



Finnish Base Profiles

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Recent FHIR Implementation Guides



- HL7 Finland initially started with use case specific implementation guides for scheduling and writing data to EHRs. Work for base profiles started later.
- Finnish Implementation Guide for SMART App Launch
 - Require REST, JSON
 - Recommend XML, IPA
- Finnish Base Profiles
 - 27 profiles for 20 resource types
 - 11 extensions
 - 1 code system, 2 value sets

Resource types in Base Profiles



- Appointment
- Condition
- Encounter
- EpisodeOfCare
- HealthcareService
- Immunization
- Location
- MedicationAdministration
- MedicationRequest
- MedicationStatement
- Medication
- Observation
- Organization
- Patient
- Practitioner
- PractitionerRole
- Procedure
- Provenance
- Schedule
- Slot

Current and Future Work



- Finnish FHIR implementation guide for Scheduling
 - Consolidate information from two previous implementation guides
 - Include input from the implementation guide for Kanta
- Terminology Server
 - Clarify needs and requirements
 - Clarify other activities (EU, HL7 Europe, ...)
- IHE Finland and OpenEHR Finland active within HL7 Finland

FHIR Demo 2024



- Nordic FHIR Showcase. fhir.fi/demo
 - Apps
 - Systems
 - Institutions
 - Consultants
- Updated throughout the year
- Get listed! Contact mikael@sensotrend.com

FHIR activities in Kanta



- Finnish PHR
- API for patient-facing apps
- Prescription data
- Appointments data
- Social care data

Kanta

Steps to harmonize Nordic base profiles



- Finnish Base Profiles
 - For each item to be profiled, analyzed solutions adopted by other Nordic implementation guides
 - national identifiers
 - home municipality
 - information security / confidentiality
 - Presented early findings in Vitalis 2023
- Thoughts on further work
 - Ensuring compliance with implementation guides from HL7 Europe
 - Consolidated Nordic FHIR Base Profile IG for development purposes
 - Middle name

Profiled Resource Types and Data Types



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graph TD
    Resource[Resource] --> BackboneElement[BackboneElement]
    Resource --> Element[Element]
    Resource --> ComplexType[ComplexType]
    ComplexType --> ResourceType[ResourceType]
    ComplexType --> TypeableElement[TypeableElement]
    ResourceType --> AllergyIntolerance[AllergyIntolerance]
    ResourceType --> AppointmentResponse[AppointmentResponse]
    ResourceType --> Composition[Composition]
    ResourceType --> Condition[Condition]
    ResourceType --> DocumentReference[DocumentReference]
    ResourceType --> Encounter[Encounter]
    ResourceType --> Endpoint[Endpoint]
    ResourceType --> EpisodeOfCare[EpisodeOfCare]
    ResourceType --> HealthcareService[HealthcareService]
    ResourceType --> HumanName[HumanName]
    ResourceType --> Identifier[Identifier]
    ResourceType --> Immunization[Immunization]
    ResourceType --> Location[Location]
    ResourceType --> Medication[Medication]
    ResourceType --> MedicationAdministration[MedicationAdministration]
    ResourceType --> MedicationRequest[MedicationRequest]
    ResourceType --> MedicationStatement[MedicationStatement]
    ResourceType --> Observation[Observation]
    ResourceType --> Organization[Organization]
    ResourceType --> Patient[Patient]
    ResourceType --> Person[Person]
    ResourceType --> Practitioner[Practitioner]
    ResourceType --> PractitionerRole[PractitionerRole]
    ResourceType --> Procedure[Procedure]
    ResourceType --> Provenance[Provenance]
    ResourceType --> RelatedPerson[RelatedPerson]
    ResourceType --> Schedule[Schedule]
    ResourceType --> Slot[Slot]

```

Combined Nordic FHIR Base Profiles, published by HL7 Finland. This guide is not an authorized publication; it is the continuous build for version 0.2.0-ci built by the FHIR (HL7® FHIR® Standard) CI Build. This version is based on the current content of <https://github.com/fhir-fi/nordic-base/> and changes regularly. See the [Directory of published versions](#)

1 Home

Official URL: <http://hl7.fi/fhir/nordic-base/ImplementationGuide/hl7.fi.fhir.nordic>

Version: 0.2.0-ci

Draft as of 2024-05-10

Computable Name: CombinedNordicFHIRBaseProfiles

Nordic Base Profile Experimentation

This "implementation guide" assists in checking how much the Nordic FHIR base profiles differ from each other.

- Nordic Base Profile Experimentation
 - Dependencies
 - IPR



This implementation guide is only meant to support harmonization efforts between Nordic FHIR base profile specifications.

1.1 Dependencies

IG	Package	FHIR	Comment
🔥 Combined Nordic FHIR Base Profiles	hl7.fi.fhir.nordic#0.2.0-ci	R4	
└ 🔥 HL7 Terminology (THO)	hl7.terminology.r4#5.5.0	R4	Automatically added as a dependency - all IGs depend on HL7 Terminology
└ 🔥 FHIR Extensions Pack	hl7.fhir.uv.extensions.r4#5.1.0	R4	Automatically added as a dependency - all IGs depend on the HL7 Extension Pack
└ 🔥 HL7 FHIR Implementation Guide: DK Core	hl7.fhir.dk.core#3.2.0	R4	
└ 🔥 Finnish Base Profiles	hl7.fhir.fi.base#1.0.0	R4	
└ 🔥 Swedish Base Profiles Implementation Guide	hl7se.fhir.base#1.0.0	R4	

Path	Severity	Message
Organization (I1/c2)	error	Constraint failed: dk-core-organization-mandatory-identifier: 'Minimum one identifier shall be of type SOR-ID, KOMBIT-ORG-ID or CVR-ID' (defined in http://hl7.dk/fhir/core/StructureDefinition/dk-core-organization)

fsh-generated/resources/Organization-b08997bb-4476-4dd0-84dd-2e297f809364.json Show Validation Information (10)



fsh-generated/resources/Patient-283.json Show Validation Information (10)

Path	Severity	Message
Patient.identifier[0].system (I12/c42)	error	Value is 'urn:oid:1.2.208.176.1.2' but must be 'urn:oid:1.2.246.21'
Patient.name[0] (I17/c6)	warning	Constraint failed: ipa-pat-3: 'To be usable for a wide range of internationally available applications, the Patient.name.text SHOULD be present.' (defined in http://hl7.org/fhir/uv/ipa/StructureDefinition/ipa-patient) (Best Practice Recommendation)

fsh-generated/resources/Patient-Confidential.json Show Validation Information (10)

Path	Severity	Message
Patient.meta.security[0] (I16/c8)	warning	A code with no system has no defined meaning, and it cannot be validated. A system should be provided
Patient.name[0] (I26/c6)	warning	Constraint failed: ipa-pat-3: 'To be usable for a wide range of internationally available applications, the Patient.name.text SHOULD be present.' (defined in http://hl7.org/fhir/uv/ipa/StructureDefinition/ipa-patient) (Best Practice Recommendation)

fsh-generated/resources/Patient-GOFSH-GENERATED-ID-2.json Show Validation Information (11)

Path	Severity	Message
Patient.name[0] (I35/c6)	warning	Constraint failed: ipa-pat-3: 'To be usable for a wide range of internationally available applications, the Patient.name.text SHOULD be present.' (defined in http://hl7.org/fhir/uv/ipa/StructureDefinition/ipa-patient) (Best Practice Recommendation)

fsh-generated/resources/Patient-GOFSH-GENERATED-ID-3.json Show Validation Information (11)

Path	Severity	Message
Patient.contact[0].relationship[1] (I107/c10)	warning	No code provided, and a code should be provided from the value set 'Patient Contact Relationship' (http://hl7.org/fhir/ValueSet/patient-contactrelationship 4.0.1)
Patient.contact[0].relationship[1] (I107/c10)	warning	No code provided, and a code should be provided from the value set 'DK Related Person Relationship Types' (http://hl7.dk/fhir/core/ValueSet/dk-core-RelatedPersonRelationshipTypes 3.2.0)
Patient.name[0] (I39/c6)	warning	Constraint failed: ipa-pat-3: 'To be usable for a wide range of internationally available applications, the Patient.name.text SHOULD be present.' (defined in http://hl7.org/fhir/uv/ipa/StructureDefinition/ipa-patient) (Best Practice Recommendation)

fsh-generated/resources/Patient-JaneDoe.json Show Validation Information (10)

Path	Severity	Message
Patient (I1/c2)	error	Patient.identifier: minimum required = 1, but only found 0 (from http://hl7.dk/fhir/core/StructureDefinition/dk-core-patient 3.2.0)
Patient (I1/c2)	error	Patient.identifier: minimum required = 1, but only found 0 (from https://hl7.fi/fhir/finnish-base-profiles/StructureDefinition/fi-base-patient 1.0.0)
Patient.name[0] (I10/c6)	warning	Constraint failed: ipa-pat-3: 'To be usable for a wide range of internationally available applications, the Patient.name.text SHOULD be present.' (defined in http://hl7.org/fhir/uv/ipa/StructureDefinition/ipa-patient) (Best Practice Recommendation)

fsh-generated/resources/Patient-JohnDoe.json Show Validation Information (10)

Path	Severity	Message
Patient.identifier[0] (I33/c6)	error	Constraint failed: ipa-pat-1: 'At least one of Patient.identifier.system or Patient.identifier.type or Patient.identifier.assigner SHALL be present' (defined in http://hl7.org/fhir/uv/ipa/StructureDefinition/ipa-patient)
Patient.name[0] (I10/c6)	warning	Constraint failed: ipa-pat-3: 'To be usable for a wide range of internationally available applications, the Patient.name.text SHOULD be present.' (defined in http://hl7.org/fhir/uv/ipa/StructureDefinition/ipa-patient) (Best Practice Recommendation)

fsh-generated/resources/Patient-Max.json Show Validation Information (10)

Path	Severity	Message
Patient.name[0] (I16/c6)	warning	Constraint failed: ipa-pat-3: 'To be usable for a wide range of internationally available applications, the Patient.name.text SHOULD be present.' (defined in http://hl7.org/fhir/uv/ipa/StructureDefinition/ipa-patient) (Best Practice Recommendation)

fsh-generated/resources/Patient-PatientExample1.json Show Validation Information (10)

Path	Severity	Message
Patient.address[0].extension[0].value.ofType(CodeableConcept).coding[0].code (I64/c12)	error	Unknown code '63401000052101' in the CodeSystem 'http://snomed.info/sct' version 'http://snomed.info/sct/900000000000207008/version/20240201' (from http://tx.fhir.org/r4)
Patient.address[0].extension[0].value.ofType(CodeableConcept) (I64/c12)	error	None of the codings provided are in the value set 'SE ValueSet for official address types' (http://hl7.se/fhir/ig/base/ValueSet/SEBaseAddressPersonVS 1.0.0), and a coding from this value set is required (codes = http://snomed.info/sct#63401000052101)
Patient.maritalStatus.coding[0] (I81/c4)	warning	Coding has no system. A code with no system has no defined meaning, and it cannot be validated. A system should be provided
Patient.identifier[0] (I20/c6)	error	Constraint failed: ipa-pat-1: 'At least one of Patient.identifier.system or Patient.identifier.type or Patient.identifier.assigner SHALL be present' (defined in http://hl7.org/fhir/uv/ipa/StructureDefinition/ipa-patient)

fsh-generated/resources/Patient-Poul.json Show Validation Information (12)

Path	Severity	Message
Patient.name[0] (I24/c6)	warning	Constraint failed: ipa-pat-3: 'To be usable for a wide range of internationally available applications, the Patient.name.text SHOULD be present.' (defined in http://hl7.org/fhir/uv/ipa/StructureDefinition/ipa-patient) (Best Practice Recommendation)
Patient.identifier[0] (I11/c6)	error	Patient.identifier.system: minimum required = 1, but only found 0 (from http://hl7.org/fhir/uv/phd/StructureDefinition/PhdPatient 1.0.0)

fsh-generated/resources/Patient-e70f0ba2-44d8-4f14-9c3a-ff4c6ead7473.json Show Validation Information (10)

Path	Severity	Message
Patient (I1/c2)	error	Patient.identifier: minimum required = 1, but only found 0 (from http://hl7.dk/fhir/core/StructureDefinition/dk-core-patient 3.2.0)
Patient (I1/c2)	error	Patient.identifier: minimum required = 1, but only found 0 (from https://hl7.fi/fhir/finnish-base-profiles/StructureDefinition/fi-base-patient 1.0.0)
Patient.name[0] (I10/c6)	warning	Constraint failed: ipa-pat-3: 'To be usable for a wide range of internationally available applications, the Patient.name.text SHOULD be present.' (defined in http://hl7.org/fhir/uv/ipa/StructureDefinition/ipa-patient) (Best Practice Recommendation)



HL7 FINLAND

Thank you!

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