INTRODUCTION
What is 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.

• Drug formularies are developed based on the efficacy, safety and cost of drugs.
CMS Interoperability and Patient Access Final Rule

- Drug formularies are part of the Patient Access API required by the CMS Interoperability and Patient Access Final Rule
  - Medicare Advantage prescription drug plans must make formulary information available via the Patient Access API
  - Medicaid and CHIP FFS and managed care must make preferred drug lists available
  - Enforced July 1, 2021:
    - Medicare Advantage organizations, state Medicaid and Children’s Health Insurance Program (CHIP) fee-for-service (FFS), Medicaid managed care plans, and CHIP managed care entities, or plan years beginning on or after January 1, 2021 for Qualified Health Plans (QHPs) on the Federally-facilitated exchanges (FFEs)
CMS Interoperability and Patient Access Final Rule (continued)

- CMS is strongly encouraging the use of the Da Vinci Formulary Implementation Guide as one way to meet the drug formulary API requirement

- **Objective:** Enable consumers/members/patients to understand the costs and alternatives for drugs that have been prescribed, and to compare their drug costs across different insurance plans
Implementation Guide Resources

• FHIR Shorthand to build Implementation Guide (IG)
  – https://github.com/HL7/davinci-pdex-formulary

• Implementation Guide (v1.2.0 STU2 Ballot):

• Zulip Stream:
  – https://chat.fhir.org/#narrow/stream/197730-Da-Vinci.20P Dex.20Drug.20Formulary/topic/Connectathon.20Ongoing

• All Info on HL7 Connectathon Confluence Page and ConMan:
Medication Copays under Current Health Plan as Authenticated Member

Outside scope of this IG

What are my Medications?

Medication1, Medication2, Medication3
RxNorm Codes

Tell me about:
Medication1, Medication2, Medication3

Info about:
Medication1, Medication2, Medication3

Within scope of this IG
Authenticated Member Scenarios

**Authenticated Query from Client:**
GET [base]/List?identifier=<planID>

<table>
<thead>
<tr>
<th>Situation</th>
<th>PlanID specified</th>
<th>PlanID not specified (shopping)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No plan available</td>
<td>Zero plans returned (200)</td>
<td>Zero plans returned (200)</td>
</tr>
<tr>
<td>No plan selected/no group</td>
<td>Zero plans returned</td>
<td>Bundle of available individual CoveragePlans</td>
</tr>
<tr>
<td>No plan selected/in group</td>
<td>Zero plans returned</td>
<td>Bundle of available group CoveragePlans</td>
</tr>
<tr>
<td>Plan selected/no group</td>
<td>If PlanID matches selected plan, return CoveragePlan, otherwise zero plans returned</td>
<td>Zero plans returned</td>
</tr>
<tr>
<td>Plan selected/in group</td>
<td>If PlanID matches selected plan, return CoveragePlan, otherwise zero plans returned</td>
<td>Bundle of available group CoveragePlans. If no plans available, zero plans returned.</td>
</tr>
</tbody>
</table>

Once CoveragePlan(s) are retrieved, client application can retrieve the formulary for each CoveragePlan:
GET [base]/MedicationKnowledge?drug-plan=<planID>

...or query across plans for coverage for a specific drug:
GET [base]/MedicationKnowledge?code=<drugCode>
Shopping for Health Plans

Mobile app compares health plans across multiple data sources on behalf of patient/consumer.

<table>
<thead>
<tr>
<th>Plan Comparison</th>
<th>Plan A</th>
<th>Plan B</th>
<th>Plan C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium</td>
<td>$100</td>
<td>$200</td>
<td>$150</td>
</tr>
<tr>
<td>Copy</td>
<td>$600</td>
<td>$800</td>
<td>$100</td>
</tr>
</tbody>
</table>

Outside scope of this IG

- What are my Medications?
- Tell me about Payer Endpoints
- Tell me about Coverage Plans (iterative)
- Tell me about my Meds (iterative)

Within scope of this IG

Electronic Health Record

Payer Endpoint Directory

Formulary Services

* This use case is not required by the Patient Access API Rule
STU1 Structure
Based on CMS QHP Data Model

Note: These will differ for same drug (by RxNorm code) in different plans.

Note: These fields are not present in the QHP Formulary model upon which this IG is based.

Notes:
1) The Drug Plan ID is mapped to the List identifier field and to the DrugPlanID extension of each FormularyDrug associated with the plan.
2) All FormularyDrugs associated with a Plan should be referenced with a List entry.
3) If a particular drug appears in multiple formularies, it will have multiple FormularyDrug instances. The red-highlighted fields in the FormularyDrug may vary from plan to plan.
4) DrugClass is mapped to MedicationKnowledge.medicineClassification.
5) DrugAlternatives is an array of references to FormularyDrugs associated with the same DrugPlan.
## Scaling STU1

### Payer Plan 1

<table>
<thead>
<tr>
<th>Drug Tier</th>
<th>Generic</th>
<th>Pharmacy Type</th>
<th>In 1 month retail</th>
<th>Copay</th>
<th>Coinsurance</th>
<th>Pharmacy Type</th>
<th>Out 1 month retail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Payer Plan 2

<table>
<thead>
<tr>
<th>Drug Tier</th>
<th>Generic</th>
<th>Pharmacy Type</th>
<th>In 1 month retail</th>
<th>Copay</th>
<th>Coinsurance</th>
<th>Pharmacy Type</th>
<th>Out 1 month retail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Payer Plan 3

<table>
<thead>
<tr>
<th>Drug Tier</th>
<th>Generic</th>
<th>Pharmacy Type</th>
<th>In 1 month retail</th>
<th>Copay</th>
<th>Coinsurance</th>
<th>Pharmacy Type</th>
<th>Out 1 month retail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**PBM**

- CoveragePlan: List
- FormularyDrug
- Prior Auth
- Step Therapy
- Quantity Limit
- In 1 month retail
- Out 1 month retail
- In 1 month mail
- Out 1 month mail

**Notes:**

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- © 2019 Health Level Seven ® International. Licensed under Creative Commons Attribution 4.0 International.
FormularyItem: Basic
- code: CodeableConcept [formulary-item]
- subject: Reference(FormularyDrug)
- Formulary: Extension [Reference(Formulary)]
- drugTier: Extension [CodeableConcept]
- priorAuthorization: Extension [boolean]
- quantityLimit: Extension [boolean]
- stepTherapyLimit: Extension [boolean]
- status: Extension [CodeableConcept [active/inactive]]
- period: Extension [Period]
- pharmacyType: Extension [CodeableConcept]

FormularyDrug
- 1..1 CodeableConcept [code]
- 1..1 CodeableConcept DrugTier (complex extension)
- 1..1 String DrugPlanID (extension)
- 0..1 Boolean PriorAuthorization (extension)
- 0..1 Boolean StepTherapy (extension)
- 0..1 Boolean QuantityLimit (extension)
- 0..* DrugClass (medicineClassification)
- 0..* DrugAlternatives (extension)

FormularyDrug: MedicationKnowledge
- code: CodeableConcept [RxNorm]
- status: code
doseForm: CodeableConcept
- synonym
  + relatedMedicationKnowledge:
    - type: CodeableConcept [alternative]
    - reference: Reference(FormularyDrug)
  + medicineClassification
    - type: CodeableConcept
classification: CodeableConcept
What is FormularyItem?

• FormularyItem provides details regarding how an insurance drug plan covers a particular medication
  – Conditions of coverage
    • Prior Authorization Required
    • Step Therapy Required
  – Limitations of coverage
    • Quantity Limits
  – Cost Share classification
    • Pharmacy Network Availability
    • Drug Tier
### Implementation Guide Profiles

<table>
<thead>
<tr>
<th>Profile</th>
<th>Based On</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payer Insurance Plan</td>
<td>InsurancePlan (FHIR R4)</td>
<td>Defines the top-level package of health insurance coverage benefits that are offered. A given payer’s products typically differ by network type and/or covered benefits. A plan pairs a product’s covered benefits with the particular cost sharing structure offered to a consumer. A given product may comprise multiple sub-plans including a Drug Plan</td>
</tr>
<tr>
<td>Formulary</td>
<td>InsurancePlan (FHIR R4)</td>
<td>Provides general information about a formulary and acts as an organizing construct that associated FormularyItem resources point to. The Formulary combined with its associated FormularyItem and FormularyDrug resources represent a formulary list that includes the set of drugs covered and the requirements and limitations of the coverage.</td>
</tr>
</tbody>
</table>
### Implementation Guide Profiles (continued)

<table>
<thead>
<tr>
<th>Profile</th>
<th>Based On</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Insurance Plan Location</strong></td>
<td>Location (FHIR R4)</td>
<td>A Location describing a geographic region or area where the insurance plan coverage is available.</td>
</tr>
<tr>
<td><strong>Formulary Drug</strong></td>
<td>MedicationKnowledge (FHIR R4)</td>
<td>Drug information which may be part of a formulary including its RxNorm code, synonyms, and optionally drug classification and alternatives.</td>
</tr>
<tr>
<td><strong>Formulary Item</strong></td>
<td>Basic (FHIR R4)</td>
<td>Describes a drug's relationship to a drug plan, including drug tier, prior authorization requirements, and more. The set of FormularyItem resources associated with a particular drug plan represents the drug plans formulary.</td>
</tr>
</tbody>
</table>
Required Resources and Data Elements

• All profiles in the IG are required (SHALL)

• Best effort has been made to align with current Payer formulary content.

• Min Cardinality $\geq 1$ elements and Must Support (MS) data elements ensure compliance with CMS rule.
Required Terminologies

• No licensed terminologies

• Several value sets based on RxNorm

• All value sets supported by HL7 Terminologies or defined within IG
Core FHIR Technologies

• RESTful operations
  – GET (Retrieve, Search)

• Resources (Profile)
  – InsurancePlan (PayerInsurancePlan, InsuranceDrugPlan)
  – Basic (FormularyItem)
  – MedicationKnowledge (FormularyDrug)
## Required Search Capabilities

InsurancePlan (PayerInsurancePlan, InsuranceDrugPlan)

<table>
<thead>
<tr>
<th>Conformance</th>
<th>Parameter</th>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHALL</td>
<td>_id</td>
<td>token</td>
<td>GET [base]/InsurancePlan?_id=[id]</td>
</tr>
<tr>
<td>SHALL</td>
<td>identifier</td>
<td>token</td>
<td>GET [base]/InsurancePlan?identifier=[system]</td>
</tr>
<tr>
<td>SHALL</td>
<td>status</td>
<td>token</td>
<td>GET [base]/InsurancePlan?status=[status]</td>
</tr>
<tr>
<td>SHALL</td>
<td>type</td>
<td>reference</td>
<td>GET [base]/InsurancePlan?type=[type]</td>
</tr>
<tr>
<td>SHALL</td>
<td>name</td>
<td>string</td>
<td>GET [base]/InsurancePlan?name=[name]</td>
</tr>
</tbody>
</table>

These search parameters can be used in any combination.
### Required Search Capabilities
*(continued)*

#### Basic (FormularyItem)

<table>
<thead>
<tr>
<th>Conformance</th>
<th>Parameter</th>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHALL</td>
<td><em>id</em></td>
<td>token</td>
<td>GET [base]/Basic?_id=[id]</td>
</tr>
<tr>
<td>SHALL</td>
<td>subject</td>
<td>token</td>
<td>GET [base]/Basic?subject:MedicationKnowledge.code=[subject]</td>
</tr>
<tr>
<td>SHALL</td>
<td>drug-plan</td>
<td>reference</td>
<td>GET [base]/Basic?drug-plan=[drug-plan]</td>
</tr>
<tr>
<td>SHALL</td>
<td>drug-tier</td>
<td>token</td>
<td>GET [base]/Basic?drug-tier=[system][code]</td>
</tr>
<tr>
<td>SHALL</td>
<td>pharmacy-type</td>
<td>token</td>
<td>GET [base]/Basic?pharmacy-type=[pharmacy-type]</td>
</tr>
</tbody>
</table>

These search parameters can be used in any combination.
MedicationKnowledge (FormularyDrug)

<table>
<thead>
<tr>
<th>Conformance</th>
<th>Parameter</th>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHALL</td>
<td>drug-name</td>
<td>string</td>
<td>GET [base]/MedicationKnowledge?drug-name=[drug-name]</td>
</tr>
<tr>
<td>SHALL</td>
<td>drug-tier</td>
<td>token</td>
<td>GET [base]/MedicationKnowledge?drug-tier=[system]</td>
</tr>
<tr>
<td>SHALL</td>
<td>code</td>
<td>token</td>
<td>GET [base]/MedicationKnowledge?code=[system]</td>
</tr>
<tr>
<td>SHALL</td>
<td>_id</td>
<td>token</td>
<td>GET [base]/MedicationKnowledge?_id=[id]</td>
</tr>
</tbody>
</table>

These search parameters can be used in any combination.
REFERENCE IMPLEMENTATION
BREAK: RETURNING AT 10:35 CT
Open Source!

- Apache 2.0 License
  - Permissive license that protects trademarks
- Server uses the HAPI FHIR Server (Java)
  - [https://github.com/HL7-DaVinci/drug-formulary-ri](https://github.com/HL7-DaVinci/drug-formulary-ri)
- Client is a Ruby on Rails application
  - [https://github.com/HL7-DaVinci/pdex-formulary-client](https://github.com/HL7-DaVinci/pdex-formulary-client)
- Sample Data:
  - [https://github.com/HL7-DaVinci/pdex-formulary-sample-data](https://github.com/HL7-DaVinci/pdex-formulary-sample-data)
Client (Ruby on Rails)

fhir_client Gem (Ruby on Rails)

Authorization Server

Identities

Smart on FHIR

Sample Data

HAPI FHIR Server (Java)

Formulary IG
Hosted Instances

• Server
  – https://davinci-drug-formulary-ri.logicahealth.org/fhir

• Client
  – https://pdex-formular-client.herokuapp.com/
REFERENCE IMPLEMENTATION DEMO
TESTING RESOURCES
Testing with Touchstone

Smart on FHIR

Aegis Client
Test Configuration

Authorization Server
Identities

Smart on FHIR

HAPI FHIR Server (Java)
Sample Data

Formulary IG
Conformance Statements

HTTP 200 OK
Response Headers

Response Body

```json
{
  "resourceType": "CapabilityStatement",
  "title": "Da Vinci II Drug Formulary Reference Implementation",
  "status": "draft",
  "experimental": true,
  "date": "2019-09-05T00:00:00+00:00",
  "publisher": "Da Vinci",
  "kind": "instance",
  "software": {
    "name": "https://github.com/HL7-DaVinci/DaVinci-formulary-iR",
    "implementation": {
      "description": "Da Vinci Drug Formulary Reference Server",
      "url": "https://dev.hl7.org/davinci-formulary-iR.logicaHealth.org/fhir/",
      "version": "4.0.0",
      "software": {
        "application/fhir+xml",
        "application/fhir+json"
      },
      "ImplementationGuide": {
        "url": "https://build.fhir.org/ig/HL7/davinci-pdex-formulary/index.html",
      }
    },
    "mode": "server",
    "resource": {
      "extension": [
        {
          "valueDecimal": "1.0"
        }
      ],
      "type": "CodeSystem",
      "profile": "https://hl7.org/fhir/StructureDefinition/Codesystem",
      "interaction": {
        "code": "history-instance"
      }
    }
  }
}
```
Available Tests
Example Test Setup

Test Setup

Name *
FHRSandbox-DaVinci-FHIR4-0-1-Formulary--All

Test System supports 'FHIR 4.0.0' while test script is testing for 'FHIR 4.0.1'. You may encounter unexpected test results.

Destination (FHIR-Server) *
Da Vinci - DrugFormulary - FHIR 4.0.0

Validator *
FHIR 4.0.1

Populate Repeated Variables: Your Test Setup has multiple tests using the same named variable. If desired, select variables and enter a value to populate the variable value for all instances across the Test Setup.

| drugCode | 100041 |
| drugTier | zero-cost-share-preventative |
| coverageplanIdentifier | 10207VR080001 |
| coverageplanId | 10207VR080001 |

Delete Test Script Version Description Tests

✓ /FHRSandbox/DaVinci/FHIR4-0-1-Formulary/00-Capability/dv-formulary-r4-00-capability-json 1 Da Vinci - Formulary - FHIR R4 - 00 Capability - test a single server to verify support for the capabilities 'interaction: HTTP GET metastats' and the return of a valid CapabilityStatement resource supporting the required Da Vinci Formulary IG operations using JSON syntax. 2

✓ /FHRSandbox/DaVinci/FHIR4-0-1-Formulary/00-Capability/dv-formulary-r4-00-capability-xml 1 Da Vinci - Formulary - FHIR R4 - 00 Capability - test a single server to verify support for the capabilities 'interaction: HTTP GET metastats' and the return of a valid CapabilityStatement resource supporting the required Da Vinci Formulary IG operations using XML syntax. 2

✓ /FHRSandbox/DaVinci/FHIR4-0-1-Formulary/01-Query/dr-pdex-r4-04-Formulary-01-Query-01-all-plans.json 1 Search for All Coverage Plans. Validate the response against the PDex Coverage Plan Profile. 1

### Test Execution

**Exec Id:** 20210707174741633950422  
**Start Time:** 07/07/2021 02:47:41PM  
**End Time:** 07/07/2021 02:50:41PM  
**Status:** Failed  
**Duration:** 3m  
**Test Scripts:** 14

### Results

**Test Setup:** FHIRSandbox-DaVinci-FHIR4-0-1-Formulary-AI  
**Executed By:** Corey Spears (MITRE)  
**Organization:** Da Vinci  
**Origin:** -  
**Destination:** Da Vinci - DrugFormulary [https://davinci-drug-formulary-ri.logicalhealth.org/fhir](https://davinci-drug-formulary-ri.logicalhealth.org/fhir)  
**Validator:** FHIR 4.0.1

<table>
<thead>
<tr>
<th>Test</th>
<th>Passes</th>
<th>Failures</th>
<th>Skipped</th>
<th>Running</th>
<th>Waiting</th>
<th>Not Started</th>
<th>Success Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>12</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>75%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Script</th>
<th>Version</th>
<th>Latest</th>
<th>Description</th>
<th>Origin</th>
<th>Status</th>
<th>Start</th>
<th>End</th>
<th>Duration</th>
<th>Passed</th>
<th>Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>/FHIRSandbox/DaVinci/FHIR4-0-1-Formulary/00-Capability/dv-formulary-r4-00-capability-json</td>
<td>1</td>
<td>1</td>
<td>Da Vinci - Formulary - FHIR R4 - 00 Capability - test a single server to verify support for the capabilities interaction 'HTTP GET metadata' and the return of a valid CapabilityStatement resource supporting the required Da Vinci Formulary IG operations using JSON syntax.</td>
<td>TouchstoneFHIR</td>
<td>Failed</td>
<td>07/07/2021 02:47:41PM</td>
<td>07/07/2021 02:47:48PM</td>
<td>7.032s</td>
<td>0 of 2</td>
<td></td>
</tr>
<tr>
<td>/FHIRSandbox/DaVinci/FHIR4-0-1-Formulary/00-Capability/dv-formulary-r4-00-capability-xml</td>
<td>1</td>
<td>1</td>
<td>Da Vinci - Formulary - FHIR R4 - 00 Capability - test a single server to verify support for the capabilities interaction 'HTTP GET metadata' and the return of a valid CapabilityStatement resource supporting the required Da Vinci Formulary IG operations using XML syntax.</td>
<td>TouchstoneFHIR</td>
<td>Failed</td>
<td>07/07/2021 02:47:48PM</td>
<td>07/07/2021 02:47:55PM</td>
<td>6.452s</td>
<td>0 of 2</td>
<td></td>
</tr>
<tr>
<td>/FHIRSandbox/DaVinci/FHIR4-0-1-Formulary/01-Query/dv-pdex-r4-04-Formulary-01-Query-01-All-Plans-json</td>
<td>1</td>
<td>1</td>
<td>Search for All Coverage Plans. Validate the response against the PDex Coverage Plan Profile.</td>
<td>AEGIS.net, Inc. - TouchstoneFHIR - touchstone.aegis.net</td>
<td>Passed</td>
<td>07/07/2021 02:47:55PM</td>
<td>07/07/2021 02:48:23PM</td>
<td>28.496s</td>
<td>1 of 1</td>
<td></td>
</tr>
<tr>
<td>/FHIRSandbox/DaVinci/FHIR4-0-1-Formulary/01-Query/dv-pdex-r4-04-Formulary-01-Query-01-All-Plans-xml</td>
<td>1</td>
<td>1</td>
<td>Search for Coverage Plans. Validate the response against the PDex Coverage Plan Profile.</td>
<td>AEGIS.net, Inc. - TouchstoneFHIR - touchstone.aegis.net</td>
<td>Passed</td>
<td>07/07/2021 02:48:24PM</td>
<td>07/07/2021 02:48:52PM</td>
<td>28.703s</td>
<td>1 of 1</td>
<td></td>
</tr>
</tbody>
</table>
## Debugging A Failure

### Tests

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Description</th>
<th>Status</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test: Capability</td>
<td>Test the HTTP GET metadata capabilities operation with HTTP Header Accept set to JSON format. The expected response content is a valid CapabilityStatement resource supporting the required Da Vinci Formulary IG operations using JSON syntax.</td>
<td>Failed</td>
<td>0.262s</td>
</tr>
<tr>
<td>Test: Requirements</td>
<td>Introspect the CapabilityStatement to assert the contents support the Da Vinci Formulary IG resources, operations, and required search parameters.</td>
<td>Failed</td>
<td>0.256s</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
<th>Status</th>
<th>Duration</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assert</td>
<td>CapabilityStatement.format.select()this contains ['json'].exists()</td>
<td>✓</td>
<td>0.003s</td>
<td>Description: SHALL Support json&lt;br&gt;Definition: ...</td>
</tr>
<tr>
<td>Assert</td>
<td>CapabilityStatement.format.select()this contains ['xml'].exists()</td>
<td>✓</td>
<td>0.005s</td>
<td>Description: SHOULD Support xml&lt;br&gt;Definition: ...</td>
</tr>
<tr>
<td>Assert</td>
<td>CapabilityStatement.rest.resource.where(type = 'List').supportedProfile contains '<a href="http://hl7.org/fhir/us/davinci-drug-formulary/StructureDefinition/usdf-CoveragePlan">http://hl7.org/fhir/us/davinci-drug-formulary/StructureDefinition/usdf-CoveragePlan</a>'</td>
<td>✓</td>
<td>0.003s</td>
<td>The expression &quot;CapabilityStatement.rest.resource.where(type = 'List').supportedProfile contains '<a href="http://hl7.org/fhir/us/davinci-drug-formulary/StructureDefinition/usdf-CoveragePlan">http://hl7.org/fhir/us/davinci-drug-formulary/StructureDefinition/usdf-CoveragePlan</a>'&quot; evaluated to false in response.&lt;br&gt;Description: SHALL Support CoveragePlan&lt;br&gt;Definition: ...</td>
</tr>
<tr>
<td>Assert</td>
<td>CapabilityStatement.rest.resource.where(type = 'MedicationKnowledge').supportedProfile contains '<a href="http://hl7.org/fhir/us/davinci-drug-formulary/StructureDefinition/usdf-FormularyDrug">http://hl7.org/fhir/us/davinci-drug-formulary/StructureDefinition/usdf-FormularyDrug</a>'</td>
<td>False</td>
<td>0.003s</td>
<td>The expression &quot;CapabilityStatement.rest.resource.where(type = 'MedicationKnowledge').supportedProfile contains '<a href="http://hl7.org/fhir/us/davinci-drug-formulary/StructureDefinition/usdf-FormularyDrug">http://hl7.org/fhir/us/davinci-drug-formulary/StructureDefinition/usdf-FormularyDrug</a>'&quot; evaluated to false in response.&lt;br&gt;Description: SHALL Support FormularyDrug&lt;br&gt;Definition: ...</td>
</tr>
<tr>
<td>Assert</td>
<td>CapabilityStatement.rest.resource.where(type = 'List').interaction.code contains 'search-type'</td>
<td>✓</td>
<td>0.005s</td>
<td>Description: SHALL Support search-type for CoveragePlan&lt;br&gt;Definition: ...</td>
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Test Execution

Exec Id: 202107211108559593090384
Start Time: 07/21/2021 08:08:55AM
End Time: 07/21/2021 08:11:59AM
Status: Passed
Duration: 3m 3s
Test Scripts: 14

Test Script Execution

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<th>Test Script Execution</th>
<th>Version</th>
<th>Latest</th>
<th>Description</th>
<th>Origin</th>
<th>Status</th>
<th>Start</th>
<th>End</th>
<th>Duration</th>
<th>Passed</th>
<th>Tests</th>
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<tr>
<td>/FHIRSandbox/DaVinci/FHIR4-0-1-Formulary-00-Capability/dv-formulary-r4-00-capability.json</td>
<td>1</td>
<td>1</td>
<td>Da Vinci - Formulary - FHIR R4 - 00 Capability - test a single server to verify support for the capabilities interaction 'HTTP GET metadata' and the return of a valid CapabilityStatement resource supporting the required Da Vinci Formulary IG operations using JSON syntax.</td>
<td>TouchstoneFHIR</td>
<td>Passed</td>
<td>07/21/2021 09:08:56AM</td>
<td>07/21/2021 08:09:03AM</td>
<td>7.648s</td>
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<td>/FHIRSandbox/DaVinci/FHIR4-0-1-Formulary-00-Capability/dv-formulary-r4-00-capability.xml</td>
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<td>1</td>
<td>Da Vinci - Formulary - FHIR R4 - 00 Capability - test a single server to verify support for the capabilities interaction 'HTTP GET metadata' and the return of a valid CapabilityStatement resource supporting the required Da Vinci Formulary IG operations using XML syntax.</td>
<td>TouchstoneFHIR</td>
<td>Passed</td>
<td>07/21/2021 09:08:56AM</td>
<td>07/21/2021 08:09:10AM</td>
<td>6.462s</td>
<td>2 of 2</td>
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<td>/FHIRSandbox/DaVinci/FHIR4-0-1-Formulary/01-Query/dv-pdex-r4-04-Formulary-01-Query-01-All-Plans-xml</td>
<td>1</td>
<td>1</td>
<td>Search for All Coverage Plans. Validate the response against the P Dex Coverage Plan Profile.</td>
<td>AEGIS.net, Inc. - TouchstoneFHIR - touchstone.aegis.net</td>
<td>Passed</td>
<td>07/21/2021 08:09:10AM</td>
<td>07/21/2021 08:09:36AM</td>
<td>26.369s</td>
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<td>/FHIRSandbox/DaVinci/FHIR4-0-1-Formulary/01-Query/dv-pdex-r4-04-Formulary-01-Query-01-All-Plans-xml</td>
<td>1</td>
<td>1</td>
<td>Search for Coverage Plans. Validate the response against the P Dex Coverage Plan Profile.</td>
<td>AEGIS.net, Inc. - TouchstoneFHIR - touchstone.aegis.net</td>
<td>Passed</td>
<td>07/21/2021 08:09:10AM</td>
<td>07/21/2021 08:10:06AM</td>
<td>29.759s</td>
<td>1 of 1</td>
<td></td>
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</table>
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Acronyms

- QHP - Qualified Health Plan
- FFE - Federally-Facilitated Exchange
- CMS - Centers for Medicare and Medicaid
- FFS - Fee For Service
- MA - Medicare Advantage
- CHIP - Children’s Health Insurance Plan
- EHR - Electronic Health Record
- IG - Implementation Guide
- RI - Reference Implementation
- SNOMED-CT - Systematized Nomenclature of Medicine—Clinical Terms (Diagnoses – e.g., Crohn's Disease.)
- RxNorm - standardized nomenclature for clinical drugs; US-specific terminology in medicine that contains all medications available on the US market.
- LOINC - Logical Observation Identifiers Names and Codes (e.g., lab tests)
- HCPCS - Healthcare Common Procedure Coding System (e.g., CPAP device)
- ICD-10-CM - International Classification of Diseases, Tenth Revision, Clinical Modification.