



LOCUS FHIR Companion Guide

Document Information

Item	Value
Version	2.1.2
Status	Final
Last Updated	10/07/2026
Audience	Providers/vendors integrating with HIDEX for LOCUS assessments
FHIR Version	R4 (4.0.1)

Version History

Version	Date	Summary of Changes
2.1.2	10/05/2026	DELETE QuestionnaireResponse is available now to delete an existing active LOCUS assessment that is erroneous. * Updated PUT section with a NOTE

Version	Date	Summary of Changes
2.1.1	9/11/2026	Defect fix — agreement on Basic Services - Prevention and Health Maintenance . Finalizing an assessment recommended at the lowest acuity band was rejected with 400 Variance is missing. even when the clinician selected the same Actual Disposition. Agreement on every Level of Care is now recognized. Also corrected: the agreement step in Section 2 said to send a Variance of "No Variance", which Section 9 rejects with 400 Variance is not required. — agreement is expressed by omitting the item. No action required.
2.1.0	7/28/2026	Contract change — RecommendedDisposition output value. It is now returned as a Disposition Value from Section 7, including the Level N - prefix, so it can be echoed straight back as an ActualDisposition . Action required only if you string-match it against a hard-coded list. Also: an in-progress PUT needs no ActualDisposition , a Variance may be submitted while in-progress , and a successful DELETE returns 200 with an OperationOutcome (Sections 9 and 11).
2.0.0	7/1/2026	Initial v2.0.0 draft.

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1. What is LOCUS?

The **Level of Care Utilization System (LOCUS)** is a standardized instrument developed by the American Association for Community Psychiatry (AAPC) for clinical decision-making and utilization management in adult behavioral health services. It determines the appropriate intensity of mental health services for an individual.

The Los Angeles County Department of Mental Health (DMH) uses LOCUS to match clients to the right level of care. Providers submit LOCUS assessments electronically through the **HIDEX Provider Access API** using FHIR R4 `QuestionnaireResponse` resources. Assessments are scored by Deerfield Solutions' licensed algorithm (LOCUS Version 20), which returns a recommended Level of Care.

Important: The LOCUS instrument is copyrighted by the American Association for Community Psychiatry (AAPC). Scoring must use the licensed Deerfield Solutions algorithm. Provider software developers must obtain a license by emailing licensing@deerfieldsolutions.com — reference the **LACDMH HIDEX project**.

2. How It Works

Provider EHR → Create Patient + Encounter → Retrieve Questionnaire → Submit QuestionnaireResponse → Val

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1. Your system creates a client or retrieves a specific client's info using `Patient` resource, then creates an encounter using `Encounter` resource referencing that Patient — the LOCUS assessment must reference this Encounter
2. Your system retrieves the LOCUS Questionnaire definition via `GET /fhir/Questionnaire?name=LOCUSAdult`
3. A clinician completes the assessment (selecting criteria across 7 dimensions)
4. Your system submits the assessment as a FHIR R4 `QuestionnaireResponse` via `POST`, referencing the `Patient ( subject )` and `Encounter ( encounter )` with assessment status 'in-progress' to keep it as DRAFT
5. The API validates the submission against business rules
6. The validated data is forwarded to the Deerfield LOCUS scoring service
7. The scoring service returns dimension scores, composite score, and a recommended Level of Care
8. The scored response (with recommended disposition) is stored in the FHIR store and returned to you

9. If clinician agrees with the Deerfield’s recommended Level of Care, utilize the FHIR R4 `QuestionnaireResponse` via `PUT` referencing the assessment record id with assessment status ‘completed’, adding Actual Disposition same as the recommended Level of Care returned in step #8, and **omitting** the `Variance` item. This will mark this LOCUS assessment as FINAL and it will not be editable. See [Section 9](#) for the full status and `Variance` rules.

Important: Do not send a `Variance` value such as “No Variance” to indicate agreement. A `Variance` submitted alongside an Actual Disposition that matches the recommendation is rejected with `400` and the diagnostic `Variance` is not required. Agreement is expressed by omitting the item.

10. If the clinician differs from the Deerfield’s recommended level of care, utilize the FHIR R4 `QuestionnaireResponse` via `PUT` referencing the assessment record id with assessment status ‘completed’ to submit the variance using Actual Disposition and the reason for variance. This will save this LOCUS Assessment’s Recommended Level of Care, Actual Disposition showing current Level of Care chosen by clinician and Variance reason and mark the assessment as FINAL.
11. If the user needs to change any assessment answers to address the discrepancy between Actual and Recommend Level of Care or to address any erroneous entry, utilize the FHIR R4 `QuestionnaireResponse` via `PUT` referencing the assessment record id, status as ‘in-progress’. If no more discrepancy between Actual and Recommended Level of Care or erroneous submission is corrected, then submit another `QuestionnaireResponse` via `PUT` referencing the assessment record id along with status as ‘completed’ to mark the assessment as FINAL.
12. LOCUS assessment remains in the ‘completed’ status when it is set by the Provider. Any further modification would require a `DELETE` method to make the assessment record as ‘inactive’ and a new assessment with corrected entries can be processed as described thru Step #3. The delete is a soft delete that preserves history, and a provider may delete only assessments its own organization authored — see [Section 9: Deleting a Finalized Assessment](#) for details.

3. Key Concepts

Concept	Description
QuestionnaireResponse	The FHIR resource type used for LOCUS assessment submissions
Questionnaire	The FHIR resource defining the LOCUS instrument structure (dimensions, criteria)
Encounter	The FHIR resource representing the visit during which the assessment is performed; the <code>QuestionnaireResponse.encounter</code> reference is required

Concept	Description
Dimension	One of the 7 clinical domains assessed (Risk of Harm, Functional Status, etc.)
Criteria	Boolean items within each dimension level that clinicians select as true/false
Recommended Disposition	The Level of Care recommended by the Deerfield scoring algorithm
Actual Disposition	The Level of Care ultimately assigned after clinical judgment (may differ)
Variance	When the Actual Disposition differs from the Recommended Disposition
Meta Tag	Identifies the assessment type: "LOCUS"
Status Lifecycle	in-progress → completed (once completed, the record is read-only)
Override Rule	Domain 5: selecting criterion 5.1.2b pre-empts 5.2–5.5; selecting 5.2.3c pre-empts 5.3–5.5
OperationOutcome	FHIR error response containing all validation issues

4. Onboarding Steps

- 1. Contact DMH to request API access credentials
- 2. Obtain a Deerfield Solutions LOCUS license (email licensing@deerfieldsolutions.com)
- 3. Receive OAuth2 client credentials and subscription key from DMH
- 4. Configure your system to include both credentials in all requests
- 5. Connect to the TEST sandbox environment
- 6. Retrieve the LOCUS Questionnaire definition via GET
- 7. Create or resolve the client's Patient resource, then create an Encounter referencing it
- 8. Submit a test LOCUS assessment referencing the Patient and Encounter
- 9. Verify the response includes dimension scores, composite score and a Recommended Disposition
- 10. Submit a variance (Actual Disposition differs from Recommended)
- 11. Verify validation errors are handled correctly
- 12. Complete the certification checklist (Section 12) in QA environment
- 13. Upon completion of successful QA certification, request promotion to PRODUCTION environment

5. Authentication

Every request to the 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..."
}
```

Step 2: Include Both Headers on API Requests

Include both credentials in every request:

```
POST https://hidex-test.dmh.lacounty.gov/healthcare/QuestionnaireResponse
```

```
Authorization: Bearer {access_token}
```

```
Ocp-Apim-Subscription-Key: {your-subscription-key}
```

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

```
Accept: application/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)
- 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.

6. Endpoint Configuration

Base URLs

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

Operations

Operation	Method	Path
Retrieve LOCUS Questionnaire	GET	<code>/Questionnaire?name=LOCUSAdult</code>
Create Encounter	POST	<code>/Encounter</code>
Submit new assessment	POST	<code>/QuestionnaireResponse</code>
Update assessment (variance)	PUT	<code>/QuestionnaireResponse/{id}</code>
Retrieve assessment	GET	<code>/QuestionnaireResponse/{id}</code>
Search assessments	GET	<code>/QuestionnaireResponse?_tag=LOCUS&patient={Client ID}</code>
Delete assessment	DELETE	<code>/QuestionnaireResponse/{id}</code>

Required Headers

Header	Value
<code>Authorization</code>	<code>Bearer {access_token}</code>
<code>Ocp-Apim-Subscription-Key</code>	<code>{your-subscription-key}</code>
<code>Content-Type</code>	<code>application/json</code>
<code>Accept</code>	<code>application/json</code>

7. LOCUS Assessment Structure

The LOCUS instrument has **7 dimensions**, each rated across severity levels (1–5). Clinicians select boolean criteria items within each level.

Dimensions

Dimension	LinkId	Severity Levels	Override Rule
1. Risk of Harm	1	1.1 Minimal → 1.5 High	None
2. Functional Status	2	2.1 Minimal → 2.5 Severe	None
3. Co-Morbidity	3	3.1 None → 3.5 Severe	None
4. Recovery Environment - Level of Stress	4	4.1 Highly Supportive → 4.5 Dangerous	None
5. Recovery Environment - Level of Support	5	5.1 Positive → 5.5 Refractory	If 5.1.2b = true → skip 5.2–5.5; if 5.2.3c = true → skip 5.3–5.5
6. Treatment and Recovery History	6	6.1 Fully Engaged → 6.5 No Engagement	None
7. Engagement and Recovery Status	7	7.1 Fully Engaged → 7.5 No Engagement	None

Response Item Structure

Each dimension is a group item containing sub-level groups. Within each level, criteria are boolean items:

```
Dimension (group, linkId: "1")
├─ Level (group, linkId: "1.1")
│   └─ Criterion (boolean, linkId: "1.1.1a")
```

Recommended and Actual Disposition

After scoring, the response includes:

- `RecommendedDisposition` — computed by the Deerfield algorithm (output only)
- `ActualDisposition` — the clinician's chosen level of care (required when finalizing with `status: completed`)

`RecommendedDisposition` is returned as one of the **Disposition Values** listed below — the same vocabulary the API accepts for `ActualDisposition` on input, including the `Level N -` prefix. Every value the API returns

is a value the API accepts.

Important: To record that the clinician agrees with the Deerfield recommendation, copy the returned `RecommendedDisposition` value **verbatim** into `ActualDisposition` and submit no `Variance`. No translation, reformatting or prefix handling is required on your side. Submit a `Variance` only when the `ActualDisposition` names a different level of care than the recommendation.

Disposition Values

Value	Description
Basic Services - Prevention and Health Maintenance	Lowest acuity
Level 1 - Recovery Maintenance and Health Management	
Level 2 - Low Intensity Community Based Services	
Level 3 - High Intensity Community Based Services	
Level 4 - Medically Monitored Non-Residential Services	
Level 5 - Medically Monitored Residential Services	
Level 6 - Medically Managed Residential Services	Highest acuity
None	No disposition assigned

8. Submitting a LOCUS Assessment

Step 0: Retrieve the LOCUS Questionnaire Definition

Retrieve the current LOCUS Questionnaire definition before building a submission:

```
GET /fhir/Questionnaire?name=LOCUSAdult
```

The response is a `Bundle` containing the LOCUS `Questionnaire` ; use its structure (dimensions, levels, criterion `LinkId` values) to build the `QuestionnaireResponse` `item` tree.

Step 1: Create the Encounter

Every LOCUS `QuestionnaireResponse` must reference an `Encounter`. Create the Encounter first, referencing the client's existing `Patient` resource:

```
POST /fhir/Encounter
```

```
{
  "resourceType": "Encounter",
  "status": "in-progress",
  "class": [
    {
      "code": "2",
      "display": "Admission",
      "system": "44"
    }
  ],
  "subject": { "reference": "Patient/1234567" },
  "participant": [
    {
      "individual": { "reference": "Practitioner/1003001124" }
    }
  ]
}
```

Successful Response (HTTP 201)

```
{
  "resourceType": "Encounter",
  "id": "1234567|1",
  "status": "in-progress",
  "subject": { "reference": "Patient/1234567" }
}
```

Note: Store the returned Encounter `id` — you'll reference it as `Encounter/{id}` in the `QuestionnaireResponse.encounter` field in Step 2.

Step 2: Submit the Assessment

Complete Example (New Assessment)

POST /fhir/QuestionnaireResponse

```
{
  "resourceType": "QuestionnaireResponse",
  "status": "completed",
  "questionnaire": "https://lacdmh.lacounty.gov/fhir/Questionnaire/LOCUS",
  "subject": { "reference": "Patient/1234567" },
  "source": { "reference": "Practitioner/1234567890" },
  "author": { "reference": "Organization/12345" },
  "authored": "2026-06-15T14:30:00-07:00",
  "encounter": { "reference": "Encounter/1234567||1" },
  "meta": {
    "tag": [{ "code": "LOCUS", "display": "LOCUS" }]
  },
  "item": [
    {
      "linkId": "1",
      "text": "Risk of Harm",
      "item": [
        {
          "linkId": "1.1",
          "text": "Minimal Risk of Harm",
          "item": [
            { "linkId": "1.1.1a", "answer": [{ "valueBoolean": true }] },
            { "linkId": "1.1.1b", "answer": [{ "valueBoolean": false }] }
          ]
        }
      ]
    }
  ],
  {
    "linkId": "2",
    "text": "Functional Status",
    "item": [
      {
        "linkId": "2.2",
        "text": "Mild Impairment",
        "item": [
          { "linkId": "2.2.1a", "answer": [{ "valueBoolean": true }] },
          { "linkId": "2.2.1b", "answer": [{ "valueBoolean": false }] }
        ]
      }
    ]
  }
]
```

```

    ]
  },
  {
    "linkId": "3",
    "text": "Co-Morbidity",
    "item": [
      {
        "linkId": "3.1",
        "text": "No Significant Co-Morbidity",
        "item": [
          { "linkId": "3.1.1a", "answer": [{ "valueBoolean": true }] }
        ]
      }
    ]
  },
  {
    "linkId": "4",
    "text": "Recovery Environment",
    "item": [
      {
        "linkId": "4.2",
        "text": "Supportive Environment",
        "item": [
          { "linkId": "4.2.1a", "answer": [{ "valueBoolean": true }] }
        ]
      }
    ]
  },
  {
    "linkId": "5",
    "text": "Treatment and Recovery History",
    "item": [
      {
        "linkId": "5.1",
        "text": "No Treatment History / Positive Response",
        "item": [
          { "linkId": "5.1.1a", "answer": [{ "valueBoolean": true }] },
          { "linkId": "5.1.2b", "answer": [{ "valueBoolean": false }] }
        ]
      }
    ]
  },
  {
    "linkId": "6",
    "text": "Engagement and Recovery Status",
    "item": [
      {

```

```

    "linkId": "6.2",
    "text": "Engaged",
    "item": [
      { "linkId": "6.2.1a", "answer": [{ "valueBoolean": true }] },
      { "linkId": "6.2.1b", "answer": [{ "valueBoolean": true }] }
    ]
  }
]
}
]
}

```

Response (Success)

```

{
  "resourceType": "QuestionnaireResponse",
  "id": "abc123-def456",
  "status": "completed",
  "questionnaire": "https://lacdmh.lacounty.gov/fhir/Questionnaire/LOCUS",
  "subject": { "reference": "Patient/1234567" },
  "authored": "2026-06-15T14:30:00-07:00",
  "meta": {
    "tag": [{ "code": "LOCUS", "display": "LOCUS" }]
  },
  "item": [
    {
      "linkId": "1",
      "text": "Risk of Harm",
      "item": [
        {
          "linkId": "1.1",
          "item": [
            { "linkId": "1.1.1a", "answer": [{ "valueBoolean": true }] }
          ]
        }
      ]
    }
  ],
  {
    "linkId": "RecommendedDisposition",
    "item": [
      {
        "linkId": "RecommendedDispositionDescription",
        "answer": [{ "valueString": "Level 2 - Low Intensity Community Based Services" }]
      }
    ]
  }
}

```

```
]
}
```

Note: The `RecommendedDisposition` item is added by the system after Deerfield scoring. Do NOT include it in your POST submission. Its value is always one of the Disposition Values in Section 7, so it can be echoed back verbatim as the `ActualDisposition` on a later `PUT` to record agreement.

9. Updating an Assessment (Variance Submission)

After receiving the Recommended Disposition, submit corrections or the clinician's chosen level of care via `PUT`.

Important: A `PUT` is accepted while the stored record is `in-progress`. Once a record has been finalized with `status: completed`, it is read-only — correct it by deleting it and submitting a new assessment (see below).

What a `PUT` must carry depends on the status you are submitting:

Submitted status	Actual Disposition	Variance
<code>in-progress</code>	Optional — omit it while the clinician has not chosen a level of care yet. The assessment is re-scored and returned with an updated <code>RecommendedDisposition</code> .	Required only if an <code>ActualDisposition</code> is present and names a different level of care than the recommendation
<code>completed</code> (finalization)	Required — must be one of the Disposition Values in Section 7	Required when it differs from the recommendation; must be omitted when it matches

- **A Variance may be submitted at either point.** It is not limited to finalization — an `in-progress` update that carries an `ActualDisposition` differing from the recommendation must include a `Variance` reason too, and is accepted with `200`.
- **An in-progress update needs no Actual Disposition.** Submitting seven dimensions with no `ActualDisposition` item and `status: in-progress` is valid and returns `200` with the re-scored assessment.
- **Agreement carries no Variance.** Echo the returned `RecommendedDisposition` verbatim into `ActualDisposition` and omit `Variance`. Including a `Variance` when the two values match is rejected

with 400 and the diagnostic Variance is not required. ; omitting it when they differ is rejected with 400 and Variance is missing.

NOTE

When submitting a PUT call, Actual Disposition linkId is not required any longer.

Variance Example

```
PUT /fhir/QuestionnaireResponse/abc123-def456
```

```
{
  "resourceType": "QuestionnaireResponse",
  "id": "abc123-def456",
  "status": "completed",
  "questionnaire": "https://lacdmh.lacounty.gov/fhir/Questionnaire/LOCUS",
  "subject": { "reference": "Patient/1234567" },
  "source": { "reference": "Practitioner/1234567890" },
  "author": { "reference": "Organization/12345" },
  "authored": "2026-06-15T14:30:00-07:00",
  "encounter": { "reference": "Encounter/1234567|1" },
  "meta": {
    "tag": [{ "code": "LOCUS", "display": "LOCUS" }]
  },
  "item": [
    {
      "linkId": "1",
      "text": "Risk of Harm",
      "item": [
        {
          "linkId": "1.1",
          "item": [
            { "linkId": "1.1.1a", "answer": [{ "valueBoolean": true }] }
          ]
        }
      ]
    }
  ],
  {
    "linkId": "2",
    "text": "Functional Status",
    "item": [
      {
        "linkId": "2.2",
        "item": [
          { "linkId": "2.2.1a", "answer": [{ "valueBoolean": true }] }
        ]
      }
    ]
  }
]
```

```

    ]
  }
]
},
{
  "linkId": "3",
  "text": "Co-Morbidity",
  "item": [
    {
      "linkId": "3.1",
      "item": [
        { "linkId": "3.1.1a", "answer": [{ "valueBoolean": true }] }
      ]
    }
  ]
},
{
  "linkId": "4",
  "text": "Recovery Environment",
  "item": [
    {
      "linkId": "4.2",
      "item": [
        { "linkId": "4.2.1a", "answer": [{ "valueBoolean": true }] }
      ]
    }
  ]
},
{
  "linkId": "5",
  "text": "Treatment and Recovery History",
  "item": [
    {
      "linkId": "5.1",
      "item": [
        { "linkId": "5.1.1a", "answer": [{ "valueBoolean": true }] }
      ]
    }
  ]
},
{
  "linkId": "6",
  "text": "Engagement and Recovery Status",
  "item": [
    {
      "linkId": "6.2",
      "item": [

```

```

        { "linkId": "6.2.1a", "answer": [{ "valueBoolean": true }] }
      ]
    }
  ],
  {
    "linkId": "ActualDisposition",
    "item": [
      {
        "linkId": "Dispositiondescription",
        "answer": [{ "valueString": "Level 3 - High Intensity Community Based Services" }]
      },
      {
        "linkId": "Variance",
        "answer": [{ "valueString": "Clinician selected a different level of care than the recommend
      }
    ]
  }
]
}

```

Note: The `Variance` item is present because the `ActualDisposition` above differs from the recommendation. If the clinician agrees with the recommendation, echo the returned `RecommendedDisposition` value into `Dispositiondescription` and omit the `Variance` item entirely.

Response (Success)

HTTP/1.1 200 OK

```

{
  "resourceType": "QuestionnaireResponse",
  "id": "abc123-def456",
  "status": "completed",
  "questionnaire": "https://lacdmh.lacounty.gov/fhir/Questionnaire/LOCUS"
}

```

Deleting a Finalized Assessment

Once an assessment is `completed`, it is read-only and cannot be changed via `PUT`. To correct a finalized assessment, delete it and submit a new one (see Section 2, step 12). Two rules govern the delete:

- **Soft delete preserving history** — `DELETE /QuestionnaireResponse/{id}` performs a logical (soft) delete. The assessment stops being returned by read and search operations, but its version history is preserved. There is no hard-delete or purge capability for LOCUS assessments.
- **Own-organization only** — a provider may delete only assessments its own organization authored. The API derives the assessment's owning organization from `QuestionnaireResponse.author` and compares it against the caller's organization. A delete targeting another organization's assessment is rejected and the assessment remains retrievable.

A successful delete is acknowledged with `200 OK` and an information-severity `OperationOutcome` (see Section 11 for the full example), so your system can confirm the delete completed. A subsequent read of that assessment returns a not-found response, and a new assessment for the same patient and encounter may be submitted.

10. Validation Rules

What Gets Validated

The API validates every POST and PUT before the data reaches the FHIR Store and Deerfield scoring service.

POST (New Assessment)

Rule	Description
Required references	<code>subject</code> , <code>encounter</code> , <code>author</code> , <code>source</code> — all must have a non-empty reference
Authored date	<code>authored</code> field is required
Minimum completion	At least one <code>true</code> answer must exist in each dimension (each top-level item group)
Meta tag	Must include <code>"LOCUS"</code> tag in <code>meta.tag</code>
Questionnaire URL	Must contain <code>"LOCUS"</code> (case-insensitive)
Override (5.1.2b)	If criterion <code>5.1.2b</code> is true, dimensions 5.2–5.5 must have no <code>true</code> answers
Override (5.2.3c)	If criterion <code>5.2.3c</code> is true, dimensions 5.3–5.5 must have no <code>true</code> answers

PUT (Variance / Update)

Rule	Description
Actual Disposition required on finalization	When the submitted <code>status</code> is <code>completed</code> , the <code>ActualDisposition</code> item with <code>Dispositiondescription</code> must be present
Actual Disposition optional while in-progress	When the submitted <code>status</code> is <code>in-progress</code> , the <code>ActualDisposition</code> item may be omitted entirely; if present, it must still carry a valid disposition value
Valid disposition value	<code>Dispositiondescription</code> must be one of the allowed disposition values (Section 7)
Variance required on a difference	A <code>Variance</code> reason is required whenever the <code>ActualDisposition</code> names a different level of care than the <code>RecommendedDisposition</code> — on an <code>in-progress</code> update as well as on finalization
Variance rejected on agreement	A <code>Variance</code> must be omitted when the <code>ActualDisposition</code> matches the <code>RecommendedDisposition</code>
Status check	The stored record must not already be finalized (<code>completed</code>) — a finalized record is read-only

Domain 5 Override Logic

The LOCUS instrument has conditional logic in Domain 5 (Treatment and Recovery History):

- **5.1.2b** — “Effective involvement of ACT or similarly highly supportive resources (pre-empts higher ratings).” If this criterion is true, the provider must NOT select any criteria in levels 5.2 through 5.5.
- **5.2.3c** — “Professional supports are available and effectively engaged (i.e., ICM) (pre-empts higher ratings).” If this criterion is true, the provider must NOT select any criteria in levels 5.3 through 5.5.

11. Error Handling

Status Codes

Code	Meaning
200	Assessment updated (PUT), retrieved (GET), or deleted (DELETE — returns an information-severity <code>OperationOutcome</code>)

Code	Meaning
201	Assessment created and scored successfully
400	Validation failed — check <code>OperationOutcome</code>
401	Authentication failed — invalid or missing subscription key
403	Forbidden — you may only delete assessments your own organization authored
404	Resource not found
500	Server error — contact DMH support

Error Handling

Note: A successful `POST` returns `200 OK` with an acknowledgement `OperationOutcome` — not `204 No Content`. A subsequent read of a deleted assessment returns `404` (or `410 Gone`).

Example Success Response (POST — HTTP 200)

A `POST` of an assessment your organization authored is acknowledged with `200 OK` and an information-severity `OperationOutcome`.

```
HTTP/1.1 201 Created
A new resource was created successfully.
Content-Type: application/json
```

Example Error Response (Validation Failure)

```
{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "processing",
      "diagnostics": "Each major section must have at least one 'true' answer."
    }
  ]
}
```

Example Error Response (Override Violation)

```
{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "processing",
      "diagnostics": "When LOCUS assessment question 5.1.2b Effective involvement of Assertive Communi"
    }
  ]
}
```

Example Error Response (Invalid Disposition)

```
{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "processing",
      "diagnostics": "Error: Invalid Actual Disposition"
    }
  ]
}
```

11.1 DELETE ASSESSMENT

Following DELETE call syntax can be used to DELETE a LOCUS assessment.

```
{{fhirurl}}/QuestionnaireResponse/<GUID from POST/PUT call response>
```

After successful DELETE operation, following message will be returned:

```
{
  "resourceType": "OperationOutcome",
  "id": "3f2a9c58-6b41-4f0e-9c2d-71a8e5d4b6c7",
  "issue": [
    {
      "severity": "information",
      "code": "informational",
      "diagnostics": "Delete request for QuestionnaireResponse/abc123-def456 completed successfully."
    }
  ]
}
```

```

    }
  ]
}

```

A `DELETE` of a LOCUS assessment your organization did not author is rejected with `403 Forbidden` and a non-disclosing `OperationOutcome`. The assessment is left unchanged and remains retrievable.

```

{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "forbidden",
      "diagnostics": "You are not authorized to perform this operation."
    }
  ]
}

```

Common Errors and Fixes

Error	Fix
"Subject is missing"	Add <code>"subject": { "reference": "Patient/{id}" }</code>
"Subject reference is missing"	Ensure the <code>reference</code> field is non-empty
"Encounter is missing"	Add <code>"encounter": { "reference": "Encounter/{id}" }</code>
"Author is missing"	Add <code>"author": { "reference": "Organization/{id}" }</code>
"Authored is missing"	Add the <code>"authored"</code> datetime field
"Each major section must have at least one 'true' answer"	Ensure every dimension has at least one criterion selected as <code>true</code>
"5.2 thru 5.5 questions should be omitted"	Remove 5.2–5.5 criteria when 5.1.2b is <code>true</code>
"5.3 thru 5.5 questions should be omitted"	Remove 5.3–5.5 criteria when 5.2.3c is <code>true</code>

Error	Fix
"Error: Invalid Actual Disposition"	Use one of the exact allowed disposition values — the returned <code>RecommendedDisposition</code> is always one of them and can be echoed verbatim. On a <code>completed</code> PUT, also check the <code>ActualDisposition</code> item is present at all
"Variance is missing."	The Actual Disposition names a different level of care than the recommendation — add a <code>Variance</code> item with the clinical reason
"Variance is not required."	The Actual Disposition matches the recommendation — remove the <code>Variance</code> item
Record cannot be edited (401)	The record is already <code>completed</code> — cannot PUT after finalization

12. Testing and Certification

Sandbox URLs

Environment	URL
TEST	https://hidex-test.dmh.lacounty.gov/healthcare

Connect to QA environment at the following endpoint:

| QA | <https://hidex-qa.dmh.lacounty.gov/healthcare> |

Certification Checklist

- 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
- Retrieve LOCUS Questionnaire definition via GET (`/Questionnaire?name=LOCUSAdult`)
- Submit valid LOCUS assessment (all 7 dimensions) → 201 Created
- Confirm response includes `RecommendedDisposition` with a valid level of care, and that the value is one of the Disposition Values in Section 7
- Submit an in-progress PUT with no Actual Disposition → 200 OK with the re-scored assessment
- Echo the returned `RecommendedDisposition` verbatim as the Actual Disposition with no Variance (agreement) → 200 OK

- Submit a different Actual Disposition together with a Variance reason (variance scenario) → 200 OK, both values persisted
- Submit a `completed` PUT with no Actual Disposition → 400 with OperationOutcome
- Submit assessment missing a dimension → 400 with OperationOutcome
- Submit assessment with 5.1.2b override violation → 400 with override error
- Submit assessment with invalid Actual Disposition → 400 with OperationOutcome
- Retrieve submitted assessment via GET → 200 OK
- Search assessments via GET (`/QuestionnaireResponse?_tag=LOCUS&patient={id}`) → Bundle
- Delete an assessment your own organization authored via DELETE → 200 OK with an information-severity OperationOutcome; a subsequent read returns 404
- Attempt to delete an assessment authored by another organization → 403 Forbidden with OperationOutcome; the assessment remains retrievable
- Verify both credentials are stored securely in your application
- Confirm error responses are parsed and logged
- Verify UI enforces Dimension 5 override logic (5.1.2b / 5.2.3c)

13. Quick Reference

Questionnaire URL

Assessment	URL
LOCUS Adult	<code>https://lacdmh.lacounty.gov/fhir/Questionnaire/LOCUS</code>

Meta Tag

Assessment	Code
LOCUS	<code>"LOCUS"</code>

Search Parameters

Parameter	Example
By tag	<code>/QuestionnaireResponse?_tag=LOCUS</code>
By patient	<code>/QuestionnaireResponse?_tag=LOCUS&patient=Patient/1234567</code>
By ID	<code>/QuestionnaireResponse/{id}</code>

Parameter	Example
Questionnaire definition	/Questionnaire?name=LOCUSAdult

Operations

Operation	Method	Path
Retrieve LOCUS Questionnaire	GET	/Questionnaire?name=LOCUSAdult
Create Encounter	POST	/Encounter
Submit new assessment	POST	/QuestionnaireResponse
Update assessment (variance)	PUT	/QuestionnaireResponse/{id}
Retrieve assessment	GET	/QuestionnaireResponse/{id}
Search assessments	GET	/QuestionnaireResponse?_tag=LOCUS&patient={Client ID}
Delete assessment (soft delete, own organization only)	DELETE	/QuestionnaireResponse/{id}

Allowed Disposition Values

Value
Basic Services - Prevention and Health Maintenance
Level 1 - Recovery Maintenance and Health Management
Level 2 - Low Intensity Community Based Services
Level 3 - High Intensity Community Based Services
Level 4 - Medically Monitored Non-Residential Services
Level 5 - Medically Monitored Residential Services
Level 6 - Medically Managed Residential Services
None

Note: This list is both the input and the output vocabulary. `ActualDisposition` is validated against it on `PUT`, and the `RecommendedDisposition` returned after scoring is drawn from it — so the recommendation can be echoed back verbatim to record agreement.

Dimensions (LinkIds)

LinkId	Dimension
1	Risk of Harm
2	Functional Status
3	Medical, Addictive, and Psychiatric Co-Morbidity
4	Recovery Environment - Level of Stress
5	Recovery Environment - Level of Support
6	Treatment and Recovery History
7	Engagement and Recovery Status

Status Lifecycle

Status	Can POST?	Can PUT?	Can DELETE?
(new)	Yes	—	—
in-progress	—	Yes	Yes (own organization only)
completed (no actual disposition)	—	No (read-only)	Yes (own organization only)
completed (with actual disposition)	—	No (read-only)	Yes (own organization only)
deleted / inactive (soft-deleted)	Yes (new assessment for the same patient/encounter)	No	No

Note: A `DELETE` performs a soft delete — the assessment becomes inactive and is no longer returned by read or search, while its version history is preserved. A provider may delete only assessments its own

organization authored. Deleting a completed assessment is the supported path for correcting a finalized record: soft-delete it, then submit a new assessment for the same patient and encounter.

UI Requirements

- Dimensions and responses must preserve official LOCUS instrument order
- Users must select actual clinical criteria — assigning a raw 1–5 score is not allowed
- At least one criterion must be selected (true) in each dimension
- All selected responses must be stored for auditability
- Instrument text must not be edited, omitted, or reworded
- UI must enforce Domain 5 conditional logic (override rules)

Deerfield Licensing

The LOCUS service intensity assessment and planning instrument is owned and copyrighted by the American Association for Community Psychiatry (AACP). The only sanctioned method for accessing and scoring the LOCUS tool for clinical service intensity assessment, service planning and/or utilization management for individuals and families in need of behavioral health services is through the electronic scoring algorithm that must be licensed to the end user organization by Deerfield Solutions, LLC.

LACDMH contracted with Deerfield Solutions, LLC. to use the LOCUS tool. Provider software developers and/or vendors are advised to obtain a license to digitally duplicate the LOCUS tool by sending the request to Deerfield Solutions by emailing at the following address: licensing@deerfieldsolutions.com

There is no cost to obtain a license for integration with LACDMH's HIDEX but it does require a license agreement. When contacting Deerfield please be sure to note the request is for the LACDMH HIDEX project as these requests will be prioritized.

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