USCDI-Payload API Contract Document

Healthcare Interoperability Resources Specification

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Target Audience:	API Consumers, Healthcare Developers
Compliance:	FHIR R4, HL7 Standards

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1. Tribal Affiliation Value Set API

> **Purpose:** This API contract defines the structure for a FHIR Value Set containing tribal affiliation codes used for patient demographic information and healthcare interoperability.

1.1 Resource Type

ValueSet - A FHIR resource that defines a set of codes for use in healthcare applications.

1.2 Root Object Structure

Field	Type	Required	Description
resourceType	String	**Yes**	Always "ValueSet" for this resource type
id	String	**Yes**	Unique identifier for this value set instance
url	String	**Yes**	Canonical URL that identifies this value set globally
version	String	**Yes**	Business version of the value set (e.g., "1.0.0")
name	String	**Yes**	Machine-readable name for the value set
title	String	**Yes**	Human-readable title for display purposes
status	String	**Yes**	Publication status: "draft" | "active" | "retired" | "unknown"
experimental	Boolean	No	Whether this is intended for testing/experimental use

Field	Type	Required	Description
date	String	**Yes**	Date of last change (ISO 8601 format)
publisher	String	**Yes**	Organization or individual responsible for the value set
description	String	**Yes**	Natural language description of the value set purpose
meta	Object	**Yes**	Metadata about the resource
compose	Object	**Yes**	Definition of codes in the value set

1.3 Nested Object Structures

Meta Object

Field	Type	Required	Description
versionId	String	**Yes**	Version-specific identifier
lastUpdated	String	**Yes**	Last update timestamp (ISO 8601 format)
profile	Array[String]	No	Profiles this resource claims to conform to

Compose Object

Field	Type	Required	Description
include	Array[Include]	**Yes**	Include one or more sets of codes

Include Object

Field	Type	Required	Description
system	String	**Yes**	Code system URI (e.g., "http://hl7.org/fhir")
concept	Array[Concept]	**Yes**	Individual concepts to include

Concept Object

Field	Type	Required	Description
code	String	**Yes**	Code value from the code system

Field	Type	Required	Description
display	String	**Yes**	Human-readable representation of the code
extension	Array[Extension]	No	Additional properties for the concept

2. SDOH Digital Access Questionnaire Bundle API

Purpose: This API contract defines the structure for a FHIR Bundle containing a digital access assessment questionnaire used to evaluate patient access to digital resources and technology.

2.1 Resource Type

Bundle - A FHIR resource that contains a collection of resources, in this case, a questionnaire.

2.2 Root Object Structure

Field	Type	Required	Description
resourceType	String	Yes	Always "Bundle" for this resource type
id	String	Yes	Unique identifier for this bundle instance
identifier	Array[Identifier]	No	Additional identifiers for the bundle
url	String	Yes	Canonical URL for the questionnaire
version	String	Yes	Business version (e.g., "1.0.0")
name	String	Yes	Machine-readable name
title	String	Yes	Human-readable title
status	String	Yes	Publication status: "draft" | "active" | "retired"

Field	Type	Required	Description
item	Array[Item]	**Yes**	Questions and groups in the questionnaire

2.3 Item Object Structure

Field	Type	Required	Description
linkId	String	**Yes**	Unique identifier for this item within questionnaire
definition	String	No	Formal definition/specification reference
text	String	**Yes**	Primary text for the item
type	String	**Yes**	Item type: "group" | "display" | "question" | "boolean" | "choice"
required	Boolean	No	Whether answer is required
answerType	String	No	Expected answer format
code	Array[Coding]	No	Corresponding concept for this item
answerOption	Array[AnswerOption]	No	Permitted answers for choice questions

3. Implementation Guidelines

3.1 Item Types and Usage

Group Items

Purpose: Container for related questions

Required Fields: linkId, text, type: "group", item

Usage: Organizing related questions together

Question Items

Purpose: Individual questions requiring answers

Required Fields: linkId, text, type, answerType

Usage: Collecting specific information from users

Display Items

Purpose: Informational content without requiring answers

Required Fields: linkId, text, type: "display"

Usage: Showing reference information or options

3.2 Code Systems Used

System	Purpose	Example Codes
LOINC	Question codes and answers	99802-1, LA33-6, LA32-8
SNOMED	Clinical procedures and interventions	1268660000, 661931000124103

4. Code Examples

4.1 Tribal Affiliation ValueSet Example

```
{ "resourceType": "ValueSet", "id": "tribal-affiliation-vs", "url":
"http://example.org/fhir/ValueSet/tribal-affiliation", "version":
"1.0.0", "name": "TribalAffiliationValueSet", "title": "Tribal
Affiliation Value Set", "status": "active", "date": "2025-05-29",
"publisher": "Healthcare Organization", "description": "Value set for
tribal affiliation codes", "meta": { "versionId": "1", "lastUpdated":
"2025-05-29T10:00:00Z" }, "compose": { "include": [ { "system":
"http://hl7.org/fhir", "concept": [ { "code": "539", "display": "Native
Village of Stevens", "extension": [ { "url":
"http://example.org/fhir/StructureDefinition/option-unique-id",
"valueId": "cabed627-3cb6-45e3-a05d-7ec79097961f" } ] } ] } ] } }
```

4.2 Digital Access Questionnaire Item Example

```
{ "linkId": "digital-question-LA33217-3", "definition":
"http://hl7.org/fhir/us/sdoh-clinicalcare/StructureDefinition/SDOHCC-
Questionnaire", "text": "Desktop or laptop", "type": "Question",
"answerType": "Option", "required": true, "code": [ { "url":
"http://loinc.org/", "system": "LOINC", "code": "LA33217-3", "display":
"Desktop or laptop" } ], "answerOption": [ { "valueCoding": { "system":
"LOINC", "code": "LA33-6", "display": "Yes" } }, { "valueCoding": {
"system": "LOINC", "code": "LA32-8", "display": "No" } } ] }
```

5. Validation Rules

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Critical Validation Requirements

- **Required Fields:** All marked required fields must be present
- **Link IDs:** Must be unique within the questionnaire
- **Answer Types:** Must match the item type and available options
- **Code Systems:** Must use valid code system URIs
- **Extensions:** UUID format required for option-unique-id values
- **Hierarchical Structure:** Group items must contain sub-items

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5.1 Data Format Requirements

Field Type	Format Requirements	Example
Date	ISO 8601 format	2025-05-29T10:00:00Z
UUID	Standard UUID format	cabed627-3cb6-45e3-a05d-7ec79097961f
URL	Valid URI format	http://example.org/fhir/ValueSet/tribal-affiliation
Version	Semantic versioning	1.0.0

5.2 Status Values

Status	Description	Usage
draft	In development, not ready for use	Development phase

Status	Description	Usage
active	Ready for use in production	Production environments
retired	No longer recommended for use	Legacy systems only
unknown	Status cannot be determined	Error conditions

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This document is compliant with HL7 FHIR R4 standards and healthcare interoperability requirements.