



Client Services (CS) FHIR R4 Integration Guide — New Providers

Document Information

Item	Value
Version	1.3.0
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Audience	New Contract Providers (EHR Vendors) — no legacy CS integration
FHIR Version	R4 (4.0.1)

Version History

Version	Date	Summary of Changes
1.3.0	10/07/2026	* 1. Introduction is updated * 4.2 API operations table is updated * 5 Client Data Model is updated * 8 Client ID correlation is updated * 9 Episode Management is updated with Encounter-Coverage combo scenarios * 10 Diagnosis Management is updated with updated PUT, POST payload and GET query syntax

Version	Date	Summary of Changes
1.2.0	9/19/2026	Corrected the CSI and UMDAP examples in section 10 — the previous <code>assessment-date / assessment-type</code> <code>linkId</code> s and the <code>cs-csi-assessment-type</code> <code>CodeSystem</code> did not correspond to any CSI artifact and have been replaced with the published numeric <code>linkId</code> s. Removed the now-unused <code>CSI Assessment Type</code> <code>CodeSystem</code> row from the Quick Reference section.
1.1.1	9/11/2026	Corrected "IBIS" to "IBHIS" throughout; removed <code>EpisodeOfCare</code> references from the admission and discharge workflow (it is read-only in CS); clarified the CSI questionnaire status. No request or payload change.
1.1.0	7/1/2026	Endpoint URLs and onboarding content updated for the HIDEX website release.
1.0.0	6/24/2026	Initial release.

Table of Contents

1. [Introduction](#)
 2. [Getting Started](#)
 3. [Authentication](#)
 4. [Endpoint Configuration](#)
 5. [Client Data Model](#)
 6. [Submitting a Client Admission](#)
 7. [Submitting Multiple Operations \(Bundle\)](#)
 8. [Client ID — Cross-System Correlation](#)
 9. [Episode Management](#)
 10. [Diagnosis and Assessments](#)
 11. [Error Handling](#)
 12. [Testing and Certification](#)
 13. [Quick Reference](#)
-

1. Introduction

What is Client Services (CS)?

Client Services (CS) is the LA County Department of Mental Health (DMH) system for managing client records throughout their episodes of care. Contract Providers (CP) submit client data electronically through the **HIDEX Provider Access API** — a FHIR R4 REST API.

How It Works

1. CP's EHR system authenticates with DMH using a authentication keys
2. CP submits client data as FHIR R4 resources (Patient, Encounter, Condition, etc.)
3. The API validates CP's submission against CS business rules
4. The client record is created/updated in DMH's NetSmart (IBHIS) system
5. You receive a **Client ID** immediately in the response
6. The data is persisted to the DMH FHIR store for reporting and queries

Key Concepts

Term	Definition
IBHIS	Integrated Behavioral Information System — the NetSmart EHR used by DMH
Client ID	A numeric identifier assigned to each client, returned in your API response
Program ID	A five digit code identifying the CP uniquely
Contract Provider (CP)	An external organization contracted with DMH to provide mental health services
Encounter	The period from admission to discharge during which a client receives services
CSI	Client and Service Information — a periodic assessment instrument
UMDAP	Uniform Method of Determining Ability to Pay — financial assessment

What You Need

- OAuth2 client credentials (provided by DMH Chief Information Office Bureau - CIOB)
 - API subscription key for environment targeting (provided by DMH CIOB)
 - CP's assigned program ID(s)
 - A FHIR R4-capable HTTP client in CP's EHR system
 - Familiarity with JSON and REST APIs
-

2. Getting Started

Onboarding Steps

1. **Request access** — Contact LACDMH CIOB to initiate the onboarding process
2. **Receive credentials** — DMH provisions your OAuth2 and API access credentials (see the **API Credentials Reference** table in Section 3)
3. **Access sandbox** — Use the TEST environment to build and test your integration
4. **Certify** — Complete the validation checklist (Section 12) in the TEST environment
5. **Go live** — Receive production credentials and begin submitting client data

3. Authentication

Every request to the HIDEX Provider Access API requires an OAuth2 bearer token obtained via the client credentials grant, plus an APIM subscription key. See the **API Credentials Reference** table below for what's provisioned and where each value is used.

Step 1: Acquire OAuth2 Access Token

```
POST https://login.microsoftonline.com/{tenant-id}/oauth2/v2.0/token
Content-Type: application/x-www-form-urlencoded
```

```
grant_type=client_credentials
&client_id={your-client-id}
&client_secret={your-client-secret}
&scope={your-resource-audience}
```

`{your-resource-audience}` is the Resource Audience value from the API Credentials Reference table below (e.g., `api://{resource/appID}/.default`).

Response:

```
{
  "token_type": "Bearer",
  "expires_in": 3600,
  "access_token": "eyJ0eXAiOiJKV1QiLCJhbGciOi..."
}
```

The access token contains claims including your `program_id` authorization.

Step 2: Include Both Headers on API Requests

Every API request requires **both** authentication headers:

```
GET /fhir/Patient/12345 HTTP/1.1
Host: hidex-test.dmh.lacounty.gov
Authorization: Bearer {access_token}
```

```
Ocp-Apim-Subscription-Key: {your-subscription-key}
Content-Type: application/fhir+json
```

Important Notes

- **OAuth2 tokens expire after 1 hour** — implement token caching and refresh logic
- **Subscription key** targets the specific environment (TEST, QA, or PRODUCTION)
- Your token's `program_id` claim must match the program codes in your submissions
- Store both credentials securely (treat them like passwords)
- Contact DMH HIDEX Support if you need to rotate your subscription key
- Contact LACDMH CIOB for OAuth2 client credential provisioning

API Credentials Reference

The Integration Team provisions the following credentials for API access:

Item	Type	Scope	Value
Client ID	App Registration	Shared across TEST and QA	Your OAuth2 application identifier (<code>client_id</code>)
Client Secret	App Registration	Shared across TEST and QA	Your OAuth2 application secret (<code>client_secret</code>) — store securely
Tenant ID	Azure AD	Same for both TEST and QA	The Azure AD tenant identifier (<code>tenant_id</code>)
Resource Audience	OAuth2 Scope	Same for both TEST and QA	<code>api://{resource/appID}/.default</code> — used as the <code>scope</code> parameter in the token request
Base URL	Endpoint	Environment-specific	TEST: <code>https://hidex-test.dmh.lacounty.gov/healthcare</code> QA: <code>https://hidex-qa.dmh.lacounty.gov/healthcare</code>
APIM Subscription Key	API Management	Environment-specific	Sent as the <code>Ocp-Apim-Subscription-Key</code> header on every request

Note: Client ID, Client Secret, Tenant ID, and Resource Audience are shared across the TEST and QA environments. Base URL and the APIM Subscription Key are environment-specific — request separate values for TEST and QA.

4. Endpoint Configuration

4.1 Base URLs by Environment

Environment	Base URL	Purpose
TEST	<code>https://hidex-test.dmh.lacounty.gov/healthcare</code>	Integration testing and certification

Environment	Base URL	Purpose
QA	https://hidex-qa.dmh.lacounty.gov/healthcare	Pre-production validation
PRODUCTION	https://hidex.dmh.lacounty.gov/healthcare	Live production system

4.2 API Operations

Operation	Method	Path	Description
Create client	POST	/fhirurl/Patient	Admit a new client
Update client	PUT	/fhirurl/Patient/{id}	Update client demographics
Get client	GET	/fhirurl/Patient/{id}	Retrieve client details
Search clients	GET	/fhirurl/Patient?{parameters}	Search for clients
Create admission	POST	/fhirurl/Encounter	Create an admission encounter
Create discharge	POST	/fhirurl/Encounter	Create a discharge to close an admission encounter
Update discharge	PUT	/fhirurl/Encounter/{id}	Update a discharge encounter
Get episodes	GET	/fhirurl/Encounter?patient={id}	Get episode history (derived from Encounter data)
Create diagnosis	POST	/fhirurl/Condition	Record a diagnosis or pregnancy
Update diagnosis	PUT	/fhirurl/Condition/{id}	Update diagnosis or pregnancy
Get diagnoses	GET	/fhirurl/Condition?patient={id}	Get diagnosis or pregnancy history
Submit assessment	POST	/fhirurl/QuestionnaireResponse	Submit CSI/UMDAP data
Get assessment	GET	/fhirurl/QuestionnaireResponse?patient={id}	Retrieve CSI/UMDAP data
Get coverage	GET	/fhirurl/Coverage?beneficiary={id}	Get financial eligibility
Update coverage	PUT	/fhirurl/Coverage/{id}	Update financial eligibility
Submit batch	POST	/fhirurl/Bundle	Submit multiple operations atomically

4.3 Required HTTP Headers

Header	Value	Required
Authorization	Bearer {access_token}	Yes
Ocp-Apim-Subscription-Key	{your-subscription-key}	Yes
Content-Type	application/fhir+json	Yes
Accept	application/fhir+json	Recommended

4.4 FHIR Version

All resources must conform to **FHIR R4 (4.0.1)**.

5. Client Data Model

A client submission is a FHIR `Patient` resource containing demographics and related extensions.

5.1 Core Fields

Field	FHIR Path	Required	Rules
Prefix	<code>Patient.name.prefix</code>	No	Enumeration
First Name	<code>Patient.name.given[0]</code>	Yes	Max 38 chars for combined full name
Middle Initial	<code>Patient.name.given[1]</code>	No	Fixed 1 char
Last Name	<code>Patient.name.family</code>	Yes	Max 38 chars for combined full name
Suffix	<code>Patient.name.suffix</code>	No	Enumeration
Date of Birth	<code>Patient.birthDate</code>	Yes	date (YYYY-MM-DD)
Gender	<code>Patient.gender</code>	Yes	Enumeration
SSN	<code>Patient.identifier.value</code>	No	9 digits exactly
Phone	<code>Patient.telecom.value[0]</code>	No	10 digits exactly
Email	<code>Patient.telecom.value[1]</code>	No	Valid email format
Program ID	<code>managingOrganization.reference</code>	Yes	Contract Provider's 5 digit LE number

5.2 Address

Field	FHIR Path	Required	Rules
Street Address 1	<code>Patient.address[0].line[0]</code>	Yes	Max 100 chars

Field	FHIR Path	Required	Rules
Street Address 2	Patient.address[0].line[1]	No	Max 100 chars
City	Patient.address[0].city	No	Max 100 chars
State	Patient.address[0].state	No	Max 100 chars
ZIP Code	Patient.address[0].postalCode	Yes	9 digits (ZIP+4)

5.3 Demographics Extensions

Field	FHIR Path	Required	Rules
Education Level	extension[education-level]	No	CodeSystem code
Employment Status	extension[employment-status]	No	CodeSystem code
Ethnicity	extension[ethnicity]	No	CodeSystem code
Race	extension[race]	No	CodeSystem code (repeatable)
Living Arrangement	extension[living-arrangement]	No	CodeSystem code
Marital Status	Patient.maritalStatus	No	HL7 v3 MaritalStatus code
Primary Language	Patient.communication[0].language	No	CodeSystem code

5.4 Resource Profiles

Resource	Profile URL
Patient	http://dmh.lacounty.gov/fhir/StructureDefinition/cs-patient
Encounter	http://dmh.lacounty.gov/fhir/StructureDefinition/cs-encounter
Condition	http://dmh.lacounty.gov/fhir/StructureDefinition/cs-condition
Coverage	http://dmh.lacounty.gov/fhir/StructureDefinition/cs-coverage
Observation	http://dmh.lacounty.gov/fhir/StructureDefinition/cs-observation
QuestionnaireResponse	http://dmh.lacounty.gov/fhir/StructureDefinition/cs-questionnaireresponse

Note: Admission and discharge are recorded as Encounter resources referencing the Patient .

6. Submitting a Client Admission

Request

```
POST https://hidex.dmh.lacounty.gov/healthcare/Patient
Authorization: Bearer {access_token}
Ocp-Apim-Subscription-Key: {your-subscription-key}
Content-Type: application/fhir+json
```

Example: New Client

```
{
  "resourceType": "Patient",
  "meta": {
    "profile": ["http://dmh.lacounty.gov/fhir/StructureDefinition/cs-patient"]
  },
  "name": [
    {
      "prefix": "DR",
      "family": "Garcia",
      "given": ["Maria", "L"],
      "suffix": "II"
    }
  ],
  "gender": "female",
  "birthDate": "1990-05-15",
  "telecom": [
    { "system": "phone", "use": "home", "value": "3235551234" },
    { "system": "email", "value": "maria.garcia@example.com" }
  ],
  "address": [
    {
      "line": ["1234 Oak Street", "Apt 5B"],
      "postalCode": "90012"
    }
  ],
  "communication": [{
    "language": {
      "coding": [{
        "system": "http://dmh.lacounty.gov/fhir/CodeSystem/cs-language",
        "code": "SPA",
        "display": "Spanish"
      }]
    }
  }],
  "extension": [
    {
      "url": "http://dmh.lacounty.gov/fhir/Extension/program-of-service",
      "valueCoding": {
        "system": "http://dmh.lacounty.gov/fhir/CodeSystem/cs-program-of-service",
        "code": "00502"
      }
    }
  ]
}
```

```

    },
    {
      "url": "http://dmh.lacounty.gov/fhir/Extension/ethnicity",
      "valueCoding": {
        "system": "http://dmh.lacounty.gov/fhir/CodeSystem/cs-ethnicity",
        "code": "hispanic-latino",
        "display": "Hispanic/Latino"
      }
    }
  ]
}

```

Successful Response (HTTP 201)

```

{
  "resourceType": "Patient",
  "meta": {
    "profile": [
      "http://dmh.lacounty.gov/fhir/StructureDefinition/cs-patient"
    ]
  },
  "extension": [
    {
      "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
      "valueCodeableConcept": {
        "coding": [
          {
            "code": "2186-5",
            "display": "Not Hispanic or Latino",
            "system": "urn:oid:2.16.840.1.113883.6.238"
          }
        ]
      }
    },
    {
      "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
      "valueCodeableConcept": {
        "coding": [
          {
            "code": "2054-5",
            "display": "Black or African American",
            "system": "urn:oid:2.16.840.1.113883.6.238"
          }
        ]
      }
    },
    {
      "url": "http://hl7.org/fhir/StructureDefinition/us-core-genderIdentity",
      "valueCodeableConcept": {
        "coding": [
          {
            "code": "407376001",
            "display": "Male-to-Female (MTF) / Transgender Female / Trans Woman",

```

```

        "system": "2.16.840.1.113883.6.96"
      }
    ]
  }
},
{
  "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/patient-sexualOrientation",
  "valueCodeableConcept": {
    "coding": [
      {
        "code": "20430005",
        "display": "Straight or heterosexual",
        "system": "2.16.840.1.113883.6.96"
      }
    ]
  }
},
{
  "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/patient-educationLevel",
  "valueCodeableConcept": {
    "coding": [
      {
        "code": "BA",
        "display": "Bachelor's degree",
        "system": "http://terminology.hl7.org/CodeSystem/v2-0360"
      }
    ]
  }
},
{
  "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/patient-employmentStatus",
  "valueCodeableConcept": {
    "coding": [
      {
        "code": "F",
        "display": "Full Time",
        "system": "http://terminology.hl7.org/CodeSystem/v2-0066"
      }
    ]
  }
},
{
  "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/patient-housingSituation",
  "valueCodeableConcept": {
    "coding": [
      {
        "code": "PR",
        "display": "private residence",
        "system": "http://terminology.hl7.org/CodeSystem/v3-LivingArrangement"
      }
    ]
  }
},
],
"name": [

```

```

    {
      "prefix": "DR",
      "family": "TEST",
      "given": [
        "{{FirstNameTest}}",
        "E"
      ],
      "suffix": "III"
    }
  ],
  "gender": "female",
  "birthDate": "1990-11-27",
  "identifier": [
    {
      "type": {
        "coding": [
          {
            "system": "http://terminology.hl7.org/CodeSystem/v2-0203",
            "code": "SS"
          }
        ]
      },
      "system": "http://hl7.org/fhir/sid/us-ssn",
      "value": "111223333"
    }
  ],
  "address": [
    {
      "use": "home",
      "line": [
        "555 real st",
        "Apt 1"
      ],
      "city": "Overland Park",
      "state": "CA",
      "postalCode": "91406-4565"
    }
  ],
  "telecom": [
    {
      "system": "email",
      "value": "my@email.com"
    },
    {
      "system": "phone",
      "value": "5555555555",
      "use": "home"
    }
  ],
  "maritalStatus": {
    "coding": [
      {
        "system": "http://terminology.hl7.org/CodeSystem/v3-MaritalStatus",
        "code": "M",
        "display": "Married"
      }
    ]
  }
}

```

```

    }
  ]
},
"communication": [
  {
    "language": {
      "coding": [
        {
          "system": "https://www.loc.gov/standards/iso639-2/php/code_list.php",
          "code": "en",
          "display": "English"
        }
      ]
    },
    "preferred": "true"
  }
],
"managingOrganization": {
  "reference": "Organization/12345"
}
}

```

7. Submitting Multiple Operations (Bundle)

Submit multiple operations in one atomic request using a FHIR transaction Bundle. If any entry fails validation, the entire Bundle is rejected — nothing is persisted.

Request

```

POST https://hidex-test.dmh.lacounty.gov/healthcare/Bundle
Authorization: Bearer {access_token}
Ocp-Apim-Subscription-Key: {your-subscription-key}
Content-Type: application/fhir+json

```

Structure

```

{
  "resourceType": "Bundle",
  "type": "transaction",
  "entry": [
    {
      "fullUrl": "urn:uuid:patient-1",
      "resource": { /* Patient resource */ },
      "request": { "method": "POST", "url": "Patient" }
    },
    {
      "fullUrl": "urn:uuid:encounter-1",
      "resource": {
        /* Encounter referencing urn:uuid:patient-1, status: in-progress */
      }
    }
  ]
}

```

```

    },
    "request": { "method": "POST", "url": "Encounter" }
  }
]
}

```

Response (HTTP 200)

Each entry in the response includes its own resource ID:

```

{
  "resourceType": "Bundle",
  "type": "transaction-response",
  "entry": [
    {
      "response": { "status": "201 Created" },
      "resource": {
        "resourceType": "Patient",
        "id": "pt-abc12345",
        "identifier": [{
          "system": "http://dmh.lacounty.gov/fhir/identifier/client-id",
          "value": "3456789"
        }]
      }
    },
    {
      "response": { "status": "201 Created" },
      "resource": {
        "resourceType": "Encounter",
        "id": "enc-def67890",
        "status": "in-progress"
      }
    }
  ]
}

```

8. Client ID — Cross-System Correlation

Every successful Patient creation returns a **Client ID** — a numeric identifier that uniquely identifies the client across all DMH systems.

Here's an example:

```

"identifier": [
  {
    "system": "Netsmart.WEBSVC.ClientService.cls-Patient",
    "value": "1234567"
  }
]

```

```
],
```

- Store this ID in your EHR for future reference
- Use it for all subsequent operations (encounters, condition, questionnaireresponse)
- It is returned synchronously — no polling needed
- Each Bundle entry creating a Patient gets its own unique Client ID

9. Episode Management

An episode tracks a client's period of care from admission to discharge. Admission and discharge are recorded as `Encounter` resources referencing the `Patient`.

Creating an Admission Encounter

```
POST https://hidex.dmh.lacounty.gov/healthcare/Encounter
Authorization: Bearer {access_token}
Ocp-Apim-Subscription-Key: {your-subscription-key}
Content-Type: application/fhir+json
```

There are four types of encounters that can be set up as below:

- Scenario-1: Create Outpatient Encounter with MediCal coverage
- Scenario-2: Create Outpatient Encounter with NonMediCal coverage
- Scenario-3: Create Inpatient Encounter with MediCal coverage
- Scenario-4: Create Inpatient Encounter with NonMediCal coverage

Below are examples of each scenario.

Scenario-1: Create Outpatient Encounter with MediCal coverage

```
{
  "resourceType": "Encounter",
  "meta": {
    "profile": [
      "http://dmh.lacounty.gov/fhir/StructureDefinition/cs-encounter"
    ],
    "tag": [
      {
        "code": "MediCal",
        "display": "MediCal"
      },
      {
        "code": "CSOutpatientEncounterAdmission",
        "display": "CSOutpatientEncounterAdmission"
      }
    ]
  },
  "extension": [
```

```

{
  "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/encounter-hospitalServiceReference",
  "valueReference": {
    "id": "12345",
    "reference": "HospitalService/12345"
  }
},
],
"class": {
  "code": "2",
  "display": "Admission",
  "system": "44"
},
"status": "in-progress",
"serviceProvider": {
  "reference": "Organization/12345"
},
"subject": {
  "id": "1234567",
  "reference": "Patient/1234567"
},
"participant": [
  {
    "type": [
      {
        "coding": [
          {
            "system": "http://terminology.hl7.org/CodeSystem/v3-ParticipationType",
            "code": "ADM",
            "display": "admitter"
          }
        ]
      }
    ],
    "individual": {
      "reference": "Practitioner/1112223334"
    }
  }
],
"period": {
  "start": "2024-09-04T13:25:00"
},
"priority": {
  "coding": [
    {
      "system": "http://terminology.hl7.org/CodeSystem/v3-ActPriority",
      "code": "EL",
      "display": "elective"
    }
  ],
  "text": "TypeOfAdmission"
}
}

```

Scenario-2: Create Outpatient Encounter with NonMediCal coverage

```
{
  "resourceType": "Encounter",
  "meta": {
    "profile": [
      "http://dmh.lacounty.gov/fhir/StructureDefinition/cs-encounter"
    ],
    "tag": [
      {
        "code": "NonMediCal",
        "display": "NonMediCal"
      },
      {
        "code": "CSOutpatientEncounterAdmission",
        "display": "CSOutpatientEncounterAdmission"
      }
    ]
  },
  "extension": [
    {
      "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/encounter-hospitalServiceReference",
      "valueReference": {
        "id": "12345",
        "reference": "HospitalService/12345"
      }
    }
  ],
  "class": {
    "code": "2",
    "display": "Admission",
    "system": "44"
  },
  "status": "in-progress",
  "serviceProvider": {
    "reference": "Organization/12345"
  },
  "subject": {
    "id": "12345",
    "reference": "Patient/12345"
  },
  "participant": [
    {
      "type": [
        {
          "coding": [
            {
              "system": "http://terminology.hl7.org/CodeSystem/v3-ParticipationType",
              "code": "ADM",
              "display": "admitter"
            }
          ]
        }
      ]
    }
  ],
}
```

```

    "individual": {
      "reference": "Practitioner/1113334445"
    }
  ],
  "period": {
    "start": "2024-09-04T13:25:00"
  },
  "priority": {
    "coding": [
      {
        "system": "http://terminology.hl7.org/CodeSystem/v3-ActPriority",
        "code": "EL",
        "display": "elective"
      }
    ]
  },
  "text": "TypeOfAdmission"
}

```

Scenario-3: Create Inpatient Encounter with MediCal coverage

```

{
  "resourceType": "Encounter",
  "meta": {
    "profile": [
      "http://dmh.lacounty.gov/fhir/StructureDefinition/cs-encounter"
    ],
    "tag": [
      {
        "code": "MediCal",
        "display": "MediCal"
      },
      {
        "code": "CSInpatientEncounterAdmission",
        "display": "CS Inpatient Encounter Admission"
      }
    ]
  },
  "extension": [
    {
      "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/encounter-hospitalServiceReference",
      "valueReference": {
        "id": "1234R",
        "reference": "HospitalService/1234R"
      }
    }
  ],
  "class": {
    "system": "http://terminology.hl7.org/CodeSystem/v3-ActCode",
    "code": "2",
    "display": "inpatient encounter"
  },
  "status": "in-progress",

```

```

"serviceProvider": {
  "reference": "Organization/1234R"
},
"subject": {
  "id": "1234567",
  "reference": "Patient/1234567"
},
"participant": [
  {
    "type": [
      {
        "coding": [
          {
            "system": "http://terminology.hl7.org/CodeSystem/v3-ParticipationType",
            "code": "ADM",
            "display": "admitter"
          }
        ]
      }
    ],
    "individual": {
      "reference": "Practitioner/1234567890"
    }
  }
],
"period": {
  "start": "2024-09-04T13:25:00"
},
"priority": {
  "coding": [
    {
      "system": "http://terminology.hl7.org/CodeSystem/v3-ActPriority",
      "code": "EL",
      "display": "elective"
    }
  ],
  "text": "TypeOfAdmission"
},
"hospitalization": {
  "admitSource": {
    "coding": [
      {
        "system": "http://terminology.hl7.org/CodeSystem/admit-source",
        "code": "hosp-trans",
        "display": "Transferred from other hospital"
      }
    ]
  }
}
}

```

Scenario-4: Create Inpatient Encounter with NonMediCal coverage

```
{
  "resourceType": "Encounter",
  "meta": {
    "profile": [
      "http://dmh.lacounty.gov/fhir/StructureDefinition/cs-encounter"
    ],
    "tag": [
      {
        "code": "NonMediCal",
        "display": "NonMediCal"
      },
      {
        "code": "CSInpatientEncounterAdmission",
        "display": "CS Inpatient Encounter Admission"
      }
    ]
  },
  "extension": [
    {
      "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/encounter-hospitalServiceReference",
      "valueReference": {
        "id": "1234R",
        "reference": "HospitalService/1234R"
      }
    }
  ],
  "class": {
    "system": "http://terminology.hl7.org/CodeSystem/v3-ActCode",
    "code": "2",
    "display": "inpatient encounter"
  },
  "status": "in-progress",
  "serviceProvider": {
    "reference": "Organization/1234R"
  },
  "subject": {
    "id": "1234567",
    "reference": "Patient/1234567"
  },
  "participant": [
    {
      "type": [
        {
          "coding": [
            {
              "system": "http://terminology.hl7.org/CodeSystem/v3-ParticipationType",
              "code": "ADM",
              "display": "admitter"
            }
          ]
        }
      ]
    }
  ],
}
```

```

        "individual": {
          "reference": "Practitioner/1234567890"
        }
      },
    ],
    "period": {
      "start": "2024-09-04T13:25:00"
    },
    "priority": {
      "coding": [
        {
          "system": "http://terminology.hl7.org/CodeSystem/v3-ActPriority",
          "code": "EL",
          "display": "elective"
        }
      ],
      "text": "TypeOfAdmission"
    },
    "hospitalization": {
      "admitSource": {
        "coding": [
          {
            "system": "http://terminology.hl7.org/CodeSystem/admit-source",
            "code": "hosp-trans",
            "display": "Transferred from other hospital"
          }
        ]
      }
    }
  }
}

```

Discharging a Client

Both outpatient and inpatient encounters can be discharged using the Encounter resource along with discharge information:

```

PUT https://hidex.dmh.lacounty.gov/healthcare/Encounter
Authorization: Bearer {access_token}
Ocp-Apim-Subscription-Key: {your-subscription-key}
Content-Type: application/fhir+json

```

Discharge an outpatient encounter

```

{
  "resourceType": "Encounter",
  "meta": {
    "tag": [
      {
        "code": "CSOutpatientEncounterDischarge",
        "display": "CSOutpatientEncounterDischarge"
      }
    ]
  },
}

```

```

    "status": "finished",
    "class": [
      {
        "code": "2",
        "display": "Admitted",
        "system": "44"
      }
    ],
    "subject": {
      "reference": "Patient/1234567"
    },
    "identifier": {
      "id": "1234567||1",
      "use": "old"
    },
    "serviceProvider": {
      "reference": "Organization/12345"
    },
    "participant": [
      {
        "type": [
          {
            "coding": [
              {
                "system": "http://terminology.hl7.org/CodeSystem/v3-ParticipationType",
                "code": "DIS",
                "display": "discharger"
              }
            ]
          }
        ],
        "individual": {
          "reference": "Practitioner/1112223334"
        }
      }
    ],
    "reasonCode": [
      {
        "text": "This is a comment."
      }
    ],
    "period": {
      "end": "2024-09-15T15:43:00-05:00"
    }
  }
}

```

Discharge an inpatient encounter

```

{
  "resourceType": "Encounter",
  "meta": {
    "tag": [
      {
        "code": "CSIinpatientEncounterDischarge",

```

```

        "display": "CSInpatientEncounterDischarge"
      }
    ]
  },
  "status": "finished",
  "class": [
    {
      "code": "2",
      "display": "Admitted",
      "system": "44"
    }
  ],
  "subject": {
    "reference": "Patient/1234567"
  },
  "identifier": {
    "id": "1234567||1",
    "use": "old"
  },
  "serviceProvider": {
    "reference": "Organization/1234R"
  },
  "participant": [
    {
      "type": [
        {
          "coding": [
            {
              "system": "http://terminology.hl7.org/CodeSystem/v3-ParticipationType",
              "code": "DIS",
              "display": "discharger"
            }
          ]
        }
      ],
      "individual": {
        "reference": "Practitioner/1112223334"
      }
    }
  ],
  "reasonCode": [
    {
      "text": "This is a comment."
    }
  ],
  "period": {
    "end": "2024-09-15T15:43:00-05:00"
  }
}

```

Retrieving Episodes

Episode history is read from `Encounter`, which the API derives from Encounter admission and discharge data:

```
GET https://hidex.dmh.lacounty.gov/healthcare/Encounter?<various parameters>
Authorization: Bearer {access_token}
Ocp-Apim-Subscription-Key: {your-subscription-key}
Accept: application/fhir+json
```

Here are examples query string for retrieving encounter data:

Retrieve Outpatient Encounter (Admission)

```
GET https://hidex.dmh.lacounty.gov/healthcare//Encounter?_tag=CSOutpatientEncounterAdmission&patient=ClientID
```

Retrieve Inpatient Encounter (Admission)

```
GET https://hidex.dmh.lacounty.gov/healthcare//Encounter?_tag=CSInpatientEncounterAdmission&patient=ClientID
```

Retrieve Outpatient Encounter (Discharge)

```
GET https://hidex.dmh.lacounty.gov/healthcare//Encounter?_tag=CSOutpatientEncounterDischarge&patient=ClientID
```

Retrieve Inpatient Encounter (Discharge)

```
GET https://hidex.dmh.lacounty.gov/healthcare//Encounter?_tag=CSInpatientEncounterDischarge&patient=ClientID
```

10. Diagnosis Management

10.1 Creating a Diagnosis

Submit a `Condition` resource for each diagnosis:

```
POST https://hidex.dmh.lacounty.gov/healthcare/Condition
Authorization: Bearer {access_token}
Ocp-Apim-Subscription-Key: {your-subscription-key}
Content-Type: application/fhir+json
```

```
{
  "resourceType": "Condition",
  "meta": {
    "profile": [
      "http://dmh.lacounty.gov/fhir/StructureDefinition/cs-condition"
    ]
  },
  "extension": [
    {
      "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/condition-diagnosisRole",
      "valueCodeableConcept": {
```

```

        "coding": [
            {
                "code": "0",
                "display": "Onset"
            }
        ]
    },
    {
        "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/condition-diagnosisRank",
        "valueCodeableConcept": {
            "coding": [
                {
                    "code": "1",
                    "display": "Primary"
                }
            ]
        }
    },
    {
        "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/condition-diagnosisBillOrder",
        "valueInteger": 1
    }
],
"category": [
    {
        "coding": [
            {
                "system": "urn:oid:http://hl7.org/fhir/ValueSet/condition-category",
                "code": "encounter-diagnosis"
            }
        ]
    }
],
"code": {
    "coding": [
        {
            "system": "urn:oid:2.16.840.1.113883.6.90",
            "code": "A92.5",
            "display": "Zika"
        }
    ]
},
"clinicalStatus": [
    {
        "coding": [
            {
                "code": "Diagnosis Status"
            }
        ]
    }
],
"onsetDateTime": "2020-03-11T07:00:00-05:00",
"subject": {
    "id": "1234567",

```

```

    "reference": "Patient/1234567"
  },
  "asserter": {
    "id": "1234567890",
    "reference": "Practitioner/1234567890"
  },
  "encounter": {
    "id": "1234567||1",
    "reference": "Encounter/1234567||1"
  }
}

```

10.2 Updating a Diagnosis

Submit a PUT `Condition` resource call to update an existing diagnosis:

```

POST https://hidex.dmh.lacounty.gov/healthcare/Condition
Authorization: Bearer {access_token}
Ocp-Apim-Subscription-Key: {your-subscription-key}
Content-Type: application/fhir+json

```

```

{
  "resourceType": "Condition",
  "id": "{{DiagnosisID returned in the PUT call output}}",
  "extension": [
    {
      "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/condition-diagnosisRole",
      "valueCodeableConcept": {
        "coding": [
          {
            "code": "0",
            "display": "Onset"
          }
        ]
      }
    },
    {
      "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/condition-diagnosisRank",
      "valueCodeableConcept": {
        "coding": [
          {
            "code": "1",
            "display": "primary"
          }
        ]
      }
    },
    {
      "url": "https://fhir.dmh.lacounty.gov/v4/StructureDefinition/condition-diagnosisBillOrder",
      "valueInteger": 1
    }
  ]
}

```

```

"category": [
  {
    "coding": [
      {
        "system": "urn:oid:http://hl7.org/fhir/ValueSet/condition-category",
        "code": "encounter-diagnosis"
      }
    ]
  }
],
"code": {
  "coding": [
    {
      "system": "urn:oid:2.16.840.1.113883.6.90",
      "code": "A92.5",
      "display": "Zika"
    }
  ]
},
"onsetDateTime": "2020-03-11T07:00:00-05:00",
"subject": {
  "id": "1234567",
  "reference": "Patient/1234567"
},
"asserter": {
  "id": "123456",
  "reference": "Practitioner/123456"
},
"encounter": {
  "id": "1234567||1",
  "reference": "Encounter/1234567||1"
}
}

```

10.3 Retrieving Diagnosis

Submit a GET `Condition` resource call to retrieve a client's diagnosis history:

```

GET https://hidex.dmh.lacounty.gov/healthcare/Condition?category=encounter-diagnosis&patient=ClientID
Authorization: Bearer {access_token}
Ocp-Apim-Subscription-Key: {your-subscription-key}
Content-Type: application/fhir+json

```

11. CSI Data

Submit the Client and Service Information (CSI) data as a `QuestionnaireResponse` :

Important: FHIR R4 requires `QuestionnaireResponse.status` (cardinality `1..1`). Every CSI submission must include a valid status; use `"completed"` when the data collection is complete.

```

{
  "resourceType": "QuestionnaireResponse",
  "meta": {
    "tag": [
      {
        "code": "CSI_Admission",
        "display": "CSI Admission"
      }
    ]
  },
  "questionnaire": "http://fhir.dmh.lacounty.gov/Questionnaire/CSI",
  "status": "completed",
  "subject": {
    "id": "1234567",
    "reference": "Patient/1234567"
  },
  "encounter": {
    "id": "1234567||1",
    "reference": "Encounter/1234567||1"
  },
  "authored": "2020-03-02T08:12:00-05:00",

  "item": [
    {
      "linkId": "2",
      "text": "Birth First Name",
      "answer": [
        {
          "valueString": "Test"
        }
      ]
    },
    {
      "linkId": "3",
      "text": "Birth Last Name",
      "answer": [
        {
          "valueString": "Poppy"
        }
      ]
    },
    {
      "linkId": "4",
      "text": "Birth Middle Name",
      "answer": [
        {
          "valueString": "Pink"
        }
      ]
    },
    {
      "linkId": "6",
      "text": "Mother's First Name",
      "answer": [

```

```

        {
            "valueString": "Rose"
        }
    ]
},
{
    "linkId": "7",
    "text": "Date of Birth",
    "answer": [
        {
            "valueString": "1987-11-11"
        }
    ]
},
{
    "linkId": "8",
    "text": "Place of Birth - County",
    "answer": [
        {
            "valueCoding": {
                "system": "70214",
                "code": "28",
                "display": "Napa"
            }
        }
    ]
},
{
    "linkId": "9",
    "text": "Place of Birth - State",
    "answer": [
        {
            "valueCoding": {
                "system": "70215",
                "code": "CA",
                "display": "California"
            }
        }
    ]
},
{
    "linkId": "10",
    "text": "Place of Birth - Country",
    "answer": [
        {
            "valueCoding": {
                "system": "70216",
                "code": "US",
                "display": "United States"
            }
        }
    ]
},
{
    "linkId": "13",

```

```

      "text": "Preferred Language",
      "answer": [
        {
          "valueCoding": {
            "system": "70667",
            "code": "7",
            "display": "English"
          }
        }
      ]
    },
    {
      "linkId": "14",
      "text": "Ethnicity",
      "answer": [
        {
          "valueCoding": {
            "system": "70668",
            "code": "N",
            "display": "Not Hispanic or Latino"
          }
        }
      ]
    },
    {
      "linkId": "15",
      "text": "Race",
      "answer": [
        {
          "valueCoding": {
            "system": "70669",
            "code": "1",
            "display": "White or Caucasian"
          }
        }
      ]
    },
    {
      "linkId": "16",
      "text": "Special Population",
      "answer": [
        {
          "valueCoding": {
            "system": "70220",
            "code": "N",
            "display": "No special population services"
          }
        }
      ]
    },
    {
      "linkId": "17",
      "text": "Fiscally Responsible County",
      "answer": [
        {

```

```

        "valueCoding": {
            "system": "70271",
            "code": "43",
            "display": "Santa Clara"
        }
    }
]
},
{
    "linkId": "18",
    "text": "Legal Class at Admission",
    "answer": [
        {
            "valueCoding": {
                "system": "70206",
                "code": "1A",
                "display": "Voluntary"
            }
        }
    ]
},
{
    "linkId": "19",
    "text": "Admission Necessity Code",
    "answer": [
        {
            "valueCoding": {
                "system": "70222",
                "code": "1",
                "display": "Emergency"
            }
        }
    ]
},
{
    "linkId": "21",
    "text": "Conservatorship/Court Status",
    "answer": [
        {
            "valueCoding": {
                "system": "70226",
                "code": "D",
                "display": "Probate"
            }
        }
    ]
},
{
    "linkId": "23",
    "text": "Number of Dependents Under 18",
    "answer": [
        {
            "valueInteger": 2
        }
    ]
}
]

```

```

    },
    {
      "linkId": "24",
      "text": "Number of Dependents Over 18",
      "answer": [
        {
          "valueInteger": 1
        }
      ]
    },
    {
      "linkId": "20",
      "text": "County School",
      "answer": [
        {
          "valueCoding": {
            "system": "County School",
            "code": "95596",
            "display": "Discovery Charter"
          }
        }
      ]
    }
  ]
}

```

Note: linkId values are numeric identifiers assigned by the CSI Questionnaire , not descriptive strings.

12 UMDAP Assessment

Submit the UMDAP financial assessment as a `QuestionnaireResponse` :

```

{
  "resourceType": "QuestionnaireResponse",
  "meta": {
    "tag": [
      {
        "code": "UMDAP",
        "display": "UMDAP"
      }
    ]
  },
  "questionnaire": "http://fhir.dmh.lacounty.gov/Questionnaire/UMDAP",
  "subject": {
    "id": "1234567",
    "reference": "Patient/1234567"
  },
  "status": "completed",
  "author": {
    "reference": "Organization/12345"
  }
},

```

```

"authored": "2022-06-06",
"item": [
  {
    "linkId": "1",
    "text": "Annual Liability Begin Date",
    "answer": [
      {
        "valueDate": "2017-01-01"
      }
    ]
  },
  {
    "linkId": "3",
    "text": "Number of Dependents",
    "answer": [
      {
        "valueInteger": "1"
      }
    ]
  },
  {
    "linkId": "4",
    "text": "Monthly Family Income",
    "answer": [
      {
        "valueDecimal": "1000.98"
      }
    ]
  },
  {
    "linkId": "5",
    "text": "Annual Liability",
    "answer": [
      {
        "valueDecimal": "500.99"
      }
    ]
  },
  {
    "linkId": "6",
    "text": "Responsible Family Member",
    "answer": [
      {
        "valueString": "Doe"
      }
    ]
  },
  {
    "linkId": "7",
    "text": "Note",
    "answer": [
      {
        "valueString": "Note for UMDAP"
      }
    ]
  }
]

```

```

    }
  ]
}

```

Note: `linkId` 1 (Annual Charge Period) is required on create and must not be sent on an update.

Questionnaire Canonical URLs

Instrument	Canonical URL
CSI Data	<code>http://fhir.dmh.lacounty.gov/Questionnaire/CSI</code>
UMDAP Assessment	<code>http://fhir.dmh.lacounty.gov/Questionnaire/UMDAP</code>

11. Error Handling

All errors return a FHIR `OperationOutcome` resource with structured details.

Error Reference

HTTP Status	Issue Code	Meaning	What to Do
401	<code>login</code>	Missing/invalid token	Re-authenticate and retry
403	<code>forbidden</code>	Program mismatch	Verify program-of-service matches your token's <code>program_id</code>
422	<code>processing</code>	Validation failure	Fix the errors listed in the <code>OperationOutcome</code>
422	<code>code-invalid</code>	Invalid <code>CodeSystem</code> code	Use a valid code from the correct <code>CodeSystem</code>
503	<code>transient</code>	NetSmart/FHIR store down	Retry with exponential backoff (1s, 5s, 15s)

Example: Validation Error (HTTP 422)

```

{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "required",
      "expression": ["Patient.name[0].family"],
      "diagnostics": "Client last name is required. Maximum length: 38 characters."
    }
  ],
}

```

```

{
  "severity": "error",
  "code": "value",
  "expression": ["Patient.birthDate"],
  "diagnostics": "Date of birth must be a valid ISO date in YYYY-MM-DD format."
}
]
}

```

Retry Strategy

For HTTP 503 (transient errors):

- Implement exponential backoff: 1s → 5s → 15s
- Maximum 3 retry attempts
- Safe to resubmit — if NetSmart was unreachable, nothing was persisted
- If errors persist beyond 5 minutes, contact LACDMH CIOB

12. Testing and Certification

Sandbox URLs

Environment	Base URL
TEST	<code>https://hidex-test.dmh.lacounty.gov/healthcare</code>

Using Your Program IDs

Important: Use your organization's assigned Program IDs in all environments (TEST, QA, and PRODUCTION).

Your subscription key is associated with your authorized program code(s). These are your actual contracted program codes and should be used across all environments.

Program ID Requirements:

- Must match the `programid` extension value in your Patient resources
- Token `program_id` claim is validated on every submission
- Mismatch between token claim and resource program results in HTTP 403 Forbidden
- Format: 5-6 alphanumeric characters (e.g., `AB123` , `12345A`)

Note: Your assigned Program IDs work across all environments (TEST, QA, PRODUCTION). Contact DMH HIDEX Support if you need your Program ID list.

Certification Script and Runnable Payloads

The checklist below is implemented by two artifacts. Use them to dry-run your integration before requesting a certification review:

Artifact	Location	Purpose
Certification Script 1A (FHIR)	<code>docs/Certification/CertificationScript1A_FHIR_ClientServices_Claiming_v1.0.0.md</code>	The 31-step script DMH reviews, focused on the calls required to support claiming
Bruno collection	<code>tests/bruno/cs-certification/</code>	Ready-to-run request payloads for every step, with assertions. Creates data — TEST or QA only.
Read-only smoke test	<code>tests/bruno/cs-smoke-test/</code>	GET-only health check, safe in any environment

```
cd tests/bruno/cs-certification
.\run-certification.ps1 -Environment test
```

Note: the certification script records several open items where current DMH material is ambiguous (the `EpisodeOfCare_tag` value, Medi-Cal CIN length, `Condition.category` coding, whether claims read-back is available on the `/healthcare` surface, and whether payload validation returns `400` or `422`). Confirm these with DMH before your run.

Certification Checklist

Complete these steps in the TEST environment before going to production. Each maps to a numbered step in Certification Script 1A (FHIR):

Authentication

- Successfully acquire an OAuth2 access token
- Token refresh logic handles expiry correctly (tokens expire after 1 hour)
- Include both Authorization and Ocp-Apim-Subscription-Key headers on all requests
- Verify both credentials are stored securely in your application

Client Admission

- Submit a valid Patient resource → receive HTTP 201 + Client ID
- Submit an invalid Patient → receive HTTP 422 with detailed errors

Client Updates

- Update client demographics via PUT
- Retrieve client details via GET

Episode Management

- Create an admission Encounter → receive HTTP 201
- Retrieve active episode for a client (GET /fhir/EpisodeOfCare?patient={id} — EpisodeOfCare is read-only)
- Discharge a client (set Encounter status to finished)
- Retrieve episode history

Diagnosis

- Create a diagnosis record (Condition)
- Retrieve diagnosis history

Assessments (if applicable)

- Submit a CSI QuestionnaireResponse
- Submit a UMDAP QuestionnaireResponse
- Retrieve assessment details

Batch Submission

- Submit a Bundle with Patient + admission Encounter → receive HTTP 200
- Submit a Bundle with one invalid entry → entire Bundle rejected (HTTP 422)

Error Handling

- System handles 401 (re-authenticates or checks subscription key)
- System handles 403 (unauthorized program - alerts operator)
- System handles 422 (displays errors to user)
- System handles 503 (retries with backoff)

Production Cutover

1. DMH reviews your certification results
 2. Production credentials are issued
 3. Update configuration to use PROD base URL
 4. Perform supervised first submission
 5. Begin regular operations
-

13. Quick Reference

Extension URLs

Extension	URL
Program of Service	http://dmh.lacounty.gov/fhir/Extension/program-of-service
Education Level	http://dmh.lacounty.gov/fhir/Extension/education-level
Employment Status	http://dmh.lacounty.gov/fhir/Extension/employment-status
Ethnicity	http://dmh.lacounty.gov/fhir/Extension/ethnicity
Race	http://dmh.lacounty.gov/fhir/Extension/race
Living Arrangement	http://dmh.lacounty.gov/fhir/Extension/living-arrangement
Admission Type	http://dmh.lacounty.gov/fhir/Extension/admission-type
Admission Time	http://dmh.lacounty.gov/fhir/Extension/admission-time
Admitting Staff NPI	http://dmh.lacounty.gov/fhir/Extension/admitting-staff-npi
Program of Admission	http://dmh.lacounty.gov/fhir/Extension/program-of-admission
Source of Admission	http://dmh.lacounty.gov/fhir/Extension/source-of-admission
Discharge Reason	http://dmh.lacounty.gov/fhir/Extension/discharge-reason
Discharging Staff NPI	http://dmh.lacounty.gov/fhir/Extension/discharging-staff-npi
Diagnosis Ranking	http://dmh.lacounty.gov/fhir/Extension/diagnosis-ranking

CodeSystem URLs

CodeSystem	URL
Program of Service	http://dmh.lacounty.gov/fhir/CodeSystem/cs-program-of-service
Language	http://dmh.lacounty.gov/fhir/CodeSystem/cs-language
Education Level	http://dmh.lacounty.gov/fhir/CodeSystem/cs-education-level
Employment Status	http://dmh.lacounty.gov/fhir/CodeSystem/cs-employment-status
Ethnicity	http://dmh.lacounty.gov/fhir/CodeSystem/cs-ethnicity
Race	http://dmh.lacounty.gov/fhir/CodeSystem/cs-race
Living Arrangement	http://dmh.lacounty.gov/fhir/CodeSystem/cs-living-arrangement
Admission Type	http://dmh.lacounty.gov/fhir/CodeSystem/cs-admission-type

CodeSystem	URL
Admission Source	http://dmh.lacounty.gov/fhir/CodeSystem/cs-admission-source
Discharge Reason	http://dmh.lacounty.gov/fhir/CodeSystem/cs-discharge-reason
Diagnosis Type	http://dmh.lacounty.gov/fhir/CodeSystem/cs-diagnosis-type
Smoking Status	http://dmh.lacounty.gov/fhir/CodeSystem/cs-smoking-status

Identifier Systems

Identifier	System URL
Client ID	http://dmh.lacounty.gov/fhir/identifier/client-id
SSN	http://hl7.org/fhir/sid/us-ssn
NPI	http://hl7.org/fhir/sid/us-npi

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