### Overview

Short introduction describing what we are talking about including also references to the current resources

This IG aims to provide guidance on how HL7 FHIR can be used for supporting FAIR implementation and assessment in the case of different kind of health data. One of these kind of health data, could be the healthcare data, i.e., data used to deliver patients' healthcare. For instance, real data from Electronic Health Records.

### Objectives

This real word scenario aims to describe how HL7 FHIR can be used to support the FAIR principles in the case of healthcare data, including data from: patients, encounters, conditions, drugs, laboratory tests, etc.

### Using HL7 FHIR

Description of how  FHIR can be used to better support FAIR principles / How can include our recommendations on where and when to use FHIR standards for FAIR Implementation

This subsection covers how use HL7 FHIR to better support the FAIR principles in the case of healthcare data. In a healthcare scenario, several concepts could be identified; so, to limit the scope, the following set of concepts is going to be included in this first version of the IG:

* Data related to patients: pseudoanonimized identifier, gender, age, information from address (country, etc.).
* Information from encounters of these patients: identifier, start and end date, type of encounter (planned vs unplanned), ICD codifications (identifier, position, code), drugs prescription at discharge (identifier, code).
* Specific observations, like as: smoking status, institutionalized status, mortality status, domiciliary oxygen prescribed, result of the modified Medical Research Council (mMRC) Dyspnea Scale.
* Results of laboratory tests: identifier, code, quantity, unit, date.

To cover these previous concepts could be identified in the healthcare data, the following set of HL7 FHIR Resources (and specific fields from these Resources) are proposed:

* [Patient](https://www.hl7.org/fhir/patient.html): identifier.value, gender, address, birthDate.
* [Encounter](https://www.hl7.org/fhir/encounter.html): identifier.value, subject, period.start, period.end, type.
* [Condition](https://www.hl7.org/fhir/condition.html): identifier.value, encounter, subject, category, onset.dateTime, code.
* [MedicationStatement](https://www.hl7.org/fhir/medicationstatement.html): identifier.value, context, subject, medication.CodeableConcept, effective.dateTime.
* [Observation](https://www.hl7.org/fhir/observation.html): identifier.value, encounter, subject, code, value.CodeableConcept, value.Quantity.value, value.Quantity.unit, value.Quantity.code, method, effective.dateTime.

And, to fulfill all FAIR principles requirements, and the mandatory fields in HL7 FHIR, the following additional fields from these 5 Resources are proposed to be used:

* Patient: id, identifier.system.
* Encounter: id, identifier.system, status, class.
* Condition: id, identifier.system.
* MedicationStatement: id, identifier.system, status.
* Observation: id, identifier.system, status, value.Quantity.system.

In addition, some HL7 FHIR Resources (and specific fields from these Resources) are proposed to use to cover metadata information:

* [Bundle](https://www.hl7.org/fhir/bundle.html) (to model all kind of Resources): type, total, link.relation, link,url, entry.resource.
* [Provenance](https://www.hl7.org/fhir/provenance.html): target.reference, recorded, agent.who.display, signature.type.system,  signature.type.code,  signature.type.display, signature.when, signature.who.reference, extension.url, extension.valueInteger.
* [DocumentManifest](https://www.hl7.org/fhir/documentmanifest.html): status, created, author.reference, content.reference, related.identifier.value, related.ref.display, related.ref.type.
* [CapabilityStatement](https://www.hl7.org/fhir/capabilitystatement.html): url, version, name, status, experimental, date, publisher, contact.telecom, description, kind, software.name, fhirVersion, format, rest

### **Practical Uses**

In the 'Healthcare datasets' subpages, you could find the following practical uses of the real word scenario regarding Healthcare:

1. [FAIR4Health project](FAIR4Health.html)
2. [FHIR based integrated data center](https://confluence.hl7.org/display/SOA/FHIR+based+integrated+data+center+Germany?src=contextnavpagetreemode)
3. [Personal Genetic Locker](https://confluence.hl7.org/display/SOA/Personal+Genetic+Locker)