PERÚ Ministerio de Salud

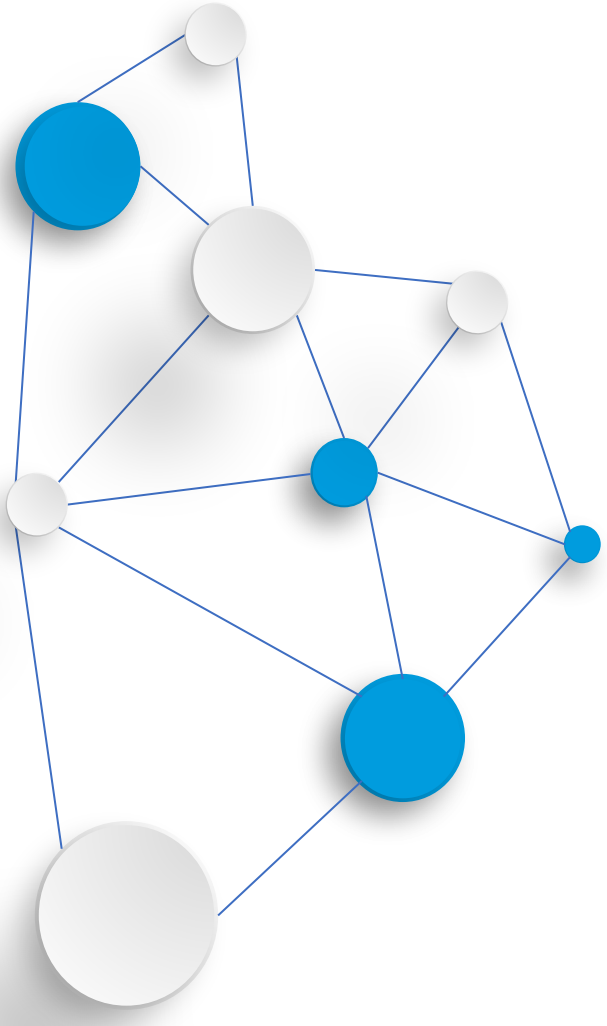
BICENTENARIO DEL PERÚ 2021 - 2024

HL7 FHIR

Lectura Guia de Implementación

Oficina General de Tecnologías de la Información

NOVIEMBRE 2024



IG FHIR

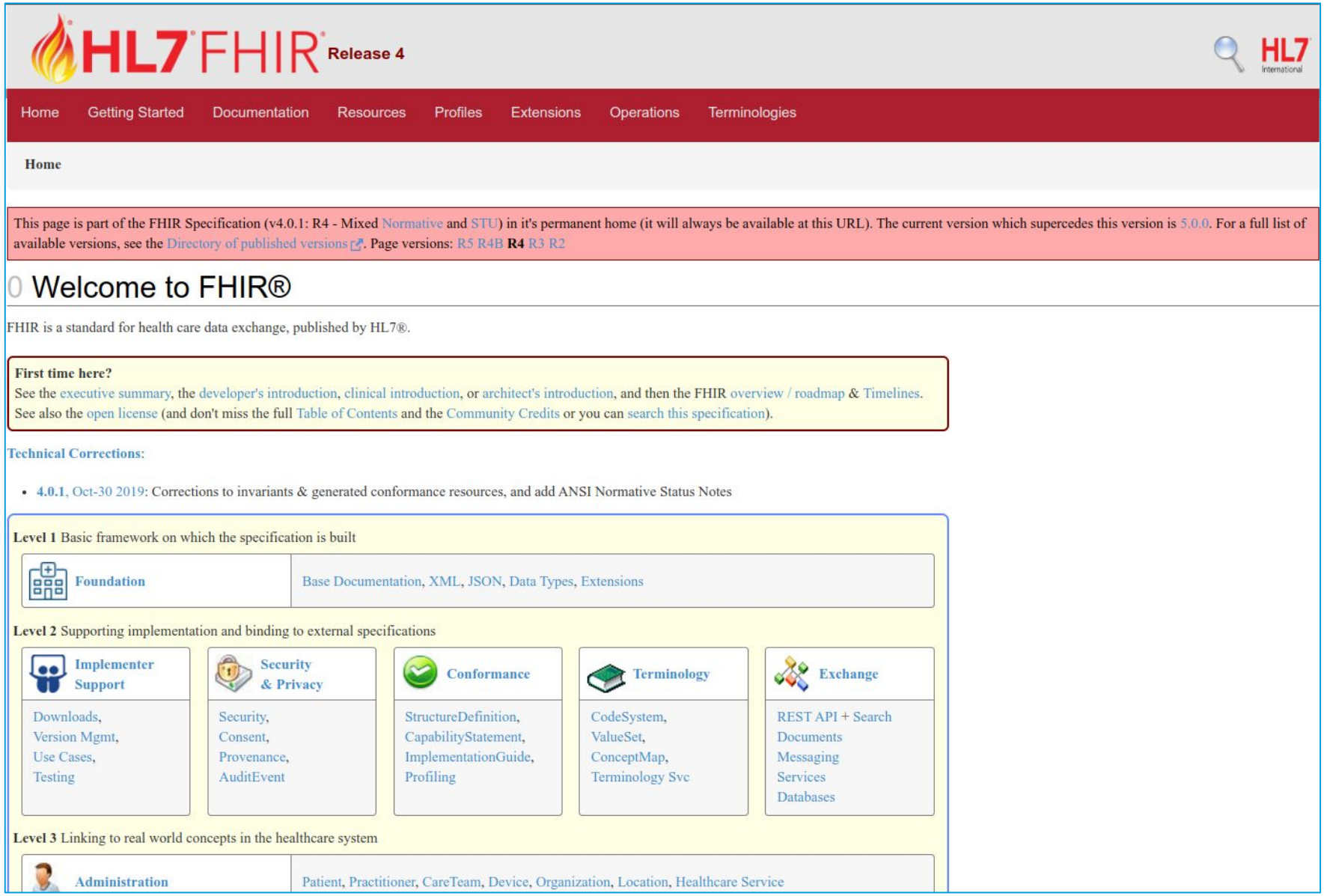
Guía de Implementación FHIR

Guía de Implementación - Versiones

https://hl7.org/fhir/R4B/

https://hl7.org/fhir/R4/

https://hl7.org/fhir/



Visitando los menús de la GI

1.1 Documentation Index

FHIR Infrastructure Work Group | Maturity Level: N/A | Standards Status: Informative

This page provides an index to the key commonly used documentation pages for FHIR.

Framework

- Conformance Rules N
- Resource Life Cycles
- References between Resources N
- Compartments
- Narrative N
- Extensibility N
- Formats: N XML N, JSON N, & RDF
- Terminologies N (Code Systems, Value Sets)
- FHIRPath N
- Mappings to other standards

Version Management

- Change Management & Versioning N
- Managing Multiple FHIR Versions
- Version History
- Differences to Release 3
- Transforms between Release 3 and Release 4

Background

- Overviews: General,

Exchanging Resources

- **RESTful API (HTTP)** N
  - Search N (Search Param Registry)
  - Operations N
  - Asynchronous Use
  - Using GraphQL
- Documents
- Messaging
- Services
- Persistence/Data bases

Base Types

- Data Types (Base) N
- Metadata Types N
- Resource N
- DomainResource N
- Element N
- BackboneElement N
- ElementDefinition N
- + Dosage (for medications)

Design Patterns

- FiveWs (Attribution)
- Event

Adopting & Using FHIR

- Profiling FHIR N
- FHIR Workflow
- Downloads - Schemas, Code, Tools
- Managing Multiple FHIR Versions
- Validating Resources
- Best Practices for Implementers
- Mapping Language (tutorial)
- Testing Implementations

Safety & Security

- Security, Security Labels & Signatures
- Clinical Safety

Implementation Advice

- Managing Resource Identity
- Guide to Resources
- Multi-language support
- Variations between Submitted data and Retrieved data
- Push vs Pull

1.2 Resource Index

FHIR Infrastructure Work Group | Maturity Level: N/A | Standards Status: Informative

This page is provided to help find resources quickly. There is also a more detailed classification, ontology, and description. For background to the layout on the layers in this page, see the Architect's Overview. See also the abstract Base Resources Resource and DomainResource.

Categorized | Alphabetical | R2 Layout | By Maturity | Security Category | By Standards Status | By Committee

	Conformance	Terminology	Secur
Foundation	CapabilityStatement N StructureDefinition N ImplementationGuide 1 SearchParameter 3 MessageDefinition 1 OperationDefinition N CompartmentDefinition 1 StructureMap 2 GraphDefinition 1 ExampleScenario 0	CodeSystem N ValueSet N ConceptMap 3 NamingSystem 1 TerminologyCapabilities 0	Provenance 3 AuditEvent 3 Consent 2
	Individuals	**Entities #1**	**Entitie**
Base	Patient N Practitioner 3 PractitionerRole 2 RelatedPerson 2 Person 2 Group 1	Organization 3 OrganizationAffiliation 0 HealthcareService 2 Endpoint 2 Location 3	Substance 2 BiologicallyDe Device 2 DeviceMetric 1

Don't see what you're looking here? See Registering Code Systems for further advice.

External | Internal (FHIR) | External (FHIR) | HL7 v3 | HL7 v2

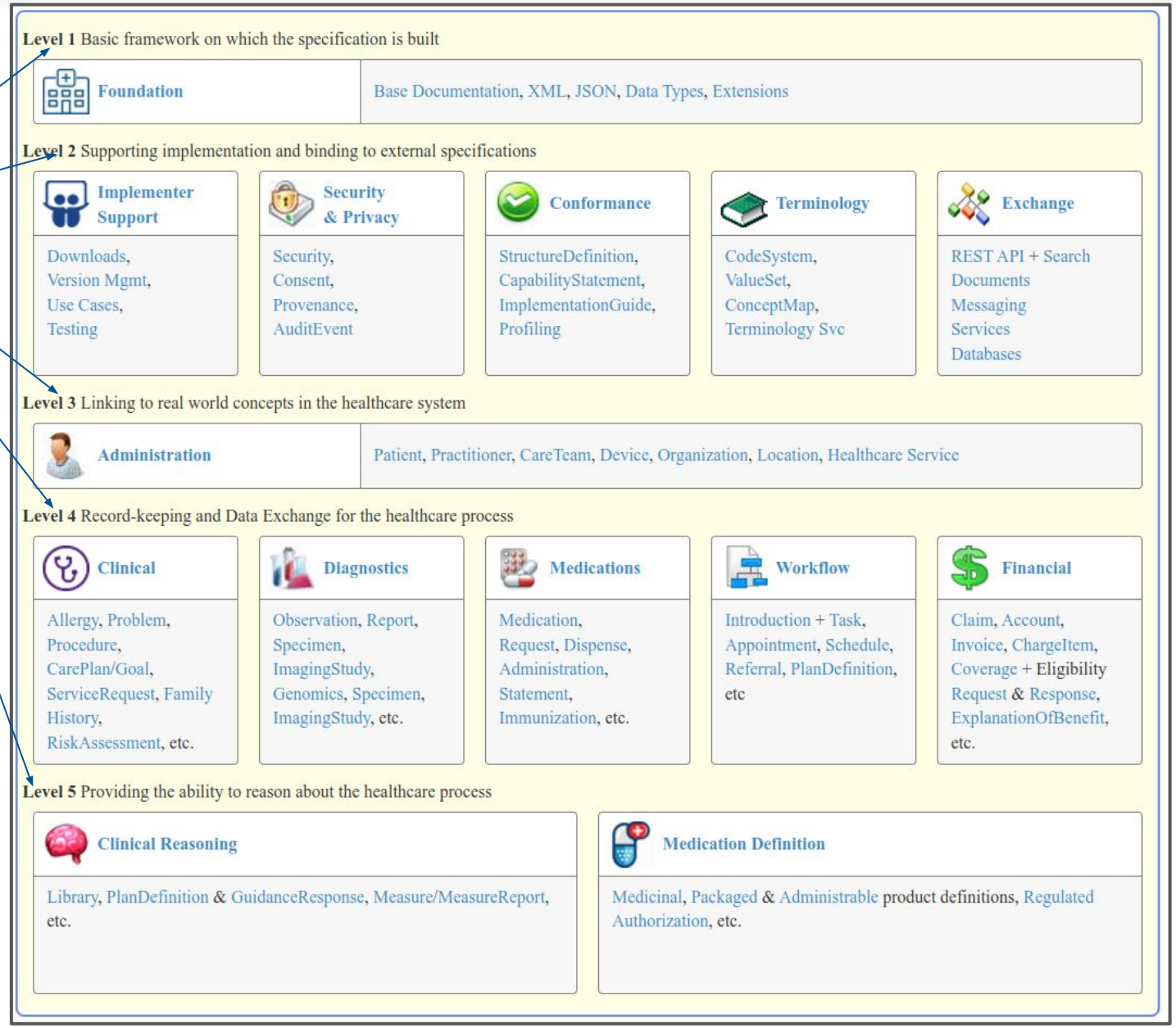
URI	Source	Comment
Externally Published code systems		
http://snomed.info/sct	SNOMED CT (IHTSDO)	See Using SNOMED
http://www.nlm.nih.gov/research/umls/rxnorm	RxNorm (US NLM)	See Using RxNorm
http://loinc.org	LOINC (LOINC.org)	See Using LOINC
http://unitsofmeasure.org	UCUM: (UnitsOfMeasure.org) Case Sensitive Codes	See Using UCUM
http://ncimeta.nci.nih.gov	NCI Metathesaurus	See Using NCI Meta
http://www.ama-assn.org/go/cpt	AMA CPT codes	See Using CPT with
http://hl7.org/fhir/ndfrt	NDF-RT (National Drug File – Reference Terminology)	See Using NDF-RT
http://fdasis.nlm.nih.gov	Unique Ingredient Identifier (UNII)	See Using UNII with
http://hl7.org/fhir/sid/ndc	NDC/NHRIC Codes	See Using NDC with
http://hl7.org/fhir/sid/cvx	CVX (Vaccine Administered)	See Using CVX with
urn:iso:std:iso:3166	ISO Country & Regional Codes	See Using ISO 3166
http://hl7.org/fhir/sid/dsm5	DSM-5	Diagnostic and Statis

Distribución de recursos

5 NIVELES (Levels)

13 MÓDULOS (Modules)

- Foundation
- Administration
- Clinical
- Diagnostics



https://hl7.org/fhir/R4/resourcelist.html

Información de módulos (Module)

Financial

13.0 Financial Module

13.0.1 Introduction

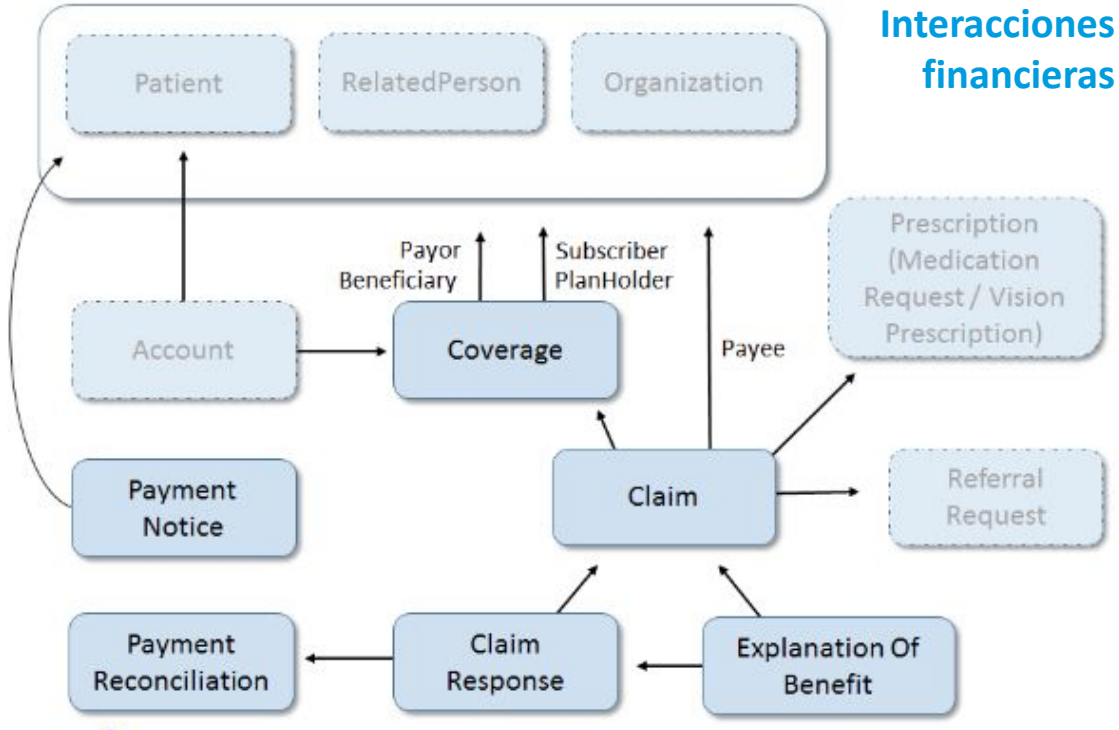
The Financial module covers the resources and services provided by FHIR to support the costing, financial transactions and billing which occur within a healthcare provider as well as the eligibility, enrollment, authorizations, claims and payments which occur between healthcare providers and insurers and the reporting and notification between insurers and subscribers and patients.

See also the Administration and WorkFlow modules.

13.0.2 Index

- Account
- Contract
- Coverage
- CoverageEligibilityRequest
- CoverageEligibilityResponse
- EnrollmentRequest
- EnrollmentResponse
- Claim
- ClaimResponse
- PaymentNotice
- PaymentReconciliation
- ExplanationOfBenefit
- VisionPrescription

Interacciones financieras



Contenido del recurso

Administration > **Location**

8.7 Resource Location - Content

Patient Administration Work Group	Maturity Level: 3	Trial Use	Security Category: Business	Compartments: Not linked to any defined compartments

Details and position information for a physical place where services are provided and resources and participants may be stored, found, contained, or accommodated.

8.7.1 Scope and Usage

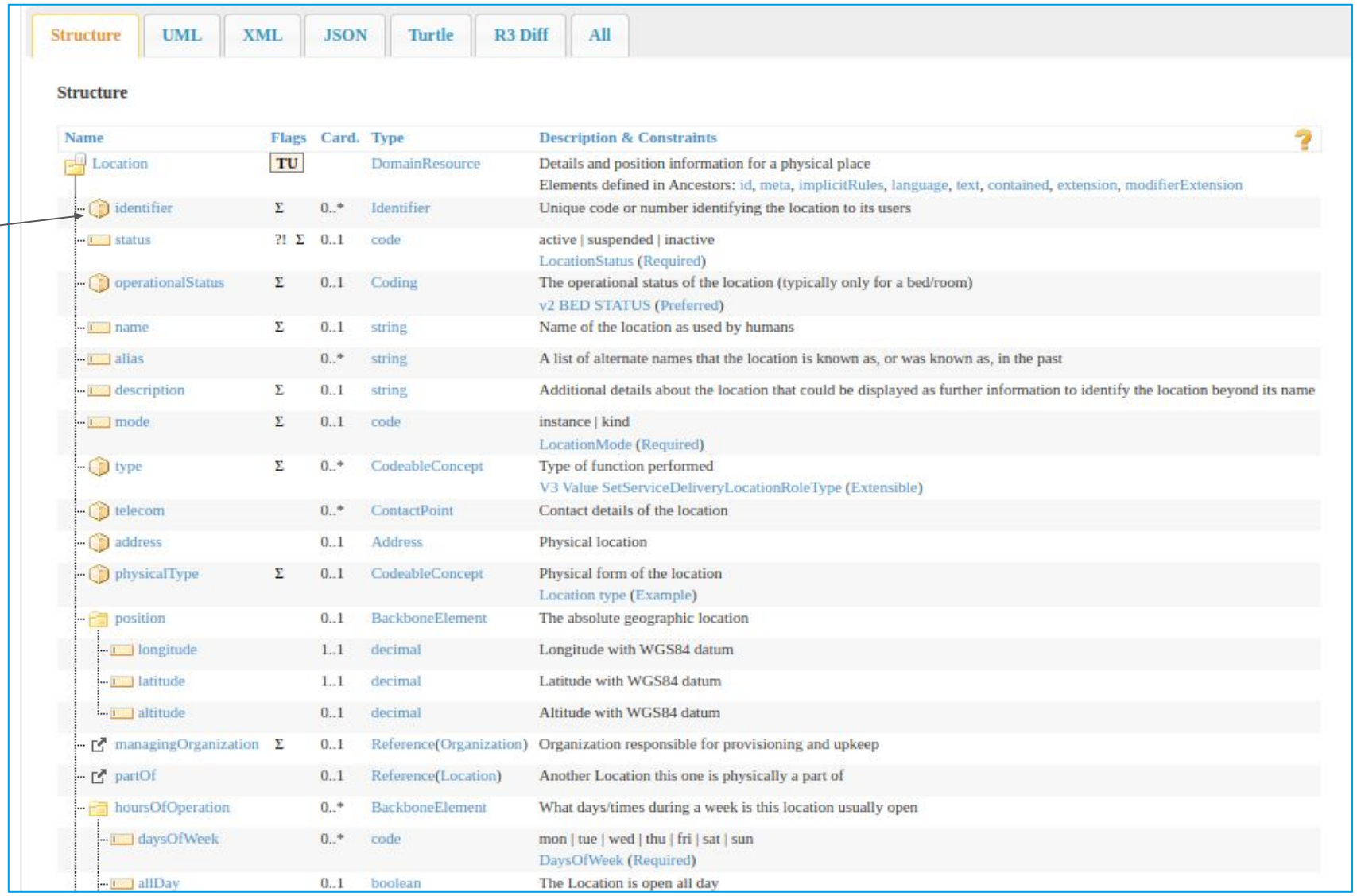
A Location includes both incidental locations (a place which is used for healthcare without prior designation or authorization) and dedicated, formally appointed locations. Locations may be private, public, mobile or fixed and scale from small freezers to full hospital buildings or parking garages.

Examples of Locations are:

- Building, ward, corridor, room or bed
- Mobile Clinic
- Freezer, incubator
- Vehicle or lift
- Home, shed, or a garage
- Road, parking place, a park
- Ambulance (generic)
- Ambulance (specific)
- Patient's Home (generic)
- Jurisdiction

Contenido del recurso

Elementos



Structure | UML | XML | JSON | Turtle | R3 Diff | All

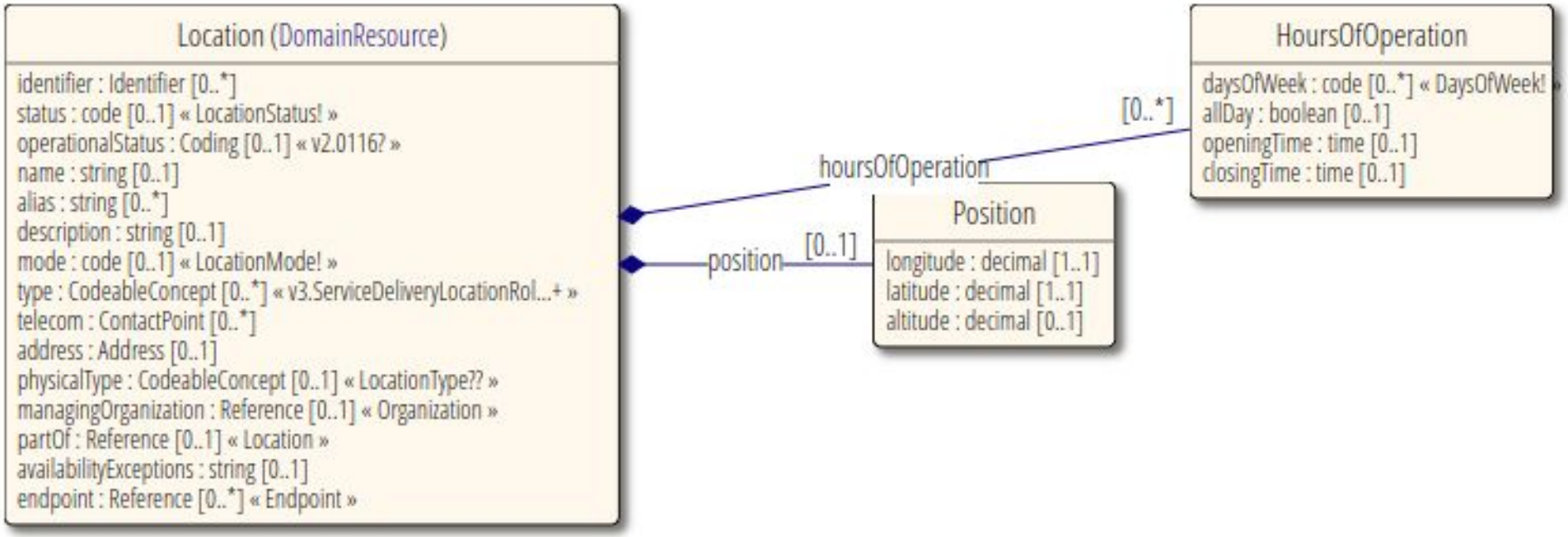
Structure

Name	Flags	Card.	Type	Description & Constraints
Location	TU		DomainResource	Details and position information for a physical place Elements defined in Ancestors: id, meta, implicitRules, language, text, contained, extension, modifierExtension
identifier	Σ	0..*	Identifier	Unique code or number identifying the location to its users
status	?! Σ	0..1	code	active | suspended | inactive LocationStatus (Required)
operationalStatus	Σ	0..1	Coding	The operational status of the location (typically only for a bed/room) v2 BED STATUS (Preferred)
name	Σ	0..1	string	Name of the location as used by humans
alias		0..*	string	A list of alternate names that the location is known as, or was known as, in the past
description	Σ	0..1	string	Additional details about the location that could be displayed as further information to identify the location beyond its name
mode	Σ	0..1	code	instance | kind LocationMode (Required)
type	Σ	0..*	CodeableConcept	Type of function performed V3 Value SetServiceDeliveryLocationRoleType (Extensible)
telecom		0..*	ContactPoint	Contact details of the location
address		0..1	Address	Physical location
physicalType	Σ	0..1	CodeableConcept	Physical form of the location Location type (Example)
position		0..1	BackboneElement	The absolute geographic location
longitude		1..1	decimal	Longitude with WGS84 datum
latitude		1..1	decimal	Latitude with WGS84 datum
altitude		0..1	decimal	Altitude with WGS84 datum
managingOrganization	Σ	0..1	Reference(Organization)	Organization responsible for provisioning and upkeep
partOf		0..1	Reference(Location)	Another Location this one is physically a part of
hoursOfOperation		0..*	BackboneElement	What days/times during a week is this location usually open
daysOfWeek		0..*	code	mon | tue | wed | thu | fri | sat | sun DaysOfWeek (Required)
allDay		0..1	boolean	The Location is open all day

Contenido del recurso

Structure | UML | XML | JSON | Turtle | R3 Diff | All

UML Diagram (Legend)



Contenido del recurso

Structure | UML | XML | JSON | Turtle | R3 Diff | All

XML Template

```
<Location xmlns="http://hl7.org/fhir">
 <!-- from Resource: id, meta, implicitRules, and language -->
 <!-- from DomainResource: text, contained, extension, and modifierExtension -->
 <identifier><!-- 0..* Identifier Unique code or number identifying the location to its users --></identifier>
 <status value="[code]"/><!-- 0..1 active | suspended | inactive -->
 <operationalStatus><!-- 0..1 Coding The operational status of the location (typically only for a bed/room) --></operationalStatus>
 <name value="[string]"/><!-- 0..1 Name of the location as used by humans -->
 <alias value="[string]"/><!-- 0..* A list of alternate names that the location is known as, or was known as, in the past -->
 <description value="[string]"/><!-- 0..1 Additional details about the location that could be displayed as further information to identify the location beyond its name -->
 <mode value="[code]"/><!-- 0..1 instance | kind -->
 <type><!-- 0..* CodeableConcept Type of function performed --></type>
 <telecom><!-- 0..* ContactPoint Contact details of the location --></telecom>
 <address><!-- 0..1 Address Physical location --></address>
 <physicalType><!-- 0..1 CodeableConcept Physical form of the location --></physicalType>
 <position>  <!-- 0..1 The absolute geographic location -->
  <longitude value="[decimal]"/><!-- 1..1 Longitude with WGS84 datum -->
  <latitude value="[decimal]"/><!-- 1..1 Latitude with WGS84 datum -->
  <altitude value="[decimal]"/><!-- 0..1 Altitude with WGS84 datum -->
 </position>
 <managingOrganization><!-- 0..1 Reference(Organization) Organization responsible for provisioning and upkeep --></managingOrganization>
 <partOf><!-- 0..1 Reference(Location) Another Location this one is physically a part of --></partOf>
 <hoursOfOperation>  <!-- 0..* What days/times during a week is this location usually open -->
  <daysOfWeek value="[code]"/><!-- 0..* mon | tue | wed | thu | fri | sat | sun -->
  <allDay value="[boolean]"/><!-- 0..1 The Location is open all day -->
  <openingTime value="[time]"/><!-- 0..1 Time that the Location opens -->
  <closingTime value="[time]"/><!-- 0..1 Time that the Location closes -->
 </hoursOfOperation>
 <availabilityExceptions value="[string]"/><!-- 0..1 Description of availability exceptions -->
 <endpoint><!-- 0..* Reference(Endpoint) Technical endpoints providing access to services operated for the location --></endpoint>
</Location>
```

Structure | UML | XML | JSON | Turtle | R3 Diff | All

JSON Template

```
{
  "resourceType" : "Location",
  // from Resource: id, meta, implicitRules, and language
  // from DomainResource: text, contained, extension, and modifierExtension
  "identifier" : [{ Identifier }], // Unique code or number identifying the location to its users
  "status" : "<code>", // active | suspended | inactive
  "operationalStatus" : { Coding }, // The operational status of the location (typically only for a bed/room)
  "name" : "<string>", // Name of the location as used by humans
  "alias" : ["<string>"], // A list of alternate names that the location is known as, or was known as, in the past
  "description" : "<string>", // Additional details about the location that could be displayed as further information to identify the location beyond its name
  "mode" : "<code>", // instance | kind
  "type" : [{ CodeableConcept }], // Type of function performed
  "telecom" : [{ ContactPoint }], // Contact details of the location
  "address" : { Address }, // Physical location
  "physicalType" : { CodeableConcept }, // Physical form of the location
  "position" : { // The absolute geographic location
    "longitude" : <decimal>, // R!  Longitude with WGS84 datum
    "latitude" : <decimal>, // R!  Latitude with WGS84 datum
    "altitude" : <decimal> // Altitude with WGS84 datum
  },
  "managingOrganization" : { Reference(Organization) }, // Organization responsible for provisioning and upkeep
  "partOf" : { Reference(Location) }, // Another Location this one is physically a part of
  "hoursOfOperation" : [{ // What days/times during a week is this location usually open
    "daysOfWeek" : ["<code>"], // mon | tue | wed | thu | fri | sat | sun
    "allDay" : <boolean>, // The Location is open all day
    "openingTime" : "<time>", // Time that the Location opens
    "closingTime" : "<time>" // Time that the Location closes
  }],
  "availabilityExceptions" : "<string>", // Description of availability exceptions
  "endpoint" : [{ Reference(Endpoint) }] // Technical endpoints providing access to services operated for the location
}
```

Estructura de un elemento

Structure | UML | XML | JSON | Turtle | R3 Diff | All

Structure

Name	Flags	Card.	Type	Description & Constraints
Location	TU		DomainResource	Details and position information for a physical place Elements defined in Ancestors: id, meta, implicitRules, language, text, contained, extension, modifierExtension
identifier	Σ	0..*	Identifier	Unique code or number identifying the location to its users
status	?! Σ	0..1	code	active | suspended | inactive LocationStatus (Required)
operationalStatus	Σ	0..1	Coding	The operational status of the location (typically only for a bed/room) v2 BED STATUS (Preferred)
name	Σ	0..1	string	Name of the location as used by humans
alias		0..*	string	A list of alternate names that the location is known as, or was known as, in the past

Estructura de un elemento

Formatos
Tabla Lógica

Name	Flags	Card.	Type	Description & Constraints
Resource Name			Base Type	Definition
nameA	Σ	1..1	TypeA	description of content
nameB[x]	?! Σ	0..1		description SHALL at least have a value
nameBType1		0..1	TypeB	
nameBType2	I	0..1	typeC	
nameC		1..*	BackboneElement	Definition
nameD		1..1	TypeD	Relevant Records

Key to Type Icons

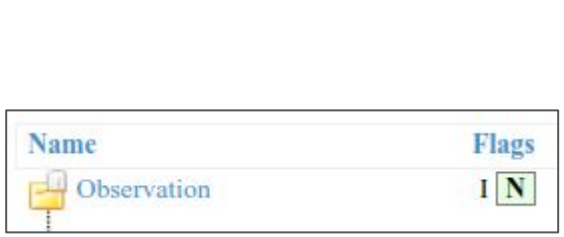
- : The base element for a resource (see Resources)
- : An element that is part of the resource and has elements within it defined in the same resource or profile
- : An element which can have one of several different types (see below)
- : An element of a data type which describes an element that has a `value` attribute/property. These are also known as primitive types. All primitive type names start with a lower case letter
- : An element of a data type which describes an element that has other elements. These are known as complex types. All complex type names defined in this specification start with an uppwer case letter
- : An element that contains a reference to another resource (see references)
- : This element has the same content as another element defined within this resource or profile
- : Introduction of a set of slices (see Slicing)
- : A complex extension - one with nested extensions (see Extensibility)
- : An extension that has a value and no nested extensions (see Extensibility)
- : A complex modifier extension - one with nested extensions (see Extensibility)
- : A modifier extension that has a value and no nested extensions (see Extensibility)
- : The root of a logical profile

Key to Flags

Tipo de Íconos

Política de gestión de versiones

El proceso de desarrollo de estándares



Name	Flags
Observation	I N

Name	Flags
Medication	TU

Individuals	Entities #1	Entities #2	Workflow
• Patient N	• Organization 3	• Substance 2	• Task 2
• Practitioner 3	• OrganizationAffiliation 0	• BiologicallyDerivedProduct 0	• Appointment 3
• PractitionerRole 2	• HealthcareService 2	• Device 2	• AppointmentResponse 3
• RelatedPerson 2	• Endpoint 2	• DeviceMetric 1	• Schedule 3
• Person 2	• Location 3		• Slot 3
• Group 1			• VerificationResult 0

OGTI MINSA

Gracias