



BCBSRI FHIR API — Technical Documentation

HL7 Da Vinci PDex Plan-Net Enhancement

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1. Overview

This document describes the BCBSRI FHIR R4 API, a provider directory service built on the [HL7 Da Vinci PDex Plan-Net Implementation Guide](#). The API exposes BCBSRI's provider network data — practitioners, facilities, specialties, service areas, and insurance plans — as FHIR R4 resources consumable by payers, providers, and CMS-compliant applications.

This API is fully conformant with the Da Vinci PDex Plan-Net STU 1.2 Implementation Guide (<https://hl7.org/fhir/us/davinci-pdex-plan-net/STU1.2/index.html>) and the CMS Technical Implementation Guide for Supplying MA Provider Directory Data for Use in Medicare Plan Finder (February 18, 2026). It exposes BCBSRI's provider network data — practitioners, facilities, specialties, service areas, and insurance plans — as FHIR R4 resources consumable by payers, providers, and CMS-compliant applications.

Supported FHIR Resource Types

| Resource Type | Plan-Net Profile | Description |
|-------------------------|---------------------------------|---|
| HealthcareService | plannet-HealthcareService | Specialty-level services offered by a facility or group |
| Location | plannet-Location | Physical locations where services are rendered |
| Practitioner | plannet-Practitioner | Individual healthcare practitioners |
| PractitionerRole | plannet-PractitionerRole | A practitioner's role, specialty, and affiliation at a location |
| Organization | plannet-Organization | Healthcare organizations (facilities, groups) |
| OrganizationAffiliation | plannet-OrganizationAffiliation | Affiliations between organizations |
| InsurancePlan | plannet-InsurancePlan | Insurance products and plans offered by BCBSRI |
| Network | plannet-Network | Provider networks (e.g., Medicare PPO, commercial networks) |

2. Base URL and Tenant

| Environment | Base URL |
|-------------|---|
| Production | https://transmitapi.goperspecta.com/v2/bcbsri |

All endpoints below are relative to this base. For example:

```
GET https://<host>/v2/bcbsri/HealthcareService
```

3. Common Conventions

3.1 Resource ID Format

Every FHIR resource returned by the API carries a prefixed string ID. The prefix identifies the resource type; the suffix is the internal numeric or composite key.

| Resource | ID Format | Example |
|-------------------------|--|--|
| HealthcareService | healthcareservice- $\{PRPR\}$ - $\{NPI\}$ - $\{SpecId\}$ | healthcareservice-0000825354-103499235630-1397 |
| Location | location- $\{TothPdPyId\}$ | location-98765 |
| Practitioner | practitioner- $\{TothPdPyId\}$ | practitioner-12345 |
| PractitionerRole | practitionerrole- $\{TothPdPyId\}$ - $\{NetworkId\}$ | practitionerrole-12345-7 |
| Organization | organization- $\{TothPdPyId\}$ | organization-11111 |
| OrganizationAffiliation | organizationaffiliation- $\{TothPdPyId\}$ | organizationaffiliation-22222 |
| InsurancePlan | insuranceplan- $\{Id\}$ | insuranceplan-BCB001 |
| Network | network- $\{NetworkId\}$ | network-7 |

Note: Most search parameters that accept an ID (e.g., `_id`, `location`, `organization`) accept either the full prefixed form (`location-98765`) or the raw numeric value (`98765`). The API strips the prefix automatically.

3.2 Response Format

All responses are FHIR R4 JSON Bundles (type `searchset`) unless a direct read is performed (type `resource`).

```
Content-Type: application/fhir+json
```

3.3 Bundle Structure

```
{
  "resourceType": "Bundle",
  "type": "searchset",
  "total": 1423,
  "link": [
    { "relation": "self", "url": "..."},
    { "relation": "next", "url": "...& skip=25"},
    { "relation": "previous", "url": "...&_skip=0"}
  ],
  "entry": [
    {
      "fullUrl": "https://<host>/v2/bcbsri/HealthcareService/healthcareservice-...",
      "resource": { ... },
      "search": { "mode": "match" }
    },
    {
      "fullUrl": "https://<host>/v2/bcbsri/Location/location-...",
      "resource": { ... },
      "search": { "mode": "include" }
    }
  ]
}
```

`search.mode` values:

- `match` — a primary result matching the search criteria
 - `include` — a resource returned via `_include` or `_revinclude`
-

4. FHIR Resource Endpoints

4.1 HealthcareService

Endpoint: GET v2/bcbsri/HealthcareService

Direct Read: GET v2/bcbsri/HealthcareService/{id}

Represents a unique specialty/service grouping offered by a BCBSRI-contracted facility or group provider. Each HealthcareService corresponds to a distinct combination of Provider Number (PRPR), NPI, and Specialty ID.

Specialty coding: Specialty values are emitted as a Coding object with system, code, and display fields correctly populated in coding[0]. The CodeableConcept.text field is not used for specialty on this resource.

FHIR Elements Returned

| FHIR Element | Description | Source |
|------------------|------------------------------------|--|
| id | Resource identifier | healthcareservice-{PRPR}-{NPI}-{SpecId} |
| active | Always true for active providers | Hardcoded |
| meta.lastUpdated | Record last modified date | LastUpdate (DATETIME2) |
| meta.profile | Plan-Net profile URL | http://hl7.org/fhir/us/davinci-pdex-plan-net/StructureDefinition/plannet-HealthcareService |
| name | Facility or group name | ProviderName from DB |
| specialty[] | NUCC taxonomy coding | TaxonomyCode + SpecDes from DB; system: http://nucc.org/provider-taxonomy |
| providedBy | Reference to managing Organization | Organization/organization-{firstTothPdPyId} |
| location[] | References to provider Locations | One Location/location-{TothPdPyId} per provider entity in the group |

Search Parameters

| Parameter | Type | Description | Example |
|--------------|-----------|--|--|
| _id | token | HealthcareService resource ID (with or without prefix) | _id=healthcareservice-0000825354-103499-1397 |
| name | string | Partial name match on facility/provider name | name=Hospital |
| specialty | token | NUCC taxonomy code (exact match) | specialty=207Q00000X |
| location | reference | Filter by TothPdPyId of a Location | location=Location/location-98765 or location=98765 |
| organization | reference | Filter by managing organization (TothPdPyId) | organization=Organization/organization-11111 |
| _lastUpdated | date | Last updated date with operator | _lastUpdated=ge2024-01-01 |
| _summary | token | Return count only (count) | _summary=count |
| _count | number | Page size (default: 25) | _count=10 |
| _skip | number | Number of results to skip (0-based offset) | _skip=25 |

location VS organization: When both are supplied, location takes precedence. Both resolve to a TothPdPyId integer passed as @TothPdPyId.

include Parameters

| Parameter | Returns | Description |
|--|--------------|---|
| _include=HealthcareService:location | Location[] | All provider locations referenced in location[] — resolved via batch call |
| _include=HealthcareService:organization | Organization | The organization referenced in providedBy |
| _include=HealthcareService:coverage-area | Location[] | Coverage area locations referenced in coverageArea[] |

revinclude Parameters

| Parameter | Returns | Description |
|--|---------------------------|---|
| <code>_revinclude=PractitionerRole:service</code> | PractitionerRole[] | PractitionerRoles that reference this HealthcareService |
| <code>_revinclude=OrganizationAffiliation:service</code> | OrganizationAffiliation[] | OrgAffiliations linked to this service's organization |

Example Requests

```
# All HealthcareService resources (paged, 25 per page)
```

```
GET v2/bcbsri/HealthcareService
```

```
# Filter by name, include locations
```

```
GET v2/bcbsri/HealthcareService?name=Hospital&_include=HealthcareService:location
```

```
# Filter by NUCC taxonomy
```

```
GET v2/bcbsri/HealthcareService?specialty=207Q00000X
```

```
# Filter by location (TothPdPyId)
```

```
GET v2/bcbsri/HealthcareService?location=Location/location-98765
```

```
# Count only
```

```
GET v2/bcbsri/HealthcareService?name=Medical&_summary=count
```

```
# Full enriched query
```

```
GET v2/bcbsri/HealthcareService?_id=healthcareservice-  
{id}&_include=HealthcareService:location&_include=HealthcareService:organization&_re  
vinclude=PractitionerRole:service
```

4.2 Location

Endpoint: GET v2/bcbsri/Location

Direct Read: GET v2/bcbsri/Location/{id}

Represents a physical location where BCBSRI-contracted services are rendered. A Location corresponds to one provider entity (`TothPdPyId`) in the Compass database, identified by its physical address, coordinates, and organizational grouping.

Address typing: `address.type` is set to "postal" for addresses beginning with "PO " and "physical" for all other addresses. This mirrors the same rule applied to Organization resources.

Location.type: The `type` element contains only the coding array (system + code). No text field is emitted on Location resources.

Location.partOf: `partOf` points to the physical facility location associated with the provider's billing group (e.g., the hospital building the group is affiliated with). Private practice providers (MS/MX/MO) have no `partOf`. Physical facility location records themselves also have no `partOf`.

FHIR Elements Returned

| FHIR Element | Description | Source |
|-----------------|---------------------|-------------------------------------|
| <code>id</code> | Resource identifier | location- <code>{TothPdPyId}</code> |

| FHIR Element | Description | Source |
|----------------------|------------------------------------|---|
| status | Always active | Hardcoded |
| name | Facility name | Hospital_N |
| address.line[] | Street lines 1 and 2 | Address, Address2 |
| address.city | City | City (defaults to "UNKNOWN" if blank) |
| address.state | State abbreviation | State (defaults to "RI" if blank) |
| address.postalCode | ZIP code | Zip (defaults to "00000" if blank) |
| address.country | Country | Always "US" |
| type[] | Location type coding | Outer_Code: starts with "P" → COMM (Community); else → HOSP (Hospital). System: http://terminology.hl7.org/CodeSystem/v3-RoleCode |
| identifier[NPI] | NPI identifier | NPI column; system: http://hl7.org/fhir/sid/us-mpi |
| telecom[phone] | Work phone | Phone1 |
| telecom[fax] | Fax number | Fax |
| managingOrganization | Reference to managing Organization | First GroupId from GroupAffiliationsJSON → Organization/organization-{GroupId} |
| partOf | Reference to parent Location | First GroupId from GroupAffiliationsJSON → Location/location-{GroupId} |
| position.latitude | WGS84 latitude | Latitude |
| position.longitude | WGS84 longitude | Longitude |
| meta.profile | Plan-Net profile URL | plannet-Location |
| meta.lastUpdated | Record last modified | LastUpdate |

GroupAffiliationsJSON is a JSON array stored in the result ([{"GroupDescription": "...", "GroupId": 12345}]). The first element's GroupId drives both managingOrganization and partOf references.

Search Parameters

| Parameter | Type | Description | Example |
|--------------------|-----------|---|--|
| _id | token | Location resource ID | _id=location-98765 or _id=98765 |
| name | string | Partial match on facility name | name=Hospital |
| address | string | Partial match on address line | address=123 Main |
| address-city | string | City filter | address-city=Providence |
| address-state | string | State abbreviation | address-state=RI |
| address-postalcode | string | ZIP/postal code | address-postalcode=02903 |
| type | token | Location type: HOSP or COMM | type=HOSP |
| organization | reference | Managing organization reference | organization=Organization/organization-11111 |
| partof | reference | Filter by parent (physical facility) location. Returns provider locations affiliated with that facility. Private practice providers are excluded. | partof=Location/location-98765 |
| _lastUpdated | date | Last updated date with operator | _lastUpdated=ge2024-01-01 |
| _summary | token | Return count only | _summary=count |
| _count | number | Page size (default: 25) | _count=10 |
| _skip | number | Offset (0-based) | _skip=25 |

Note: address-state, address-city, and address-postalcode are direct filters on the Location's own address fields. This is distinct from location.state, which is a chained parameter used when filtering PractitionerRole searches by the state of a referenced location.

include Parameters

| Parameter | Returns | Description |
|--------------------------------|--------------|--|
| _include=Location:organization | Organization | The managing organization (managingOrganization) |
| _include=Location:partof | Location | The parent location (partOf) |

reinclude Parameters

| Parameter | Returns | Description |
|--------------------------------------|--------------------|------------------------------------|
| _reinclude=PractitionerRole:location | PractitionerRole[] | PractitionerRoles at this location |

| Parameter | Returns | Description |
|---|--|---|
| <code>_revinclude=OrganizationAffiliation:location</code> | <code>OrganizationAffiliation[]</code> | OrgAffiliations for this location |
| <code>_revinclude=HealthcareService:location</code> | <code>HealthcareService[]</code> | HealthcareServices offered at this location |

Example Requests

```
# All locations
```

```
GET v2/bcbsri/Location
```

```
# Filter by city and type
```

```
GET v2/bcbsri/Location?address-city=Providence&type=HOSP
```

```
# All provider locations affiliated with a physical facility
```

```
GET v2/bcbsri/Location?partof=Location/location-98765
```

```
# Include managing organization
```

```
GET v2/bcbsri/Location?_id=location-98765&_include=Location:organization
```

```
# Full include + revinclude
```

```
GET v2/bcbsri/Location?_id=location-
```

```
98765&_include=Location:organization&_include=Location:partof&_revinclude=PractitionerRole:location&_revinclude=OrganizationAffiliation:location
```

```
# HealthcareService resources for a location
```

```
GET v2/bcbsri/Location?_id=location-98765&_revinclude=HealthcareService:location
```

4.3 Practitioner

Endpoint: GET v2/bcbsri/Practitioner

Direct Read: GET v2/bcbsri/Practitioner/{id}

Represents an individual healthcare practitioner (physician, nurse, allied health professional) contracted with BCBSRI. Each practitioner is identified by a `TothPdPyId` and is sourced from the `Practitioner_Search` stored procedure.

FHIR Elements Returned

| FHIR Element | Description |
|-------------------------------|--|
| <code>id</code> | <code>practitioner-{TothPdPyId}</code> |
| <code>name[]</code> | Practitioner's name (family, given) |
| <code>identifier[NPI]</code> | NPI identifier |
| <code>qualification[]</code> | Credentials and degrees |
| <code>meta.profile</code> | <code>plannet-Practitioner</code> |
| <code>meta.lastUpdated</code> | Record last modified date |

Search Parameters

| Parameter | Type | Description | Example |
|---------------------------|--------|-----------------------------------|---|
| <code>_id</code> | token | Practitioner ID (TothPdPyId) | <code>_id=practitioner-12345</code> or <code>_id=12345</code> |
| <code>name</code> | string | Broad name match (first and last) | <code>name=Smith</code> |
| <code>family</code> | string | Last name | <code>family=Smith</code> |
| <code>given</code> | string | First name | <code>given=John</code> |
| <code>_lastUpdated</code> | date | Last updated date filter | <code>_lastUpdated=ge2024-01-01</code> |
| <code>_summary</code> | token | Count only | <code>_summary=count</code> |
| <code>_count</code> | number | Page size (default: 25) | <code>_count=10</code> |

*When both `family` and `given` are provided, they are sent as separate parameters.
When only `name` is provided, it is used as a broad name search.*

`_reinclude` Parameters

| Parameter | Returns | Description |
|---|--------------------|---|
| <code>_reinclude=PractitionerRole:practitioner</code> | PractitionerRole[] | All PractitionerRoles for this practitioner |

Example Requests

```
# Search by last name
```

```
GET v2/bcbsri/Practitioner?family=Smith
```

```
# Search by full name
```

```
GET v2/bcbsri/Practitioner?family=Smith&given=John
```

```
# Reinclude their roles
```

```
GET v2/bcbsri/Practitioner?_id=practitioner-12345&_reinclude=PractitionerRole:practitioner
```

4.4 PractitionerRole

Endpoint: GET v2/bcbsri/PractitionerRole

Direct Read: GET v2/bcbsri/PractitionerRole/{id}

Represents the role, specialty, and affiliation of a practitioner at a specific organization and location within the BCBSRI network. A single practitioner may have multiple PractitionerRole records across different networks, specialties, or locations.

FHIR Elements Returned

| FHIR Element | Description |
|---|---|
| <code>id</code> | <code>practitionerrole- {TothPdPyId} - {NetworkId}</code> |
| <code>practitioner</code> | Reference: Practitioner/practitioner- {TothPdPyId} |
| <code>organization</code> | Reference: Organization/organization- {TothPdPyId} |
| <code>location[]</code> | References: Location/location- {TothPdPyId} |
| <code>healthcareService[]</code> | Associated HealthcareService references |
| <code>specialty[]</code> | NUCC taxonomy coding |
| <code>extension[network-reference]</code> | Reference to the Network resource |
| <code>meta.profile</code> | <code>plannet-PractitionerRole</code> |
| <code>meta.lastUpdated</code> | Record last modified |

Search Parameters

| Parameter | Type | Description | Example |
|---------------------------|-----------|----------------------------------|---|
| <code>_id</code> | token | PractitionerRole ID | <code>_id=practitionerrole-12345-7</code> |
| <code>practitioner</code> | reference | Filter by Practitioner reference | <code>practitioner=Practitioner/practitioner-12345</code> |
| <code>name</code> | string | Practitioner name search | <code>name=Smith</code> |
| <code>family</code> | string | Practitioner last name | <code>family=Smith</code> |
| <code>given</code> | string | Practitioner first name | <code>given=John</code> |
| <code>role</code> | token | Role code filter | <code>role=<code></code> |
| <code>specialty</code> | token | Specialty code | <code>specialty=207Q00000X</code> |
| <code>organization</code> | reference | Organization reference | <code>organization=Organization/organization-11111</code> |
| <code>location</code> | reference | Location reference | <code>location=Location/location-98765</code> |
| <code>network</code> | token | Network identifier | <code>network=7</code> |
| <code>_lastUpdated</code> | date | Last updated filter | <code>_lastUpdated=ge2024-01-01</code> |
| <code>_count</code> | number | Page size | <code>_count=25</code> |

ID resolution: The `_id` parameter strips both the `practitionerrole-` prefix and an optional trailing `-{NetworkId}` suffix, resolving to the core `TothPdPyId`.

`_include` Parameters

| Parameter | Returns | Description |
|--|---------------------|---|
| <code>_include=PractitionerRole:practitioner</code> | Practitioner | The referenced Practitioner |
| <code>_include=PractitionerRole:organization</code> | Organization | The referenced Organization |
| <code>_include=PractitionerRole:location</code> | Location[] | All referenced Locations |
| <code>_include=PractitionerRole:healthcareservice</code> | HealthcareService[] | All referenced HealthcareServices |
| <code>_include=PractitionerRole:network</code> | Network | The referenced Network (via <code>network-reference</code> extension) |

Example Requests

```
# Search by practitioner name with includes
```

```
GET
```

```
v2/bcbsri/PractitionerRole?family=Smith&_include=PractitionerRole:practitioner&_include=PractitionerRole:location
```

```
# Filter by organization
```

```
GET v2/bcbsri/PractitionerRole?organization=Organization/organization-11111
```

```
# Filter by network
```

```
GET v2/bcbsri/PractitionerRole?network=7
```

4.5 Organization

Endpoint: GET `v2/bcbsri/Organization`

Direct Read: GET `v2/bcbsri/Organization/{id}`

Represents a healthcare organization — a facility, medical group, or corporate entity — contracted with BCBSRI. The Organization resource in this API covers both standard provider organizations and BCBSRI plan networks (the latter handled via a separate Network sub-path when network-specific filters are used).

FHIR Elements Returned

| FHIR Element | Description |
|------------------|--------------------------------|
| id | organization-{TothPdPyId} |
| name | Organization name |
| address[] | Physical address |
| identifier[NPI] | NPI identifier |
| type[] | Organization type coding |
| telecom[] | Phone, fax |
| partOf | Parent organization reference |
| endpoint[] | Associated Endpoint references |
| meta.profile | plannet-Organization |
| meta.lastUpdated | Record last modified |

Search Parameters

| Parameter | Type | Description | Example |
|-------------------------------|-----------|---|------------------------------------|
| _id | token | Organization ID | _id=organization-11111 |
| name | string | Organization name | name=BCBSRI |
| address | string | Address line | address=Providence |
| partOf | reference | Returns child organizations of the referenced parent | partOf=Organization/organization-1 |
| type | token | Organization type: payer (BCBSRI), prvgrp (billing group / PO BOX), fac (physical facility) | type=fac |
| role | token | Role code | role=<code> |
| network | token | Network identifier | network=7 |
| coverage-area | reference | Coverage area Location reference | coverage-area=Location/location-2 |
| coverage-area.address-state | string | Coverage area by state (chained) | coverage-area.address-state=RI |
| coverage-area.address-country | string | Coverage area by country (chained) | coverage-area.address-country=US |
| _lastUpdated | date | Last updated filter | _lastUpdated=ge2024-01-01 |
| _count | number | Page size | _count=25 |

Network mode: When the `_id` is a Network-format ID, `type` is a network type filter, or `coverage-area` is supplied, the server automatically routes the request to the Network (returning Network-flavored Organization resources). `coverage-area` filter behavior: `address-state=RI` → non-MEDICAREPPO networks; `address-country=US` → MEDICAREPPO networks.

_include Parameters

| Parameter | Returns | Description |
|--------------------------------|--------------|----------------------|
| _include=Organization:endpoint | Endpoint[] | Associated endpoints |
| _include=Organization:partof | Organization | Parent organization |

_reinclude Parameters

| Parameter | Returns | Description |
|---|---------------------------|---|
| _reinclude=PractitionerRole:organization | PractitionerRole[] | PractitionerRoles at this org |
| _reinclude=OrganizationAffiliation:primary-organization | OrganizationAffiliation[] | Affiliations for this org |
| _reinclude=OrganizationAffiliation:participating-organization | OrganizationAffiliation[] | Affiliations where this org is the participating organization |

Example Requests

Organization type values: `payer` identifies BCBSRI (the insurance plan organization, `organization-1`); `fac` — physical facility organizations (street address). Individual providers are accessed via `Practitioner` and `PractitionerRole` — not `Organization`. Additionally: `prvgrp` — billing group organizations (those with a PO BOX address). Address typing: `address.type` is "postal" for PO BOX addresses and "physical" for all others. Applies to both `Organization` and `Location` resources.

Filter by name

```
GET v2/bcbsri/Organization?name=BCBSRI
```

```
# Filter by type – physical facility organizations
```

```
GET v2/bcbsri/Organization?type=fac
```

```
# Filter by type – billing group organizations
```

```
GET v2/bcbsri/Organization?type=prvgrp
```

```
# Coverage area – Rhode Island
```

```
GET v2/bcbsri/Organization?coverage-area.address-state=RI
```

```
# Coverage area – National (Medicare PPO)
```

```
GET v2/bcbsri/Organization?coverage-area.address-country=US
```

```
# Include parent organization
```

```
GET v2/bcbsri/Organization?_id=organization-11111&_include=Organization:partof
```

4.6 OrganizationAffiliation

Endpoint: GET v2/bcbsri/OrganizationAffiliation

Direct Read: GET v2/bcbsri/OrganizationAffiliation/{id}

Represents an affiliation relationship between two organizations (e.g., a hospital belonging to a health system, or a medical group participating in a network). This resource supports CMS interoperability requirements for network participation documentation.

Specialty coding: specialty values are emitted as a Coding object with system, code, and display correctly populated in coding[0]. The CodeableConcept.text field is not used for specialty on this resource.

FHIR Elements Returned

| FHIR Element | Description |
|---------------------------|--|
| id | organizationaffiliation-{TothPdPyId} |
| organization | Reference to the primary (parent) organization |
| participatingOrganization | Reference to the participating organization |
| location[] | Location references |
| healthcareService[] | Associated HealthcareService references |
| network[] | Network membership references (via extension) |
| code[] | Affiliation role codes |
| meta.profile | plannet-OrganizationAffiliation |
| meta.lastUpdated | Record last modified |

Search Parameters

Same parameter set as Organization (shared search logic), including _id, name, address, type, role, network, coverage-area, _lastUpdated, _count.

_include Parameters

| Parameter | Returns | Description |
|---|--------------|-----------------------------------|
| _include=OrganizationAffiliation:primary-organization | Organization | The primary (parent) organization |

| Parameter | Returns | Description |
|--|------------|---|
| <code>_include=OrganizationAffiliation:location</code> | Location[] | Referenced locations |
| <code>_include=OrganizationAffiliation:network</code> | Network[] | Referenced networks (extension-based, multiple) |

_reinclude Parameters

| Parameter | Returns | Description |
|--|----------------------|-------------------------------------|
| <code>_reinclude=OrganizationAffiliation:location</code> | (from Location base) | OrgAffiliations at a given location |

Example Requests

```
# All affiliations
```

```
GET v2/bcbsri/OrganizationAffiliation
```

```
# Include primary organization and network
```

```
GET v2/bcbsri/OrganizationAffiliation?_include=OrganizationAffiliation:primary-organization&_include=OrganizationAffiliation:network
```

```
# Reinclude from Location
```

```
GET v2/bcbsri/Location?_id=location-98765&_reinclude=OrganizationAffiliation:location
```

4.7 InsurancePlan

Endpoint: GET v2/bcbsri/InsurancePlan

Direct Read: GET v2/bcbsri/InsurancePlan/{id}

Represents a BCBSRI insurance product or plan (e.g., HMO, PPO, Medicare Advantage, Medicaid). InsurancePlan resources describe what plans are offered, in what geographic area, by which organization, and with what cost-sharing structure.

FHIR Elements Returned

| FHIR Element | Description |
|------------------|--|
| id | insuranceplan-{Id} |
| name | Plan name |
| identifier[] | Plan identifiers |
| type[] | Plan type (HMO, PPO, etc.) |
| ownedBy | Reference to owning Organization (BCBSRI) |
| administeredBy | Reference to administering Organization |
| coverageArea[] | Geographic coverage area Location references |
| network[] | Referenced Network resources |
| plan[] | Plan details (deductibles, cost sharing) |
| meta.profile | plannet-InsurancePlan |
| meta.lastUpdated | Record last modified |

Search Parameters

| Parameter | Type | Description | Example |
|----------------------------|-----------|------------------------|--|
| <code>_id</code> | token | InsurancePlan ID | <code>_id=insuranceplan-BCB001</code> |
| <code>name</code> | string | Plan name | <code>name=Medicare</code> |
| <code>identifier</code> | token | Plan identifier | <code>identifier=BCB001</code> |
| <code>type</code> | token | Plan type code | <code>type=HMO</code> |
| <code>coverage-area</code> | reference | Coverage area Location | <code>coverage-area=Location/location-2</code> |

| Parameter | Type | Description | Example |
|-------------------------------|-----------|------------------------------|---|
| coverage-area.address-state | string | State abbreviation (chained) | coverage-area.address-state=RI |
| coverage-area.address-country | string | Country (chained) | coverage-area.address-country=US |
| administered-by | reference | Administering org ID | administered-by=Organization/organization-1 |
| owned-by | reference | Owning org ID | owned-by=Organization/organization-1 |
| _lastUpdated | date | Last updated filter | _lastUpdated=ge2024-01-01 |
| _count | number | Page size | _count=25 |
| _skip | number | Offset | _skip=25 |

_include Parameters

| Parameter | Returns | Description |
|--|--------------|----------------------------|
| _include=InsurancePlan:administered-by | Organization | Administering organization |
| _include=InsurancePlan:owned-by | Organization | Owning organization |
| _include=InsurancePlan:coverage-area | Location[] | Coverage area locations |

Example Requests

```
# All insurance plans
```

```
GET v2/bcbsri/InsurancePlan
```

```
# Plans covering Rhode Island
```

```
GET v2/bcbsri/InsurancePlan?coverage-area.address-state=RI
```

```
# Medicare plans with administering org
```

```
GET v2/bcbsri/InsurancePlan?name=Medicare&_include=InsurancePlan:administered-by&_include=InsurancePlan:owned-by
```

4.8 Network

Endpoint: GET v2/bcbsri/Organization (network-mode, automatically selected)

Direct Read: GET v2/bcbsri/Organization/{network-id}

Networks are BCBSRI provider networks (e.g., commercial, Medicare PPO). They are represented as Organization resources conforming to the `plannet-Network` profile, accessible via the Organization endpoint with network-specific filters. The server automatically detects network queries based on the ID format or filter parameters.

FHIR Elements Returned

| FHIR Element | Description |
|----------------|---|
| id | network-{NetworkId} |
| name | Network name |
| type[] | ntwk type code |
| partOf | Reference to owning Organization (BCBSRI) |
| coverageArea[] | Geographic coverage area references |
| meta.profile | plannet-Network |

Coverage Area Logic

| Filter | Coverage Area | Networks Returned |
|--------------------------------|------------------------------------|--------------------------|
| coverage-area.address-state=RI | Location/location-2 (Rhode Island) | Non-MEDICAREPPO networks |

| Filter | Coverage Area | Networks Returned |
|-----------------------------------|-----------------------------------|--------------------------|
| coverage-area.address-country=US | Location/location-3 (US national) | MEDICAREPPO network |
| coverage-area=Location/location-2 | Rhode Island | Non-MEDICAREPPO networks |
| coverage-area=Location/location-3 | US national | MEDICAREPPO networks |

Synthetic locations location-1 (BCBSRI HQ), location-2 (RI state), location-3 (US national) are special fixed resources returned directly by the Location without database lookup.

5. `_include` and `_reinclude` Reference

Complete `_include` Matrix

| Search On | <code>_include</code> Value | Returns | Resolved From |
|-------------------------|--|---------------------|---|
| HealthcareService | HealthcareService:location | Location[] | call using all TothPdPyId values from location[] refs across entire result page |
| HealthcareService | HealthcareService:organization | Organization | providedBy reference |
| HealthcareService | HealthcareService:coverage-area | Location[] | coverageArea[] references |
| Location | Location:organization | Organization | managingOrganization reference |
| Location | Location:partof | Location | partOf reference |
| PractitionerRole | PractitionerRole:practitioner | Practitioner | practitioner reference (pre-batched across page) |
| PractitionerRole | PractitionerRole:organization | Organization | organization reference |
| PractitionerRole | PractitionerRole:location | Location[] | location[] references |
| PractitionerRole | PractitionerRole:healthcareservice | HealthcareService[] | healthcareService[] references |
| PractitionerRole | PractitionerRole:network | Network | extension[network-reference] |
| Organization | Organization:endpoint | Endpoint[] | endpoint[] references |
| Organization | Organization:partof | Organization | partOf reference |
| OrganizationAffiliation | OrganizationAffiliation:primary-organization | Organization | organization reference |
| OrganizationAffiliation | OrganizationAffiliation:location | Location[] | location[] references |
| OrganizationAffiliation | OrganizationAffiliation:network | Network[] | extension[network-reference] (all entries) |
| InsurancePlan | InsurancePlan:administered-by | Organization | administeredBy reference |
| InsurancePlan | InsurancePlan:owned-by | Organization | ownedBy reference |
| InsurancePlan | InsurancePlan:coverage-area | Location[] | coverageArea[] references |

Complete `_reinclude` Matrix

| Base Resource | <code>_reinclude</code> Value | Returns | How Resolved |
|-------------------|----------------------------------|---------------------------|--|
| Practitioner | PractitionerRole:practitioner | PractitionerRole[] | call with Practitioner TothPdPyId |
| Organization | PractitionerRole:organization | PractitionerRole[] | call with Organization ID |
| Location | PractitionerRole:location | PractitionerRole[] | call with Location TothPdPyId |
| HealthcareService | PractitionerRole:service | PractitionerRole[] | call with TothPdPyIds from HealthcareService.Location refs |
| Location | OrganizationAffiliation:location | OrganizationAffiliation[] | call with Location TothPdPyId |
| HealthcareService | OrganizationAffiliation:service | OrganizationAffiliation[] | call with first TothPdPyId from HealthcareService |
| Location | HealthcareService:location | HealthcareService[] | HealthcareService call with @TothPdPyId from Location ID |

Batching Optimization

For `HealthcareService:location` and `PractitionerRole:practitioner` (when used as `_include`), the server employs a **page-level pre-batch pattern**:

1. After fetching the primary result page (e.g., 25 `HealthcareService` records), all referenced `TothPdPyId`

- values are collected from every resource on the page.
- 2. A single call is made with all IDs in one batch request.
- 3. The results are indexed by ID and dispatched to each resource without additional database calls.

6. Pagination

All list endpoints support standard FHIR pagination parameters.

| Parameter | Description | Default |
|---------------------|--|---------|
| <code>_count</code> | Number of results per page | 25 |
| <code>_skip</code> | Number of results to skip (0-based offset) | 0 |

The response Bundle includes navigation links:

```
"link": [
  { "relation": "self", "url": "...?_count=25&_skip=0" },
  { "relation": "next", "url": "...?_count=25&_skip=25" },
  { "relation": "previous", "url": "...?_count=25&_skip=0" }
]
```

`next` is omitted when the current page is the last page.

`previous` is omitted when `_skip` is 0.

Bundle.total reflects the total number of matching resources across all pages.

7. Date Filter Operators

The `_lastUpdated` parameter supports ISO 8601 dates with FHIR comparison prefixes:

| Prefix | Meaning | Example |
|---------------------------|-----------------------|--|
| <code>eq</code> (default) | Equal to | <code>_lastUpdated=eq2024-06-15</code> |
| <code>gt</code> | Greater than (after) | <code>_lastUpdated=gt2024-01-01</code> |
| <code>ge</code> | Greater than or equal | <code>_lastUpdated=ge2024-01-01</code> |
| <code>lt</code> | Less than (before) | <code>_lastUpdated=lt2025-01-01</code> |
| <code>le</code> | Less than or equal | <code>_lastUpdated=le2025-01-01</code> |

Range example (records updated in 2024):

```
GET /bcbsri/Location?_lastUpdated=ge2024-01-01&_lastUpdated=le2024-12-31
```

8. FHIR Resource Profiles and ID Formats

All resources conform to the [Da Vinci PDex Plan-Net STU 1.2 Implementation Guide](#).

Profile URLs

| Resource | Profile URL |
|-------------------|---|
| HealthcareService | http://hl7.org/fhir/us/davinci-pdex-plan-net/StructureDefinition/plannet-HealthcareService |
| Location | http://hl7.org/fhir/us/davinci-pdex-plan-net/StructureDefinition/plannet- |

| Resource | Profile URL |
|-------------------------|---|
| | Location |
| Practitioner | http://hl7.org/fhir/us/davinci-pdex-plan-net/StructureDefinition/plannet-Practitioner |
| PractitionerRole | http://hl7.org/fhir/us/davinci-pdex-plan-net/StructureDefinition/plannet-PractitionerRole |
| Organization | http://hl7.org/fhir/us/davinci-pdex-plan-net/StructureDefinition/plannet-Organization |
| OrganizationAffiliation | http://hl7.org/fhir/us/davinci-pdex-plan-net/StructureDefinition/plannet-OrganizationAffiliation |
| InsurancePlan | http://hl7.org/fhir/us/davinci-pdex-plan-net/StructureDefinition/plannet-InsurancePlan |
| Network | http://hl7.org/fhir/us/davinci-pdex-plan-net/StructureDefinition/plannet-Network |

Identifier Systems

| Identifier | System URL |
|-----------------------------|---|
| NPI | http://hl7.org/fhir/sid/us-npi |
| NUCC Taxonomy | http://nucc.org/provider-taxonomy |
| Location Type | http://terminology.hl7.org/CodeSystem/v3-RoleCode |
| Network Reference Extension | http://hl7.org/fhir/us/davinci-pdex-plan-net/StructureDefinition/network-reference |

Synthetic Locations

Three fixed Location resources are provided without database lookup:

| ID | Name | Represents |
|------------|---------------------|-------------------------------------|
| location-1 | BCBSRI Headquarters | BCBSRI corporate address |
| location-2 | Rhode Island | State of Rhode Island coverage area |
| location-3 | United States | National (US) coverage area |

These are referenced by InsurancePlan and Network resources for coverage area declarations.

9. Conformance and Validation

This API is fully conformant with the following specifications:

| Standard | Reference |
|--|---|
| Da Vinci PDex Plan-Net STU 1.2 Implementation Guide | https://hl7.org/fhir/us/davinci-pdex-plan-net/STU1.2/index.html |
| CMS MA Provider Directory Technical Implementation Guide (February 18, 2026) | Medicare Plan Finder (MPF) Provider Directory data submission requirements |

MPF Field Mapping

The following fields required by the CMS MPF Technical Implementation Guide are fully implemented and mapped across FHIR resources:

| MPF Requirement | FHIR Resource Path |
|-------------------|---|
| NPI | Practitioner.identifier[us-npi], Organization.identifier[us-npi] |
| Practitioner name | Practitioner.name (family, given, prefix, suffix, text) |
| Phone number | PractitionerRole.telecom[phone], Practitioner.telecom[phone] |
| Location address | Location.address (line, city, state, postalCode) |
| Specialty (NUCC) | PractitionerRole.specialty.coding, |

| | |
|------------------------|---|
| | OrganizationAffiliation.specialty.coding |
| Accepting new patients | PractitionerRole.extension[newpatients] |
| Network reference | PractitionerRole.extension[network-reference] |
| MA Plan identifier | InsurancePlan.identifier[cms.gov/medicare/ma-plan-id] |
| Contract year | InsurancePlan.period |
| Network-plan linkage | InsurancePlan.network |
| Facility name | Organization.name |
| Facility type (NUCC) | Organization.type.coding[nucc] |
| OrgAffiliation network | OrganizationAffiliation.network |
| Last updated | *.meta.lastUpdated (all resource types) |

All FHIR resources produced by this API have been validated against the Da Vinci PDex Plan-Net STU 1.2 profiles using the official HL7 FHIR Validator. Validation covers the following resource types:

Organization (plannet-Organization and plannet-Network)

Location (plannet-Location)

Practitioner (plannet-Practitioner)

PractitionerRole (plannet-PractitionerRole)

OrganizationAffiliation (plannet-OrganizationAffiliation)

HealthcareService (plannet-HealthcareService)

InsurancePlan (plannet-InsurancePlan)

The validator is run against the published STU 1.2 package ([hl7.fhir.us.davinci-pdex-plan-net#1.2.0](https://hl7.org/fhir/us/davinci-pdex-plan-net/1.2.0)). All Must Support elements are populated where data is available. Resources with validation warnings are reviewed and accepted only where the IG explicitly permits flexibility.

Validator Reference: HL7 FHIR Validator — <https://validator.fhir.org>

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