthcare system.

The **US Core DocumentReference Profile** is based on the core **FHIR DocumentReference resource**.

- DocumentReference SHALL support the **\$docref** operation. The BCBSAL FHIR server SHALL be capable of responding to a \$docref operation and capable of returning at least a reference to a generated CCD document, if available. It MAY provide references to other 'on-demand' and 'stable' documents (or 'delayed/deferred assembly') that meet the query parameters, as well. If a context date range is supplied the server **SHOULD** provide references to any document that falls within the date range. If no date range is supplied, then the server SHALL provide references to last or current encounter. It SHOULD document what resources, if any, are returned as included resources.

  `GET [base]/DocumentReference/$docref?patient=[id]`

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning a DocumentReference resource using:

```
GET [base]/DocumentReference[id]
```

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

```
GET [base]/DocumentReference?[parameter=value]&_revinclude=Provenance:target
```

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
MAY	**status**	The status: current; superseded; or entered-in-error.	**token**	GET [base]/DocumentReference?status=[system]|[code]
SHALL	**patient**	Who/what is the subject of this document.	**reference**	GET [base]/DocumentReference?patient=[patient]
MAY	**category**	Categorization of a document.	**token**	GET [base]/DocumentReference?category=[system]|[code]
MAY	**type**	Kind of document (LOINC if possible).	**token**	GET [base]/DocumentReference?type=[system]|[code]
MAY	**date**	When this document reference was created.	**date**	GET [base]/DocumentReference?date=[date]
MAY	**period**	Time of service that is being	**date**	GET [base]/DocumentReference?period=[period]

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		documented.		

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHOULD	patient+type+period	reference+token+date	`GET [base]/DocumentReference?patient=[patient]&type=[system]|[code]&period=[period]`
SHALL	patient+type	reference+token	`GET [base]/DocumentReference?patient=[patient]&type=[system]|[code]`
SHALL	patient+category+date	reference+token+date	`GET [base]/DocumentReference?patient=[patient]&category=[system]|[code]&date=[date]`
SHOULD	patient+status	reference+token	`GET [base]/DocumentReference?patient=[patient]&status=[system]|[code]`
SHALL	patient+category	reference+token	`GET [base]/DocumentReference?patient=[patient]&category=[system]|[code]`

Encounter

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

The **US Core Encounter Profile** is based on the core **FHIR Encounter resource**.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning an Encounter resource using:

  `GET [base]/Encounter/[id]`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

  `GET [base]/Encounter?[parameter=value]&_revinclude=Provenance:target`

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
MAY	**class**	Classification of the patient encounter.	**token**	`GET [base]/Encounter?class=[system]|[code]`
MAY	**date**	Date within the period that the encounter took place.	**date**	`GET [base]/Encounter?date=[date]`
SHOULD	**identifier**	Identifier(s) by which the this encounter is known.	**token**	`GET [base]/Encounter?identifier=[system]|[code]`
SHALL	**patient**	The patient or group present at the encounter.	**reference**	`GET [base]/Encounter?patient=[patient]`
MAY	**status**	Status of the encounter: planned; arrived; triaged; in-progress; onleave; finished; or cancelled.	**token**	`GET [base]/Encounter?status=[system]|[code]`
MAY	**type**	Specific type of encounter.	**token**	`GET [base]/Encounter?type=[system]|[code]`

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHOULD	class+patient	token+reference	GET [base]/Encounter?class=[system]|[code]&patient=[patient]
SHOULD	patient+status	reference+token	GET [base]/Encounter?patient=[patient]&status=[status]|[code]
SHOULD	patient+type	reference+token	GET [base]/Encounter?patient=[patient]&type=[system]|[code]
SHALL	date+patient	date+reference	GET [base]/Encounter?date=[date]&patient=[patient]

Date Modifiers

- comparator : `gt`
- comparator : `lt`
- comparator: `ge`
- comparator : `le`

Explanation of Benefit
**For Pharmacy EOB's, please see the PharmcyExplanationOfBenefit section in this document.

This resource provides: the claim details; adjudication details from the processing of a Claim; and optionally account balance information, for informing the subscriber of the benefits provided.

The ExplanationOfBenefit resources can represent a Patient, Provider, Insurer, Care Team, Facility and Coverage with references to Patient, Organization, Practitioner, PractitionerRole, Location and Coverage resources. The BCBSAL FHIR server is capable of returning all Patient, Practitioner, Organization, PractitionerRole, Location and Coverage resources for an ExplanationOfBenefit via the `_id` of the reference resource.

The BCBSAL FHIR server supports the `_include` parameter for search parameters defined on these elements. Your application must also support the `_include` parameter for search parameters defined on these elements.

Supports the **CARIN BB Explanation of Benefit Profile**.

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning an Explanation of Benefit resource using:

```
GET [base]/ExplanationOfBenefit/[id]
```

- The BCBSAL FHIR server SHALL be capable of supporting the following `_include` parameters:

```
GET
[base]/ExplanationOfBenefit?[parameter=value]&_include=ExplanationOfBenefit:
patient
```

```
GET
[base]/ExplanationOfBenefit?[parameter=value]&_include=ExplanationOfBenefit:
provider
```

```
GET
[base]/ExplanationOfBenefit?[parameter=value]&_include=ExplanationOfBenefit:
care-team
```

```
GET
[base]/ExplanationOfBenefit?[parameter=value]&_include=ExplanationOfBenefit:
coverage
```

```
GET
[base]/ExplanationOfBenefit?[parameter=value]&_include=ExplanationOfBenefit:
insurer
```

```
GET
[base]/ExplanationOfBenefit?[parameter=value]&_inlude=ExplanationOfBenefit:*
```

Note: All search parameters, other than `_id` and `identifier`, are required to be in combination with the `patient` search parameter.

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**patient**	The reference to the patient.	**reference**	`GET [base]/ExplanationOfBenefit?patient=[patient]`

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**identifier**	The business/claim identifier of the Explanation of Benefit.	**token**	`GET [base]/ExplanationOfBenefit?identifier=[system]|[code]`
SHALL	**service-date**	Date of service for the Explanation of Benefit.	**date**	`GET [base]/ExplanationOfBenefit?service-date=[service-date]` **Note**: This is only supported in combination with the patient search parameter.
SHALL	**type**	The type of the Explanation of Benefit.	**token**	`GET [base]/ExplanationOfBenefit?type=[system]|[code]`

Goal

Describes the intended objective(s) for a patient, group or organization.

The **US Core Goal Profile** is based upon the core **FHIR Goal resource** and created to meet the 2015 Edition Common Clinical Data Set 'Goals' requirements.

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning a Goal resource using:

  `GET [base]/Goal/[id]`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

  `GET [base]/Goal?[parameter=value]&_revinclude=Provenance:target`

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
MAY	**lifecycle-status**	Status of the goal: proposed; planned; accepted; active; on-hold; completed; cancelled; entered-in-error; or rejected.	**token**	`GET [base]/Goal?lifecycle-status=[system]|[code]`
SHALL	**patient**	Who this goal is intended for.	**reference**	`GET [base]/Goal?patient=[reference]`
MAY	**target-date**	Reach goal on or before.	**date**	`GET [base]/Goal?target-date=[target-date]`

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHOULD	patient+target-date	reference+token	`GET [base]/Goal?patient=[patient]&target-date=[target-date]`
SHOULD	patient+lifecycle-status	reference+token	`GET [base]/Goal?patient=[patient]&lifecycle-status=[system]|[code]`

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.

The **US Core Immunization Profile** is based upon the core **FHIR Immunization resource** and created to meet the 2015 Edition Common Clinical Data Set 'Immunizations' requirements.

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning a Immunization resource using:

`GET [base]/Immunization/[id]`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

`GET [base]/Immunization?[parameter=value]&_revinclude=Provenance:target`

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**patient**	The patient for the vaccination record.	**reference**	`GET [base]/Immunization?patient=[patient]`
MAY	**status**	Immunization event status.	**token**	`GET [base]/Immunization?status=[status]`
MAY	**date**	Vaccination (non)-administration date.	**date**	`GET [base]/Immunization?date=[date]`

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHOULD	patient+date	reference+date	`GET [base]/Immunization?patient=[patient]&date=[date]`
SHOULD	patient+status	reference+token	`GET [base]/Immunization?patient=[patient]&status=[status]`

List

The **FHIR List resource** is a part of the **CoveragePlan profile**, which represents a health plan and contains links to administrative information, a list of formulary drugs covered under that plan, and a definition of drug tiers and their associated cost-sharing models.

This resource supports the **PDEX Formulary Profile**.

Extensions

- DrugTierDefinition
- EmailPlanContact

- FormularyURL
- MarketingURL
- Network
- PlanIDType
- SummaryURL

Search Parameters
There are no **Search Parameters**.

Location

Details and position information for a physical place where services are provided and resources and participants may be stored, found, contained, or accommodated.

The **US Core Location Profile** is based upon the core **FHIR Location resource**.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning a Location resource using:

```
GET [base]/Location/[id]
```

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**name**	A portion of the location's name or alias.	**string**	GET [base]/Location?name=[name]
SHALL	**address**	A (part of the) address of the location.	**string**	GET [base]/Location?address=[address]
SHOULD	**address-city**	A city specified	**string**	GET [base]/Location?address-city=[address-city]

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		in an address.		
SHOULD	**address-state**	A state specified in an address.	**string**	`GET [base]/Location?address-state=[address-state]`
SHOULD	**address-postalcode**	A postal code specified in an address.	**string**	`GET [base]/Location?address-postalcode=[address-postalcode]`
SHOULD	identifier	An identifier for the location.	**token**	`GET [base]/Location?identifier=[identifier]`

Medication

This resource is primarily used for the identification and definition of a medication for the purposes of prescribing, dispensing, and administering a medication as well as for making statements about medication use.

The **US Core Medication Profile** is based upon the core **FHIR Medication resource** and created to meet the 2015 Edition Common Clinical Data Set 'Medications' requirements.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning a Medication resource using:

```
GET [base]/Medication/[id]
```

Search Parameters
There are no additional **Search Parameters**.

MedicationKnowledge

The **MedicationKnowledge resource** is associated with the **FormularyDrug resource**, which represents a drug that is part of a drug formulary. A drug

formulary is a list of brand-name and generic prescription drugs a health insurer agrees to pay for, at least partially, as part of health insurance coverage. In addition to identifying the drug by its RxNorm code, and the PlanID of the formulary, the FormularyDrug entry provides information on prescribing limitations, and optionally drug classification and alternatives.

Part of Formulary, Drug; supports the **PDEX Formulary Profile**.

Extensions

- DrugAlternatives
- PriorAuthorization
- StepTherapyLimit
- QuantityLimit
- PlanID
- DrugTierID

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**DrugPlan**	Accesses the DrugPlan ID of a Formulary Drug.	**token**	`GET [base]/MedicationKnowledge?DrugPlan=[DrugPlan]`
SHALL	**DrugTier**	Accesses the DrugTier ID of a Formulary Drug.	**token**	`GET [base]/MedicationKnowledge?DrugTier=[DrugTier]`
SHOULD	classification	Specific category assigned to the medication.	**token**	`GET [base]/MedicationKnowledge?classification=[classification]`

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHOULD	classification-type	The type of category for the medication (for example, therapeutic classification, therapeutic sub-classification).	**token**	GET [base]/MedicationKnowledge?classification-type=[classification-type]
SHOULD	code	Code that identifies this medication.	**token**	GET [base]/MedicationKnowledge?code=[code]
SHOULD	doseform	The type of medication: powder; tablets; capsule, etc.	**token**	GET [base]/MedicationKnowledge?doseform=[doseform]
SHOULD	ingredient	Medication(s) or substance(s) contained in the medication.	**reference**	GET [base]/MedicationKnowledge?ingredient=[ingredient]
SHOULD	ingredient-code	Medication(s) or	**token**	GET [base]/MedicationKnowledge?ingredient-code=[ingredient-code]

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		substance(s) contained in the medication.		
SHOULD	manufacturer	Manufacturer of the item.	**reference**	```GET [base]/MedicationKnowledge?manufacturer=[manufacturer]```
SHOULD	monitoring-program-name	Name of the reviewing program.	**token**	```GET [base]/MedicationKnowledge?monitoring-program-name=[monitoring-program-name]```
SHOULD	monitoring-program-type	Type of program under which the medication is monitored.	**token**	```GET [base]/MedicationKnowledge?monitoring-program-type=[monitoring-program-type]```
SHOULD	monograph	Associated documentation about the medication.	**reference**	```GET [base]/MedicationKnowledge?monograph=[monograph]```
SHOULD	monograph-type	The category of medication document.	**token**	```GET [base]/MedicationKnowledge?monograph-type=[monograph-type]```
SHOULD	source-cost	The source or owner of the price	**token**	```GET [base]/MedicationKnowledge?source-cost=[source-cost]```

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		information.		
SHOULD	status	The status of the medication: active; inactive; or entered-in-error.	**token**	`GET [base]/MedicationKnowledge?status=[status ]`

Combined Search Parameters

The server SHALL support all of the above search parameters in combinations.

MedicationRequest

Records a patient's medication prescription or order. The **US Core MedicationRequest Profile** is based upon the core **FHIR MedicationRequest resource** and created to meet the 2015 Edition Common Clinical Data Set 'Medications' requirements.

The MedicationRequest resources can represent a medication using either a code or refer to the Medication resource. When referencing Medication, the resource may be contained or an external resource. The BCBSAL FHIR server application MAY choose any one way or more than one method, but if an external reference to Medication is used, the server SHALL support the `_include` parameter for searching this element. Your application must support all methods.

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning a MedicationRequest resource using:

  `GET [base]/MedicationRequest/[id]`

- The BCBSAL FHIR server SHOULD be capable of supporting the following `_include` parameter:

  `GET [base]/MedicationRequest?[parameter=value]&_include=MedicationRequest:medica tion`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

```
GET [base]/MedicationRequest?[parameter=value]&_revinclude=Provenance:target
```

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
MAY	**status**	Status of the prescription.	**token**	```GET [base]/MedicationRequest?status=[status]```
MAY	**intent**	Returns prescriptions with different intents.	**token**	```GET [base]/MedicationRequest?intent=[system]|[code]```
MAY	**patient**	Returns prescriptions for a specific patient.	**reference**	```GET [base]/MedicationRequest?patient=[patient]```
MAY	**encounter**	Return prescriptions with this encounter identifier.	**reference**	```GET [base]/MedicationRequest?encounter=[encounter]```
MAY	**authoredon**	Return prescriptions written on this date.	**date**	```GET [base]/MedicationRequest?authoredon=[authoredon]```

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHALL	patient+intent	reference+token	GET [base]/MedicationRequest?patient=[patient]&intent=[system]|[code]
SHOULD	patient+intent+encounter	reference+token+reference	GET [base]/MedicationRequest?patient=[patient]&intent=[system]|[code]&encounter=[encounter]
SHOULD	patient+intent+authoredon	reference+token+date	GET [base]/MedicationRequest?patient=[patient]&intent=[system]|[code]&authoredon=[authoredon]
SHALL	patient+intent+status	reference+token+token	GET [base]/MedicationRequest?patient=[patient]&intent=[system]|[code]&status=[status]

Observation

Used for simple observations such as device measurements, laboratory atomic results, vital signs, height, weight, smoking status, comments, etc. Other resources are used to provide context for observations such as laboratory reports, etc.

Supports the **US Core Smoking Status Observation Profile**, **US Core Pediatric Weight for Height Observation Profile**, **US Core Laboratory Result Observation Profile**, **US Core Pediatric BMI for Age Observation Profile**, **US Core Pediatric Head Occipital-frontal Circumference Percentile Profile**, and **US Core Pulse Oximetry Profile**.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning a Observation resource using:

  ```
  GET [base]/Observation/[logicalID]
  ```

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

  ```
  GET [base]/Observation?[parameter=value]&_revinclude=Provenance:target
  ```

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
MAY	**status**	The status of the observation.	**token**	`GET [base]/Observation?status=[status]`
MAY	**category**	The classification of the type of observation.	**token**	`GET [base]/Observation?category=[system]|[code]`
MAY	**code**	The code of the observation type.	**token**	`GET [base]/Observation?code=[system]|[code]`
MAY	**date**	Obtained date/time. If the obtained element is a period, a date that falls in the period.	**date**	`GET [base]/Observation?date=[date]`
MAY	**patient**	The subject that the observation is about (if patient).	**reference**	`GET [base]/Observation?patient=[patient]`

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHALL	patient+category+date	reference+token+date	`GET [base]/Observation?patient=[patient]&category=[system]|[code]&date=[date]`

Confor mance	Search Parameters	Search Parameter Type	Example
SHOULD	patient+category+status	reference+token+token	GET [base]/Observation?patient=[patient]&category=[system]|[code]&status=[status]
SHOULD	patient+code+date	reference+token+date	GET [base]/Observation?patient=[patient]&code=[system]|[code]&date=[date]
SHALL	patient+code	reference+token	GET [base]/Observation?patient=[patient]&code=[system]|[code]
SHALL	patient+category	reference+token	GET [base]/Observation?patient=[patient]&category=[system]|[code]

Organization

A formally or informally recognized grouping of people or organizations formed for the purpose of achieving some form of collective action. Includes companies, institutions, corporations, departments, community groups, healthcare practice groups, payer/insurer, etc.

The **US Core Organization Profile** is based on the core **FHIR Organization resource**. This resource is also based on the **CARIN BB Organization Profile**.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning an Organization resource using:

```
GET [base]/Organization/[id]
```

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**name**	A portion of the organization's name or alias.	**string**	GET [base]/Organization?name=[name]
SHALL	**address**	A server defined search that	**string**	GET [base]/Organization?address=[address]

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		may match any of the string fields in the Address, including line, city, district, state, country, postalCode, and/or text.		
SHOULD	address-city	A city specified in an address.	**string**	`GET [base]/Organization?address-city=[address-city]`
SHOULD	address-country	A country specified in an address.	**string**	`GET [base]/Organization?address-country=[address-country]`
SHOULD	address-postalcode	A postal code specified in an address.	**string**	`GET [base]/Organization?address-postalcode=[address-postalcode]`
SHOULD	address-state	A state specified in an address.	**string**	`GET [base]/Organization?address-state=[address-state]`

Patient

Information about an individual receiving health care services. The **US Core Patient Profile** is based upon the core **FHIR Patient resource** and designed to meet the applicable patient demographic data elements from the 2015 Edition Common Clinical Data Set. This resource is also based on the **CARIN BB Patient Profile**.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning a Patient resource using:

```
GET [base]/Patient/[id]
```

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

```
GET [base]/Patient?[parameter=value]&_revinclude=Provenance:target
```

Extensions

- BirthSex
- DirectEmail
- Ethnicity
- Race

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	_id	The logical ID of this artifact.	token	`GET [base]/Patient?_id=[id]`
MAY	birthdate	The patient's date of birth.	date	`GET [base]/Patient?birthdate=[birthdate]`
MAY	family	A portion of the family name of the patient.	string	`GET [base]/Patient?family=[family]`
MAY	gender	Gender of the patient.	token	`GET [base]/Patient?gender=[system]|[code]`
MAY	given	A portion of the given name of the patient.	string	`GET [base]/Patient?given=[given]`
SHALL	identifier	A patient identifier.	token	`GET [base]/Patient?identifier=[system]|[code]`
SHALL	name	A server defined search that may match	string	`GET [base]/Patient?name=[name]`

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		any of the string fields in the HumanName, including family, given, prefix, suffix, suffix, and/or text.		

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHOULD	birthdate+family	date+string	`GET [base]/Patient?birthdate=[birthdate]&family=[family]`
SHOULD	family+gender	string+token	`GET [base]/Patient?family=[family]&gender=[system]|[code]`
SHALL	birthdate+name	date+string	`GET [base]/Patient?birthdate=[birthdate]&name=[name]`
SHALL	gender+name	token+string	`GET [base]/Patient?gender=[system]|[code]&name=[name]`

Pharmacy Explanation of Benefit

This resource provides: the claim details; adjudication details from the processing of a Claim; and optionally account balance information, for informing the subscriber of the benefits provided.

The base url for the Pharmacy EOB endpoint is: `https://fhirapi.bcbsal.org/pharmacy/fhir/R4`

The Pharmacy ExplanationOfBenefit resources will represent the EOBs for a particular Patient, with references to Patient, Organization, Practitioner, PractitionerRole, Location and Coverage resources. The BCBSAL FHIR pharmacy proxy server is capable of returning all Patient, Practitioner, Organization,

PractitionerRole, Location and Coverage resources for an ExplanationOfBenefit via the `_id` of the reference resource.

The BCBSAL FHIR pharmacy proxy server is a proxy to a 3rd party server and retrieve by reference for referenced resources will not work via subsequent calls. As a result the BCBSAL FHIR pharmacy proxy will automatically use the `_include` parameter for all referenced resources and those resources will be returned to your application. Your application is responsible for retrieving any information it needs from the referenced resources that are returned.

Fetch and Search Criteria
Note: Only the count and service-date parameters are supported using the pharmacy Explanation of Benefit endpoint. Since this endpoint is only valid for the current patient via the token. As a result, searches related to other patients will not be supported.

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**_count**	Maximum number of records to return on each page	number	`GET [base]/ExplanationOfBenefit?_count=[count]`
SHALL	**service-date**	Date of service for the Explanation of Benefit.	**date**	`GET [base]/ExplanationOfBenefit?service-date=[service-date]`

Practitioner
A person with a formal responsibility in the provisioning of healthcare or related services.

The **US Core Practitioner Profile** is based on the core **FHIR Practitioner resource**. This resource is also based on the **CARIN BB Practitioner Profile**.

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning a Practitioner resource using:

```
GET [base]/Practitioner/[id]
```

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**name**	A server defined search that may match any of the string fields in the HumanName, including family, give, prefix, suffix, and/or text.	**string**	`GET [base]/Practitioner?name=[name]`
SHALL	**identifier**	A practitioner's Identifier.	**token**	`GET [base]/Practitioner?identifier=[system]|[code]`

PractitionerRole

Roles and/or organizations that the practitioner is associated with. The **US Core PractitionerRole Profile** is based on the core **FHIR PractitionerRole resource**.

The PractitionerRole resources can represent a Practitioner and Organization with a reference to a Practitioner or Organization resource. The BCBSAL FHIR server MAY support the `_include` parameter for search parameters defined on these elements. Your application must support the `_include` parameter for search parameters defined on these elements.

For example, the server MAY be capable of returning a Practitioner and Organization for a PractitionerRole using:

```
GET [base]/PractitionerRole?_id=[id]&_include=PractitionerRole:practitioner&_include=PractitionerRole:organization
```

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning a PractitionerRole resource using:

  `GET [base]/PractitionerRole/[id]`

- The BCBSAL FHIR server SHOULD be capable of supporting the following `_include` parameter:

  `GET [base]/PractitionerRole?[parameter=value]&_include=PractitionerRole:endpoint`

  `GET [base]/PractitionerRole?[parameter=value]&_include=PractitionerRole:practitioner`

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**specialty**	The practitioner has this specialty at an organization.	**token**	`GET [base]/PractitionerRole?specialty=[system]|[code]`
SHALL	**practitioner**	Practitioner that is able to provide the defined services for the organization.	**reference**	`GET [base]/PractitionerRole?practitioner=[practitioner]`

Procedure

An action that is being, or was, performed on a patient.

The **US Core Procedure Profile** is based upon the core **FHIR Procedure resource** and was created to meet the 2015 Edition Common Clinical Data Set 'Procedures' requirements.

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning a Procedure resource using:

  `GET [base]/Procedure/[id]`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

  `GET [base]/Procedure?[parameter=value]&_revinclude=Provenance:target`

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
MAY	**status**	Status of a procedure: preparation; in-progress; not-done; on-hold; stopped; completed; entered-in-error; unknown	**token**	`GET [base]/Procedure?status=[status]`
SHALL	**patient**	Search by patient.	**reference**	`GET [base]/Procedure?patient=[patient]`
MAY	**date**	When the procedure was performed.	**date**	`GET [base]/Procedure?date=[date]`

Conformance	Search Parameter	Definition	Search Parameter Type	Example
MAY	**code**	A code to identify a procedure.	**token**	`GET [base]/Procedure?code=[system]|[code]`

Combined Search Parameters

Conformance	Search Parameters	Search Parameter Type	Example
SHALL	patient+code+date	reference+token+date	`GET [base]/Procedure?patient=[patient]&code=[system]|[code]&date=[date]`
SHOULD	patient+status	reference+token	`GET [base]/Procedure?patient=[patient]&status=[status]`
SHOULD	patient+date	reference+date	`GET [base]/Procedure?patient=[patient]&date=[date]`

Provenance

Provenance is provided by the payer to identify the source of the information, whether the data came via a clinical record or a claim record and whether the data was subject to manual transcription or other interpretive transformation. This Profile places the PayerSourceFormat as an extension to the base profile.

The **PDEX Provenance Profile** is based on the core **FHIR Provenance resource**.

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning a Provenance resource using:

    `GET [base]/Provenance/[id]`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameters:

    `GET [base]/Provenance?patient=[id]&_revinclude=Provenance:target`

    `GET [base]/Provenance?_id=[id]&_revinclude=Provenance:target`

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHOULD	patient	Target reference.	**reference**	`GET [base]/Provenance?patient=[patient]`

Provider Directory

Overview

The Provider Directory API accesses the BCBSAL FHIR server portion of the Provider and Pharmacy Directories. Utilizing only read-only RESTful GET API calls (PUT and POST are not currently supported), you can create an application to access information about providers and pharmacies.

This section describes the FHIR profiles, resources and RESTful capabilities that the Provider Directory API supports. A **profile** is a set of rules which allows a resource to be constrained, or to include extensions, so the resource can add additional attributes. The RESTful capabilities are discussed in further detail below.

Note:

- The descriptions and list of supported resources in this Implementation Guide were based on a draft version of the HL7® FHIR® DaVinci PDEX Payer Network (Plan Net) Implementation Guide. These are subject to change.

Conformance Language

This specification uses the conformance verbs **SHALL**, **SHOULD** and **MAY**:

- SHALL: An absolute requirement for all implementations. The FHIR server must return this data.
- SHOULD: A best practice or recommendation for the implementation. The FHIR server is recommended to return this data.
- MAY: An optional inclusion for the implementation; not a requirement. The FHIR server may return the data, but there is no requirement to do so.

Security

BCBSAL's Provider Directory FHIR server does not maintain any records that can be associated with a consumer. Therefore, the Provider Directory API does not require third-party applications to send consumer identifying information. Instead, such API

requires client credentials to authorize, which is provided to you when registering your app.

Client Credentials Authorization Flow
In the client credentials authorization flow, to connect to the Provider Directory API, you will need to retrieve and use a token.

To do so, you will send a `POST` request to the BCBSAL /token endpoint: `POST` `https://fhirapi.bcbsal.org/oauth/token`

The `POST` request must contain the following in the request body:

```
grant_type: "client_credentials"
client_id: "xxxxxxxxxxxxxxxxxxxxxxxxxxx"
client_secret: "xxxxxxxxxxxxxxxxxxxxxxxxxxxx"
```

The response body will contain the following:

```
{
    "access_token":
"eyJraWQiOiIwZGgxejZhYnF2MjAyMTA2MDIxNDA5.2FsaG9zdDoxODA4OCIsImh0dHA6Ly9sb2NhbGhvc3Q6MTkwNjAiL
CJodHRwczovL2xvY2FsaG9zdDoxMTQ0MyIsImh0dHBzOi8vbG9jYWxob3N0OjE4MDg4IiwiaHR0cHM6Ly9sb2NhbGhvc3Q
6MTkwNTgiXSwiZXh0cmFfcHJvcGVydGllcyI6eyJyZXF1ZXN0SWQiOiI1ZjBlYTJmZmM1OWI0NTcyOTcyZTRmYmE0MGVjO
TIzYiIsImNvcnJlbGF0aW9uSWQiOiI4ZmNlNjA2OTZhNDY0MjVlODdmMDNiN2MwZTEwMzUwNCJ9LCJncmFudF90eXBlIjo
iYXV0aG9yaXphdGlvbl9jb2RlIiwiYXV0aG9yaXphdGlvbl9jb2RlIjoiNDc5NzgzMzEwZjlmZjc2MzM0ZmJlN2M4MmI3O
GM3IiwiZmhpclVzZXIiOiJQYXRpZW50LzM0NTU3MSJ9.x01AP27BR5Yc1xCdJgG92Q26_JGRPzPZGH4DtWZhkBJOSEiH3J
IVoJVbQH4sb9i9TACOopUYINIm_RQbbultVbGfrGijzx4WwK9d-c0Q3NOxbhbHkhcRSA",
    "expires_in": 300,
    "token_type": "Bearer"
}
```

Please Note: The values shown in this example are not valid responses.

You can now use this token within the request header in your calls to the BCBSAL FHIR server.

FHIR RESTful API Capabilities

- Implements RESTful behaviors according to the FHIR specification.
- Returns the following http status codes:

HTTP Status Code	Description
200	Successful Request
400	Invalid Parameter
401	Not Authorized
403	Insufficient Scope
404	Unknown Resource

HTTP Status Code	Description
410	Deleted Resource
500	System Error

Note: For more information about the FHIR RESTful API, please refer to the **HL7® FHIR® RESTful API** topics.

RESTful Capability by Resource, with Alignment to Profiles

Read (Fetch) Syntax

To fetch resource interactions, use the following syntax:

`GET [base]/[Resource-type]/[id] {parameters}`

- `GET`: the HTTP verb used to fetch the resource
- Content surrounded by " " are mandatory for the client to supply, and will be replaced by the string literal identified.
    - `base`: The Service Root URL
    - `Resource-type`: The name of the resource type (e.g "Practitioner")
    - `id`: The logical ID for a resource (e.g. "12345")
- Content surrounded by "{ }" is optional for the client to supply, and will be replaced by the string literal identified.
    - `parameters`: optional - definition for the particular interaction

Search Syntax

To search resource interactions, use the following syntax:

`GET [base]/[Resource-type]?[parameter1]{:m1|m2|...}={c1|c2|...}[value1{,value2,...}]{&[parameter2]{:m1|m2|...}={c1|c2|...}[value1{,value2,...}]&....}`

- `GET`: the HTTP verb used to fetch the resource
- Variables surrounded by " " are mandatory for the client to supply, and will be replaced by the string literal identified.
- Variables surrounded by "{ }" are optional for the client to supply, and will be replaced by the string literal identified.
    - `base`: The Service Root URL
    - `Resource-type`: The name of a resource type (e.g "Practitioner")
    - `parameter`: The search parameters as defined for the particular interaction (e.g. "?practitioner=Practitioner/12345")
    - `value`: the search parameter value for a particular search

> **Note**: For values of type Token, the syntax `{system|}[code]` means that the system value is optional for the client to supply.

- ○ `{:m1|m2|...}`: The list of supported search parameter modifiers
- ○ `{c1|c2|...}`: The list of supported search parameter comparators
- ○ `{,value2,...}`: Optional multiple "OR" values
- ○ `{&parameter2={:m1 m2 ...}={c1 c2 ...}[value1{,value2,...}&...}`: Optional multiple "AND" search parameters

In the simplest case, a search is executed by performing a `GET` operation in the RESTful framework:

```
GET [base]/[Resource-type]?name=value&...
```

For this RESTful search, the parameters are a series of `name=[value]` pairs encoded in the URL. The search parameter names are defined for each resource. For example, the Observation resource the name "code" for search on the LOINC code.

Note: For more information about how the search resource interactions are handled, refer to the **HL7® FHIR® Search** topic.

Provider Directory Resources

These are the resources and the endpoints available with the BCBSAL Provider Directory API. The Provider Directory API supports the following FHIR approved implementation guide, and supports the following profiles:

Implementation Guides

- **HL7® FHIR® DaVinci PDEX Payer Network (Plan Net) Implementation Guide**

Supported Profiles

- **HL7® FHIR® DaVinci PDEX Plan Net Profiles**

Base URL

The base url for each endpoint is:
https://fhirapi.bcbsal.org/providerdirectory/fhir/R4/

HealthcareService

The HealthCareService resource typically describes services offered by an organization/practitioner at a location. The resource may be used to encompass a variety of services covering the entire healthcare spectrum, including promotion, prevention, diagnostics, hospital and ambulatory care, home care, long-term care, and other health-related and community services.

The **DaVinci PDEX Plan-Net HealthcareService profile** is based on the core **FHIR HealthcareService resource**.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning a HealthcareService resource using:

  ```
  GET [base]/HealthcareService/[id]
  ```

- The BCBSAL FHIR server SHOULD be capable of returning a HealthcareService resource using:

  ```
  GET [base]/HealthcareService/[id]/_history/vid
  ```

- The BCBSAL FHIR server SHALL be capable of supporting the following `_include` parameters:

  ```
  GET
  [base]/HealthcareService?[parameter=value]&_include=HealthcareService:location
  ```

  ```
  GET
  [base]/HealthcareService?[parameter=value]&_include=HealthcareService:coverage-area
  ```

  ```
  GET
  [base]/HealthcareService?[parameter=value]&_include=HealthcareService:organization
  ```

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameters:

  ```
  GET
  [base]/HealthcareService?[parameter=value]&_revinclude=PractitionerRole:service
  ```

  ```
  GET
  [base]/HealthcareService?[parameter=value]&_revinclude=OrganizationAffiliation:service
  ```

Extensions

- NewPatients
- ViaIntermediary

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**coverage-area**	Select services available in a region described by the specified location.	**reference**	`GET [base]/HealthcareService?coverage-area=[coverage-area]`
SHALL	**location**	Select HealthcareServices available at the specified location.	**reference**	`GET [base]/HealthcareService?location=[location]`
SHALL	**name**	Select HealthcareServices with the specified name.	**string**	`GET [base]/HealthcareService?name=[name]`
SHALL	**organization**	Select HealthcareServices provided by the specified organization.	**reference**	`GET [base]/HealthcareService?organization=[organization]`
SHALL	**service-category**	Select HealthcareServices providing the specified	**token**	`GET [base]/HealthcareService?category=[category]`

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		category of services.		
SHALL	**service-type**	Select HealthcareServices of the specified type.	**token**	`GET [base]/HealthcareService?service-type=[service-type]`
SHALL	**specialty**	Select services associated with the specified specialty.	**token**	`GET [base]/HealthcareService?specialty=[specialty]`

InsurancePlan

InsurancePlan describes a health insurance offering comprised of a list of covered benefits (i.e. the product), costs associated with those benefits (i.e. the plan), and additional information about the offering, such as who it is owned and administered by, a coverage area, contact information, etc.

The **DaVinci PDEX Plan-Net InsurancePlan profile** is based on the core **FHIR InsurancePlan resource**.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning a InsurancePlan resource using:

  `GET [base]/InsurancePlan/[id]`

- The BCBSAL FHIR server SHOULD be capable of returning a InsurancePlan resource using:

  `GET [base]/InsurancePlan/[id]/_history/vid`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_include` parameters:

```
GET
[base]/InsurancePlan?[parameter=value]&_include=InsurancePlan:administered-
by
```

```
GET [base]/InsurancePlan?[parameter=value]&_include=InsurancePlan:owned-by
```

```
GET [base]/InsurancePlan?[parameter=value]&_include=InsurancePlan:coverage-
area
```

Extensions

- ViaIntermediary

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**administered-by**	Select products that are administered by the specified organization.	**reference**	`GET [base]/InsurancePlan?administered-by=[administered-by]`
SHALL	**coverage-area**	Select products that are offered in the specified location.	**reference**	`GET [base]/InsurancePlan?coverage-area=[coverage-area]`
SHALL	**name**	Select products with the specified name.	**string**	`GET [base]/InsurancePlan?name=[name]`
SHALL	**owned-by**	Select products that are	**reference**	`GET [base]/InsurancePlan?owned-by=[owned-by]`

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		owned by the specified organization.		
SHALL	**coverage-area**	Select products that are offered in the specified location.	**reference**	GET [base]/InsurancePlan?plan-coverage-area=[plan-coverage-area]
SHOULD	network	Reference to the network included in the health insurance product.	**string**	GET [base]/InsurancePlan?network=[network]
SHALL	**plan-type**	Select plans of the specified type.	**token**	GET [base]/InsurancePlan?plan-type=[plan-type]

Location

A Location is the physical place where healthcare services are provided, practitioners are employed, organizations are based, etc. Locations can range in scope from a room in a building to a geographic region/area.

The **DaVinci PDEX Plan-Net Location profile** is based on the core **FHIR US Core Location resource**.

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning a Location resource using:

```
GET [base]/Location/[id]
```

- The BCBSAL FHIR server SHOULD be capable of returning a Organization resource using:

  `GET [base]/Location/[id]/_history/vid`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_include` parameters:

  `GET [base]/Location?[parameter=value]&_include=Location:organization`

  `GET [base]/Location?[parameter=value]&_include=Location:partof`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameters:

  `GET [base]/Location?[parameter=value]&_revinclude=HealthcareService:location`

  `GET [base]/Location?[parameter=value]&_revinclude=InsurancePlan:coverage-area`

  `GET [base]/Location?[parameter=value]&_revinclude=OrganizationAffiliation:location`

  `GET [base]/Location?[parameter=value]&_revinclude=PractitionerRole:location`

Extensions

- Accessibility
- NewPatients
- ViaIntermediary
- LocationReference

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**address**	Select Locations with the specified address.	**string**	`GET [base]/Location?address=[address]`

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**organization**	Select Locations managed by the specified organization.	**reference**	`GET [base]/Location?organization=[organization]`
SHALL	**partof**	Select Locations that are part of the specified location.	**reference**	`GET [base]/Location?partof=[partof]`
SHALL	**type**	Select Locations of the specified type.	**token**	`GET [base]/Location?type=[type]`

Organization

A Network refers to a healthcare provider insurance network. A healthcare provider insurance network is an aggregation of organizations and individuals that deliver a set of services across a geography through health insurance products/plans. A network is typically owned by a payer.

An Organization refers to a formally or informally recognized grouping of people or organizations formed for the purpose of achieving some form of collective action. Includes companies, institutions, corporations, departments, community groups, healthcare practice groups, payer/insurer, etc.

The **DaVinci PDEX Plan-Net Network profile** is based on the core **FHIR Organization resource**, and the **DaVinci PDEX Plan-Net Organization profile** is based on the core **FHIR US Core Organization resource**.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning an Organization resource using:

```
GET [base]/Organization/[id]
```

- The BCBSAL FHIR server SHOULD be capable of returning an Organization resource using:

```
GET [base]/Organization/[id]/_history/vid
```

- The BCBSAL FHIR server SHALL be capable of supporting the following `_include` parameters:

```
GET [base]/Organization?[parameter=value]&_include=Organization:partof
```

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameters:

```
GET
[base]/Organization?[parameter=value]&_revinclude=HealthcareService:organiza
tion
```

```
GET
[base]/Organization?[parameter=value]&_revinclude=InsurancePlan:administered
-by
```

```
GET [base]/Organization?[parameter=value]&_revinclude=InsurancePlan:owned-by
```

```
GET
[base]/Organization?[parameter=value]&_revinclude=OrganizationAffiliation:pr
imary-organization
```

```
GET
[base]/Organization?[parameter=value]&_revinclude=PractitionerRole:organizat
ion
```

```
GET
[base]/Organization?[parameter=value]&_revinclude=PractitionerRole:network
```

```
GET
[base]/Organization?[parameter=value]&_revinclude=OrganizationAffiliation:pa
rticipating-organization
```

Extensions

- Qualification
- ViaIntermediary

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**address**	Select organizations with the specified address (matches any of the string elements of an address).	**string**	`GET [base]/Organization?address=[address]`
SHALL	**name**	Select Organizations with the specified name.	**string**	`GET [base]/Organization?name=[name]`
SHALL	**partof**	Select Organizations that are part of the specified organization.	**reference**	`GET [base]/Organization?partof=[partof]`

OrganizationAffiliation

The OrganizationAffiliation resource describes relationships between two or more organizations, including the services one organization provides another, the location(s) where they provide services, the availability of those services, electronic endpoints, and other relevant information.

The **DaVinci PDEX Plan-Net OrganizationAffiliation profile** is based on the core **FHIR OrganizationAffiliation resource**.

Fetch and Search Criteria
- The BCBSAL FHIR server SHALL be capable of returning a OrganizationAffiliation resource using:

```
GET [base]/OrganizationAffiliation/[id]
```

- The BCBSAL FHIR server SHOULD be capable of returning a OrganizationAffiliation resource using:

  ```
  GET [base]/OrganizationAffiliation/[id]/_history/vid
  ```

- The BCBSAL FHIR server SHALL be capable of supporting the following `_include` parameters:

  ```
  GET
  [base]/OrganizationAffiliation?[parameter=value]&_include=OrganizationAffili
  ation:primary-organization
  ```

  ```
  GET
  [base]/OrganizationAffiliation?[parameter=value]&_include=OrganizationAffili
  ation:participating-organization
  ```

  ```
  GET
  [base]/OrganizationAffiliation?[parameter=value]&_include=OrganizationAffili
  ation:location
  ```

  ```
  GET
  [base]/OrganizationAffiliation?[parameter=value]&_include=OrganizationAffili
  ation:service
  ```

  ```
  GET
  [base]/OrganizationAffiliation?[parameter=value]&_include=OrganizationAffili
  ation:network
  ```

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**location**	Select OrganizationAffiliations available at the specified location.	**reference**	GET [base]/OrganizationAffiliation?location=[location]
SHALL	**network**	Select roles where the organization is a member of the specified health insurance	**reference**	GET [base]/OrganizationAffiliation?network=[network]

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		provider network.		
SHALL	**participating-organization**	Select roles filled by the specified organization.	**reference**	`GET [base]/OrganizationAffiliation?participating-organization=[participating-organization]`
SHALL	**primary-organization**	Select roles offered by the specified organization.	**reference**	`GET [base]/OrganizationAffiliation?primary-organization=[primary-organization]`
SHALL	**role**	Select OrganizationAffiliations with the specified role.	**token**	`GET [base]/OrganizationAffiliation?role=[role]`
SHALL	**service**	Select OrganizationAffiliations providing the specified service.	**reference**	`GET [base]/OrganizationAffiliation?service=[service]`
SHALL	**specialty**	Select OrganizationAffiliations associated with the specified specialty.	**token**	`GET [base]/OrganizationAffiliation?specialty=[specialty]`

Practitioner

A Practitioner is a person who is directly or indirectly involved in the provisioning of healthcare.

The **DaVinci PDEX Plan-Net Practitioner profile** is based on the core **FHIR US Core Practitioner resource**.

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning a Practitioner resource using:

    `GET [base]/Practitioner/[id]`

- The BCBSAL FHIR server SHOULD be capable of returning a Practitioner resource using:

    `GET [base]/Practitioner/[id]/_history/vid`

- The BCBSAL FHIR server SHALL be capable of supporting the following `_revinclude` parameter:

    `GET [base]/Practitioner?[parameter=value]&_revinclude=PractitionerRole:practitioner`

Extensions

- Accessibility
- Communication Proficiency
- PractitionerQualification
- ViaIntermediary

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**name**	Select Practitioners with the specified name (matches against any of the elements in the HumanName data type).	**string**	`GET [base]/Practitioner?name=[name]`

PractitionerRole

A specific set of Roles/Locations/specialties/services that a practitioner may perform at an organization for a period of time.

The **DaVinci PDEX Plan-Net PractitionerRole profile** is based on the core **FHIR PractitionerRole resource**.

Fetch and Search Criteria

- The BCBSAL FHIR server SHALL be capable of returning a PractitionerRole resource using:

```
GET [base]/PractitionerRole/[id]
```

- The BCBSAL FHIR server SHALL be capable of supporting the following `_include` parameters:

```
GET
[base]/PractitionerRole?[parameter=value]&_include=PractitionerRole:practiti
oner
```

```
GET
[base]/PractitionerRole?[parameter=value]&_include=PractitionerRole:organiza
tion
```

```
GET
[base]/PractitionerRole?[parameter=value]&_include=PractitionerRole:location
```

```
GET
[base]/PractitionerRole?[parameter=value]&_include=PractitionerRole:service
```

```
GET
[base]/PractitionerRole?[parameter=value]&_include=PractitionerRole:network
```

Extensions

- NetworkReference
- NewPatients
    - AcceptingPatients
- Qualification
- ViaIntermediary

Search Parameters

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**location**	Select PractitionerRoles	**reference**	GET [base]/PractitionerRole?location=[location]

Conformance	Search Parameter	Definition	Search Parameter Type	Example
		available at the specified location.		
SHALL	**network**	Select roles where the practitioner is a member of the specified health insurance provider network.	**reference**	`GET [base]/PractitionerRole?network=[network]`
SHALL	**organization**	Select PractitionerRoles available at the specified organization.	**reference**	`GET [base]/PractitionerRole?organization=[organization]`
SHALL	**practitioner**	Select roles filled by the specified practitioner.	**reference**	`GET [base]/PractitionerRole?practitioner=[practitioner]`
SHALL	**role**	Select PractitionerRoles with the specified role.	**token**	`GET [base]/PractitionerRole?role=[role]`
SHALL	**service**	Select PractitionerRoles providing the specified service.	**reference**	`GET [base]/PractitionerRole?service=[service]`

Conformance	Search Parameter	Definition	Search Parameter Type	Example
SHALL	**specialty**	Select PractitionerRoles associated with the specified specialty.	**token**	`GET [base]/PractitionerRole?specialty=[specialty]`

Developer Guidelines
Security

Applications shall ensure that member privacy is secured appropriately. This includes the proper storage of keys and data leakage prevention.

Application Behavior

Applications should only access BCBSAL APIs as needed and should not be used for mass batch communication. Applications that abuse the API processes will be blocked/revoked until such time that the behavior is deemed to be legitimate and/or not detrimental to our systems. Any suspected mischievous communication will result in the application being blocked.

Support
BCBSAL will offer the following support consistent with stated government regulations and current operational guidelines.

General support hours
General support hours are available Monday through Friday from 8:00 am to 5:00 pm CST. General support is not provided on company holidays or weekends. General support hours apply to:

- Vendor registration (organization or application)

System monitoring
BCBSAL regularly monitors system operations and responsiveness. The system is expected to be operational 24 hours a day, 7 days a week and 365 days a year, excluding maintenance windows. System functionality support is available 24 hours a day, 7 days a week and 365 days a year for:

- Vendor API Call Receipts and Responses (Support Available every day)

Registration and response times

The system will accept and respond to organizational and application registration submissions from third party application vendors as follows:

Registration type response times

Registration type	Estimated response time
New Vendor Registration	5 business days

Support request response times

Support request	Estimated response time
Vendor Production Support Request	24 business hours

Data feed timeframe

Data	Data feed timeframe
Claims	1 business day from adjudication
Encounter data	1 business day from receipt of encounter
Clinical data	1 business day from receipt of data
Provider directory	30 calendar days of BCBSAL receiving provider directory information OR an update to provider directory information
Pharmacy directory	30 calendar days of BCBSAL receiving provider directory information OR an update to provider directory information

Contact Us

For any question or concerns regarding registering your organization or application please contact **fhirsupport@bcbsal.org**.