



Third-Party Application Owner User Guide for Use of Curana Interoperability APIs

OVERVIEW

Developer-friendly and secure standards-based application programming interfaces (APIs) that enable third-party application vendors to connect their applications and access Medicare Advantage data.

The Interoperability and Patient Access final rule (CMS-9115-F) and the Office of the National Coordinator for Health Information Technology's (ONC's) 21st Century Cures Act final rule (45 CFR 170.213 and 170.215) support a patient's control of their health care and secure access to their electronic health records through smartphones and modern third-party software applications ("apps"). Patients will be able to use "apps" of their choice and, with consent, authorize and allow the "apps" to request and receive data from their Payer.

In support of the final rules, Curana Health has created the Interoperability API that enables client Medicare Advantage members to use "apps" of their choice to access their data. It also allows "apps" to connect to provider and pharmacy directories, further referred to as "public non-member specific data."

Curana Interoperability APIs:

- Allows third-party application owners and/or developers to connect to Plan provider directory, including pharmacies (non-member specific data).
- Enables third-party application owners and/or developers to register their member-facing applications where members will provide consent for the application to access their data.
- Uses the HL7 FHIR (Fast HealthCare Interoperability Resources) framework for member data.
- Uses OAuth 2.0 compatibility standard for member authorization.



REGISTRATION

Public Access API

There is no registration required for the public access API

Patient Access API

Developers should register using the Request Access form [here](#) to use the patient access API.

API PERMISSIONS AND SCOPES

Access tokens have scopes (define permissions and resources that the token can access). Scopes are utilized to determine the type of data an application is requesting.

Scopes must be explicitly declared, and wildcards are not supported.

Public Access

- api/Medication
- api/MedicationKnowledge

Patient Access

- api/Patient
- api/ExplanationOfBenefit
- api/Coverage
- api/Immunization
- api/CareTeam
- api/Observation
- api/CarePlan
- api/Condition
- api/AllergyIntolerance
- api/Goal
- api/Procedure
- api/Medication
- api/MedicationKnowledge
- api/DocumentReference



3rd party application will need to handle the return of HTTP Status Codes from endpoints if there are authorization/configuration errors.

DEVELOPER GUIDELINES

Terms of Service and Privacy Policy

Developers will be asked to provide a URL to your application's privacy policy and terms of service when registering your app with Curana Interoperability APIs. These links should be accessible and easy to understand by a beneficiary using your app.

Member revoke consent (access)

A beneficiary may revoke consent in your application to access their data. When you encounter an invalid token indicating a beneficiary has revoked consent (access), you should make a reasonable attempt to handle that case making it easy for the beneficiary to understand what is happening with their Medicare data.

URL Protocol

- GET [base]/[Resource-type]
- GET – HTTP Request of retrieving information
- Resource-type - Users can specify the specific resource type they wish to query (i.e. Coverage, Immunization)



URL Resources

Resource Name: Patient

Resource Specification: FHIR R4

Resource Description: Details of members (patients) in the system.

Request Method: GET /v1/api/Patient

Response:

```
{
  "resourceType": "Bundle",
  "id": "example-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example-url/v1/api/Patient"
    }
  ],
  "entry": [
    {
      "fullUrl": "http://example-url/v1/api/Patient/12345",
      "resource": {
        "resourceType": "Patient",
        "id": 12345,
        "meta": {
          "profile": [
            "http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient|example-version"
          ]
        },
        "extension": [
          {
            "extension": [
              {
                "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-birthsex",
                "valueCoding": null,
                "valueString": null,
                "valueCodeableConcept": null,
                "valueBoolean": null,
                "valueCode": "X"
              }
            ]
          }
        ]
      }
    },
    {
      "identifier": [
        {
          "use": "usual",
          "type": {
            "coding": [
```



```
NullFlavor",
    {
      "system": "http://terminology.hl7.org/CodeSystem/v3-
      "code": "MR",
      "display": "Medical Record Number"
    }
  ],
  "text": "Medical Record Number"
},
"system": "http://example-system.org",
"value": "example-value"
}
],
"name": [
  {
    "use": null,
    "text": null,
    "family": "EXAMPLE",
    "given": [
      "JOHN"
    ],
    "prefix": null,
    "suffix": [],
    "period": null
  }
],
"telecom": [
  {
    "system": "1",
    "value": "1234567890",
    "use": "Home"
  }
],
"address": [
  {
    "use": null,
    "text": null,
    "line": [
      "123 EXAMPLE STREET"
    ],
    "city": "EXAMPLE CITY",
    "district": null,
    "state": "XX",
    "postalCode": "00000",
    "country": null,
    "period": null
  },
  {
    "use": null,
    "text": null,
    "line": [
      "456 EXAMPLE AVENUE"
    ],
    "city": "EXAMPLE CITY",
    "district": null,
```



```
        "state": "XX",
        "postalCode": "11111",
        "country": null,
        "period": null
      }
    ],
    "birthDate": "2000-01-01",
    "deceasedDateTime": "2099-12-31",
    "gender": "other",
    "communication": [
      {
        "language": {
          "coding": null,
          "text": "ENGLISH"
        },
        "preferred": true
      }
    ],
    "active": true
  }
}
]
```

Resource Name: Immunization

Resource Specification: FHIR R4

Resource Description: Details of immunizations administered to a patient.

Request Method: GET /v1/api/Immunization

Response:

```
{
  "resourceType": "Bundle",
  "id": "dummy-bundle-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example.com/v1/api/Immunization"
    }
  ],
  "entry": [
    {
      "fullUrl": "http://example.com/v1/api/Immunization/12345",
      "resource": {
        "resourceType": "Immunization",
        "id": "12345",
        "meta": {
          "profile": [
            "http://hl7.org/fhir/us/core/StructureDefinition/us-core-immunization|dummy-version"
          ]
        },
        "status": "completed",
        "vaccineCode": {
```



```
"coding": [
  {
    "system": "http://example.com/vaccine-system",
    "code": "dummy-code",
    "display": "Dummy Vaccine"
  }
],
"text": "Dummy Vaccine Description"
},
"patient": {
  "reference": "Patient/123",
  "display": "John Doe"
},
"encounter": null,
"occurrenceDateTime": "2025-01-01",
"primarySource": null,
"location": null
}
}
]
```

Resource Name: CareTeam

Resource Specification: FHIR R4

Resource Description: Information about the care team involved in a patient's care.

Request Method: GET /v1/api/CareTeam

Response:

```
{
  "resourceType": "Bundle",
  "id": "dummy-bundle-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example.com/v1/api/CareTeam"
    }
  ],
  "entry": [
    {
      "fullUrl": "http://example.com/v1/api/CareTeam",
      "resource": {
        "resourceType": "CareTeam",
        "id": "dummy-id",
        "meta": {
          "profile": [
            "http://hl7.org/fhir/us/core/StructureDefinition/us-core-careteam|dummy-version"
          ]
        }
      }
    }
  ],
}
```



```
"status": "suspended",
"name": "Dummy Care Team",
"subject": {
  "reference": "Patient/123",
  "display": "John Doe"
},
"period": {
  "start": "2020-01-01T00:00:00",
  "end": "2025-01-01T00:00:00"
},
"participant": [
  {
    "role": {
      "coding": [
        {
          "system": "http://example.com/roles",
          "code": "dummy-role",
          "display": "Nurse Practitioner"
        }
      ]
    },
    "member": {
      "reference": "Practitioner/456",
      "display": "Jane Smith"
    }
  }
]
}
```

Resource Name: Observation

Resource Specification: FHIR R4

Resource Description: Clinical observations for a patient.

Request Method: GET /v1/api/Observation

Response:

```
{
  "resourceType": "Bundle",
  "id": "dummy-bundle-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example.com/v1/api/Observation"
    }
  ],
  "entry": [
    {
      "fullUrl": "http://example.com/v1/api/Observation/12345",
      "resource": {
        "resourceType": "Observation",

```




```
"id": "12345",
"meta": {
  "profile": [
    "http://hl7.org/fhir/us/core/StructureDefinition/us-core-
observation-lab|dummy-version"
  ]
},
"status": "final",
"category": {
  "coding": [
    {
      "system": "http://example.com/category-system",
      "code": "dummy-category-code",
      "display": "Laboratory"
    }
  ],
  "text": "Laboratory"
},
"code": {
  "coding": [
    {
      "system": "http://example.com/loinc-system",
      "code": "dummy-code",
      "display": "Dummy Test Description"
    }
  ],
  "text": "Dummy Test Description"
},
"patient": {
  "reference": "Patient/123",
  "display": "John Doe"
},
"effectiveDateTime": "2025-01-01",
"valueQuantity": [
  {
    "value": 123.45,
    "unit": "mg/dL",
    "system": "http://unitsofmeasure.org",
    "code": "mg/dL"
  }
]
}
]
```

Resource Name: CarePlan

Resource Specification: FHIR R4

Resource Description: The CarePlan API enables one or more practitioners intend to deliver care for a particular patient, group or community for a period, possibly limited to care for a specific condition or set of conditions.

Request Method: GET /v1/api/CarePlan

**Response:**

```
{
  "resourceType": "Bundle",
  "id": "example-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example-url/v1/api/CarePlan"
    }
  ],
  "entry": []
}
```

Resource Name: ExplanationOfBenefits

Resource Specification: FHIR R4

Resource Description: Detailed information about benefits and services covered.

Request Method: GET /v1/api/ExplanationOfBenefits

Response:

```
{
  "resourceType": "Bundle",
  "id": "example-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example-url/v1/api/ExplanationOfBenefits"
    }
  ],
  "entry": []
}
```

Resource Name: AllergyIntolerance

Resource Specification: FHIR R4

Resource Description: The AllergyIntolerance API enables patients to exchange their allergy and adverse reaction data with third party applications.

Request Method: GET /v1/api/AllergyIntolerance

Response:

```
{
```



```
"resourceType": "Bundle",
"id": "dummy-bundle-id",
"type": "searchset",
"link": [
  {
    "relation": "self",
    "url": "http://example.com/v1/api/AllergyIntoleranceData"
  }
],
"entry": [
  {
    "fullUrl": "http://example.com/v1/api/AllergyIntolerance/12345",
    "resource": {
      "resourceType": "AllergyIntolerance",
      "id": "12345",
      "meta": {
        "profile": [
          "http://hl7.org/fhir/us/core/StructureDefinition/us-core-allergyintolerance|dummy-version"
        ]
      },
      "identifier": "12345",
      "clinicalStatus": {
        "coding": [
          {
            "system":
"http://terminology.hl7.org/CodeSystem/allergyintolerance-clinical",
            "code": "active"
          }
        ]
      },
      "verificationStatus": {
        "coding": [
          {
            "system":
"http://terminology.hl7.org/CodeSystem/allergyintolerance-verification",
            "code": "confirmed"
          }
        ]
      },
      "type": "Allergy",
      "criticality": "unable-to-assess",
      "code": {
        "coding": [
          {
            "system": "http://example.com/codesystem",
            "code": "dummy-code",
            "display": "Dummy Allergy"
          }
        ]
      },
      "patient": {
        "reference": "Patient/123",
        "display": "John Doe"
      }
    }
  }
]
```



```
"recordedDate": "2025-01-01",
"onsetDateTime": "2020-01-01",
"recorder": {
  "identifier": {
    "system": "http://example.com/identifier-system",
    "value": "dummy-recorder-id"
  },
  "display": "Dummy Recorder"
},
"asserter": {
  "identifier": {
    "system": "http://example.com/identifier-system",
    "value": "dummy-asserter-id"
  },
  "display": "Dummy Asserter"
},
"reaction": [
  {
    "substance": "Dummy Substance",
    "manifestation": [
      {
        "coding": [
          {
            "system": "http://example.com/codesystem",
            "code": "dummy-manifestation-code",
            "display": "Dummy Manifestation"
          }
        ],
        "text": "Dummy Manifestation Description"
      }
    ],
    "severity": "moderate"
  }
]
}
```

Resource Name: Coverage

Resource Specification: FHIR R4

Resource Description: Coverage details, such as insurance plans.

Request Method: GET /v1/api/Coverage

Response:

```
{
  "resourceType": "Bundle",
  "id": "dummy-bundle-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example.com/v1/api/Coverage"
    }
  ]
}
```



```
    }
  ],
  "entry": [
    {
      "fullUrl": "http://example.com/v1/api/Coverage/12345",
      "resource": {
        "resourceType": "Coverage",
        "id": "12345",
        "meta": {
          "profile": [
            "http://hl7.org/fhir/us/core/StructureDefinition/us-core-coverage|dummy-version"
          ]
        },
        "identifier": [
          {
            "type": {
              "coding": [
                {
                  "system": "http://example.com/identifier-system",
                  "code": "dummy-code",
                  "display": "DUMMY123456"
                }
              ]
            },
            "system": "http://example.com/identifier-system",
            "value": "DUMMY123456"
          }
        ],
        "status": "cancelled",
        "type": {
          "text": "Dummy Coverage Type"
        },
        "subscriberId": "dummy-subscriber-id",
        "beneficiary": {
          "reference": "Patient/123",
          "display": "John Doe"
        },
        "relationship": {
          "coding": [
            {
              "system": "http://example.com/relationship-system",
              "code": "SELF",
              "display": "SELF"
            }
          ],
          "text": "SELF"
        },
        "period": {
          "start": "2020-01-01"
        },
        "payor": [
          {
            "display": "Dummy Payor"
          }
        ]
      }
    }
  ]
}
```



```
],
"class1": [
  {
    "type": "Plan",
    "value": "DUMMYPLAN001",
    "name": "Dummy Advantage Plan",
    "group": {
      "type": "Group",
      "value": "001",
      "name": "Dummy Group"
    },
    "plan": {
      "type": "Plan",
      "value": "DUMMY001",
      "name": "Dummy Plan Name"
    }
  }
]
}
```

Resource Name: Condition

Resource Specification: FHIR R4

Resource Description: Details of conditions or diagnoses for a patient.

Request Method: GET /v1/api/Condition

Response:

```
{
  "resourceType": "Bundle",
  "id": "dummy-bundle-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example.com/v1/api/Condition"
    }
  ],
  "entry": [
    {
      "fullUrl": "http://example.com/v1/api/Condition",
      "resource": {
        "resourceType": "Condition",
        "id": "dummy-condition-id",
        "meta": {
          "profile": [
            "http://hl7.org/fhir/us/core/StructureDefinition/us-core-condition-encounter-diagnosis|dummy-version"
          ]
        },
        "identifier": "DUMMY123456",
        "clinicalStatus": {
```



```
    "coding": [
      {
        "system": "http://terminology.hl7.org/CodeSystem/condition-
clinical",
        "code": "active"
      }
    ],
    "verificationStatus": {
      "coding": [
        {
          "system": "http://terminology.hl7.org/CodeSystem/condition-ver-
status",
          "code": "Confirmed"
        }
      ]
    },
    "category": {
      "coding": [
        {
          "system": "http://terminology.hl7.org/CodeSystem/condition-
category",
          "code": "Encounter-Diagnosis",
          "display": "Encounter-Diagnosis"
        }
      ]
    },
    "code": {
      "coding": [
        {
          "system": "http://snomed.info/sct",
          "code": "DUMMYCODE",
          "display": "Dummy Cardiovascular Screening"
        }
      ],
      "text": "Dummy Cardiovascular Screening"
    },
    "subject": {
      "reference": "Patient/12345",
      "display": "John Doe"
    },
    "encounter": {
      "reference": "Encounter/67890",
      "display": "Dummy Outpatient Encounter"
    },
    "onsetDateTime": "2022-01-01",
    "abatementDateTime": "2022-01-02",
    "recordedDate": "2022-01-10"
  }
}
```



Resource Name: MedicationRequest

Resource Specification: FHIR R4

Resource Description: Medication requests prescribed for a patient.

Request Method: GET /v1/api/MedicationRequest

Response:

```
{
  "resourceType": "Bundle",
  "id": "dummy-bundle-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example.com/v1/api/MedicationRequest"
    }
  ],
  "entry": [
    {
      "fullUrl": "http://example.com/v1/api/MedicationRequest/12345",
      "resource": {
        "resourceType": "MedicationRequest",
        "id": "dummy-request-id",
        "meta": {
          "profile": [
            "http://hl7.org/fhir/us/core/StructureDefinition/us-core-medicationrequest|dummy-version"
          ]
        },
        "identifier": "DUMMY123456",
        "intent": "original-order",
        "medication": "DUMMYMED12345",
        "subject": "Patient/12345",
        "authoredOn": "2022-01-01",
        "requester": "DUMMYNPI12345",
        "performer": "John Doe",
        "performerType": "General Medicine",
        "dosageInstruction": {
          "text": "Take one daily",
          "route": [
            {
              "text": "Oral"
            }
          ]
        },
        "doseAndRate": [
          {
            "doseQuantity": {
              "value": "10",
              "unit": "MG"
            }
          }
        ]
      },
      "dispenseRequest": {
        "initialFill": {
```




```
        "duration": "30 days"
      },
      "numberOfRepeatsAllowed": "1"
    }
  }
}
]
```

Resource Name: Medication

Resource Specification: FHIR R4

Resource Description: Medications related to a patient.

Request Method: GET /v1/api/Medication

Response:

```
{
  "resourceType": "Bundle",
  "id": "example-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example-url/v1/api/Medication"
    }
  ],
  "entry": []
}
```

Resource Name: Goal

Resource Specification: FHIR R4

Resource Description: Goals for a patient's health care.

Request Method: GET /v1/api/Goal

Response:

```
{
  "resourceType": "Bundle",
  "id": "example-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example-url/v1/api/Goal"
    }
  ],
  "entry": []
}
```

Resource Name: Procedure

Resource Specification: FHIR R4

Resource Description: Records of medical or surgical procedures.

Request Method: GET /v1/api/Procedure

Response:

```
{
  "resourceType": "Bundle",
  "id": "dummy-bundle-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example.com/v1/api/Procedure"
    }
  ],
  "entry": [
    {
      "fullUrl": "http://example.com/v1/api/Procedure/12345",
      "resource": {
        "resourceType": "Procedure",
        "id": "dummy-procedure-id",
        "meta": {
          "profile": [
            "http://hl7.org/fhir/us/core/StructureDefinition/us-core-procedure|dummy-version"
          ]
        },
        "identifier": {
          "system": "http://example.com/system",
          "value": "DUMMYID12345"
        },
        "status": "completed",
        "code": {
          "coding": [
            {
              "system": "http://example.com/code-system",
              "code": "123456",
              "display": "Dummy Procedure Description"
            }
          ]
        },
        "subject": {
          "reference": "Patient/12345",
          "display": "John Doe"
        },
        "encounter": {
          "reference": "Encounter/12345",
          "display": "Regular Visit"
        }
      }
    }
  ]
}
```



```
"performedPeriod": {
  "performedDateTime": "2023-01-01T00:00:00"
},
"recorder": {
  "identifier": {
    "system": "http://example.com/recorder-system",
    "value": "DUMMYRECORDERID"
  },
  "display": "Example Health Organization"
},
"asserter": {
  "value": "DUMMYASSERTERID",
  "display": "Dr. Jane Smith"
},
"performer": {
  "actor": [
    {
      "reference": "Practitioner/12345",
      "display": "Dr. Jane Smith"
    }
  ]
},
"reasonCode": [
  {
    "coding": [
      {
        "system": "http://example.com/reason-system",
        "code": "REASONCODE",
        "display": "Reason Description"
      }
    ],
    "text": "Reason Text"
  }
],
"note": {
  "text": "Additional procedure notes here."
}
}
]
```

Resource Name: List

Resource Specification: FHIR R4

Resource Description: Lists of resources relevant to a patient.

Request Method: GET /v1/api/List

Response:

```
{
  "resourceType": "Bundle",
  "id": "example-id",
  "type": "searchset",
```



```
"link": [  
  {  
    "relation": "self",  
    "url": "http://example-url/v1/api/List"  
  }  
],  
"entry": []  
}
```

Resource Name: MedicationKnowledge

Resource Specification: FHIR R4

Resource Description: Details of medication knowledge and classifications.

Request Method: GET /v1/api/MedicationKnowledge

Response:

```
{  
  
  "resourceType": "Bundle",  
  "id": "example-id",  
  "type": "searchset",  
  "link": [  
    {  
      "relation": "self",  
      "url": "http://example-url/v1/api/MedicationKnowledge"  
    }  
  ],  
  "entry": []  
}
```

Resource Name: DocumentReference

Resource Specification: FHIR R4

Resource Description: References to patient-related documents.

Request Method: GET /v1/api/Document_Reference



Response:

```
{
  "resourceType": "Bundle",
  "id": "example-id",
  "type": "searchset",
  "link": [
    {
      "relation": "self",
      "url": "http://example-url/v1/api/DocumentReference"
    }
  ],
  "entry": []
}
```