

Nordic harmonization of health data

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Searching for sustainable business models for digital health



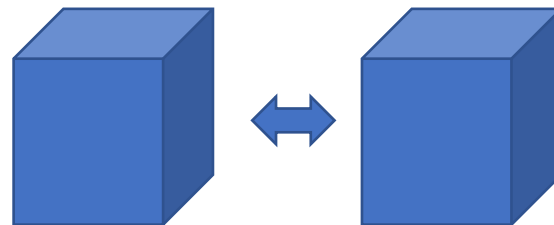
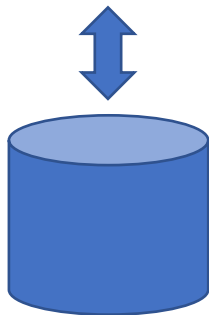
What is FHIR

- Fast Healthcare Interoperability Resources

- Open standard, free access
- Based on modern web technologies
- Supported by social media channels

OpenEHR, FL7 FHIR, OMOP?

open
EHR



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Find products that connect to Epic using standards-based interfaces and APIs, such as FHIR, SMART on FHIR, and CDS Hooks as well as Epic's purpose-built interoperability technologies.



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1CarePlan™ by Qure4u

A complete digital health platform that offers providers the tools to interact with patients



2bPrecise™

2bPrecise helps clinicians leverage the power of genetics and genomics within their clinical



AJD Vault - MyDirectives

MyDirectives helps healthcare providers quickly and seamlessly find advance care planning

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- AMIA Symposium 2022

▶ **OS SUPPORT**

▶ **FHIR SUPPORT**

▶ **SPECIALTY**

▶ **PRICING**

▶ **DESIGNED FOR**

▶ **EHR SUPPORT**

All Apps 103

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1upHealth - Aggregated Patient Data

[View](#)

1upHealth

Helps providers view patient data aggregated from external health systems. Patients can connect their medical data sources using FHIR.

OS: Web **Specialties:** Trauma, Cardiology, Pediatrics **Designed for:** Patients & Clinicians



ACT.md

[View](#)

ACT.md

ACT.md extends EMR's across the community, removing the silos that prevent you from addressing social determinants of health.

OS: iOS, Web, Android **Specialties:** Oncology, Pediatrics, Rheumatology **Designed for:** Patients & Clinicians



AppScript on FHIR

[View](#)

IQVIA Inc.

AppScript™ is a global curation, prescribing, and studies platform for digital patient engagement tools.

Designed for: Clinicians

The 80/20 Rule

- The core FHIR specification *focuses on the 20% of requirements that satisfy 80% of the interoperability needs.*
- The rest is left to domain or jurisdiction specific implementation guides.

Building global consensus is hard.

Smaller groups can achieve local consensus.

National Implementation Guides

Achieve local consensus through:

- Profiles (what is mandatory and forbidden)
- Data types (vocabularies, terminologies, mappings)
- Extensions (how to express something that's not in FHIR core spec)
- Examples and explanations

This page is part of the HL7 FHIR Implementation Guide: DK Core (v2.2.0: Release) based on [FHIR R4](#). This is the current published version. For a full list of available versions, see the [Directory of published versions](#).

1 Home

Official URL: http://hl7.dk/fhir/core/ImplementationGuide/hl7.fhir.dk.core	Version: 2.2.0
Active as of 2023-05-05	Computable Name: DKCore

1.1 Introduction [↗](#)

This implementation guide is provided to support the use of FHIR® in a Danish context.

This document is a working specification that is expected to be implemented and tested by FHIR® system producers to enable feedback to improve the content of this guide. With this first Standard for Trial Use ballot version we are looking for feedback if the following goals are met:

- provide guidance on core resources for identifiers, code system, value sets and naming systems in a Danish specific context.
- define extensions that are necessary for local use covering needed Danish concepts

Note: This implementation guide is not (yet) a FHIR API specification, this will be a goal for the next iteration.

1.2 Scope

The target group of this specification is any party that wants to specify FHIR standards for use in the Danish Health Sector. As a core-specification, a party that wants to use the specification should inherit from dk-core and build use-case specific profiles on top. As such, dk-core does not provide profiles for specific use use cases out-of-the-box.

This document presents Danish use concepts defined via FHIR processable artefacts:

- [Profiles](#) - are useful constraints of core FHIR resources and datatype for Danish use

- [Introduction](#)
- [Scope](#)
- [Governance](#)
- [Collaboration](#)
- [Language](#)
- [Connection between dk-core and common Danish architectures and standards](#)
- [Safety Considerations](#)
- [License and Legal Terms](#)
- [IP Statements](#)
- [Cross Version Analysis](#)
- [Dependency Table](#)
- [Globals Table](#)

Finnish Base Profiles - Local Development build (v1.0.0-rc15). See the [Directory of published versions](#)

1 Home

Official URL: https://hl7.fi/fhir/finnish-base-profiles/ImplementationGuide/hl7.fhir.fi.base	Version: 1.0.0-rc15
Draft as of 2023-04-28	Computable Name: FinnishBaseProfiles

1.1 Welcome to the Finnish FHIR Base Profiles Specification

This implementation guide specifies the Finnish FHIR base profiles.

It builds on top of the [International Patient Access](#) specification.

This implementation guide is based on [FHIR R4](#). None of the features it uses are changed in [FHIR R4B](#), so it can be used as is with R4B systems. There is no plan yet to base this implementation guide on [FHIR R5](#).

STU Note

1.1.1 Standard for Trial Use Ballot

This is a DRAFT specification that is currently in ballot process by the members of [HL7 Finland](#).

The [version 1.0.0-rc15](#) of this implementation guide is frozen and published as a base for the official ballot within HL7 Finland.

This ballot cycle is considered a **Standard for Trial Use** ballot in the [HL7 Balloting process](#).

HL7 Finland does not use the HL7 Ballot Desktop or the Jira Ballot Process, rather feedback is gathered through email to timo.kaskinen@nhg.fi, the chair of the Technical Committee of HL7 Finland.

See the [formal notice](#) on HL7 Finland's website.

- [Welcome to the Finnish FHIR Base Profiles Specification](#)
- [Why Do We Need Finnish FHIR Base Profiles?](#)
- [Notable FHIR Implementations in Finland](#)
- [Profiling Approach](#)
- [Governance](#)
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Query



API



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PROJECT OF [HL7 Norway](#)

HL7 Norway no-basis

Norwegian core profiles for R4

PUBLIC PROJECT

FHIR R4

Scope National NO

 Subscriptions 5

Introduction

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HL7 FHIR basisprofiler for Norge R4 versjon

HL7 FHIR Base profiles for Norway [Direkte lenke til IG for basisprofilene basert på HL7 FHIR R4](#)

Mål

Profilene beskrevet her er nasjonale basisprofiler for FHIR R4. Det vil si de beskriver det minimum av endringer som må gjøres på tilhørende internasjonal ressurser for å ta denne i bruk i Norge. Disse profilene kan brukes direkte, men vil ofte være gjenstand for videre profilering for spesifikke anvendelser og grensesnitt.

Prinsipper og metode

This page is part of the HL7 Sweden base profiles (v1.0.0: Release) based on [FHIR R4](#). For a full list of available versions, see the [Directory of published versions](#).

1 Home

<i>Official URL:</i> http://hl7.se/fhir/ig/base/ImplementationGuide/hl7se.fhir.base	<i>Version:</i> 1.0.0
Active as of 2023-03-08	<i>Computable Name:</i> SEBaseProfileImplementationGuide

HL7 FHIR version R4 base profiles for Sweden

This FHIR implementation guide is published by HL7 Sweden and expresses the base profiles and extensions of FHIR resources that are widely used in Sweden. The implementation guide is a description of the lowest common denominator in adjustments that need to be made on the FHIR standard for applying it in a Swedish context. The profiles in this IG can be used without further altering, but in most cases it is probably necessary (and recommended) to make further adjustments in accordance with your applicable use case. The extensions on the other hand will often be useful without further alteration.





The working group

The development of this implementation guide is carried out by a work group under the management of HL7 Sweden <http://hl7.se>. The group is composed of representatives from regions, state authorities, system vendors and other experts within the FHIR standard, informatics, architecture and terminology.

Contact information

To reach the working group for the Swedish base profiles: [Arvid Thunholm](#) - Chairman HL7 WG base profiles

Profiled Resources

Country	Address	AllergyIntolerance	Appointment	AppointmentResponse	Composition	Condition	DocumentReference	Encounter	EpisodeOfCare	HealthcareService	HumanName	Immunization	Location	Medication	MedicationAdministration	MedicationRequest	MedicationStatement	Observation	Organization	Patient	Person	Practitioner	PractitionerRole	Procedure	Provenance	RelatedPerson	Schedule	Slot	Substance
	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
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National IG Development

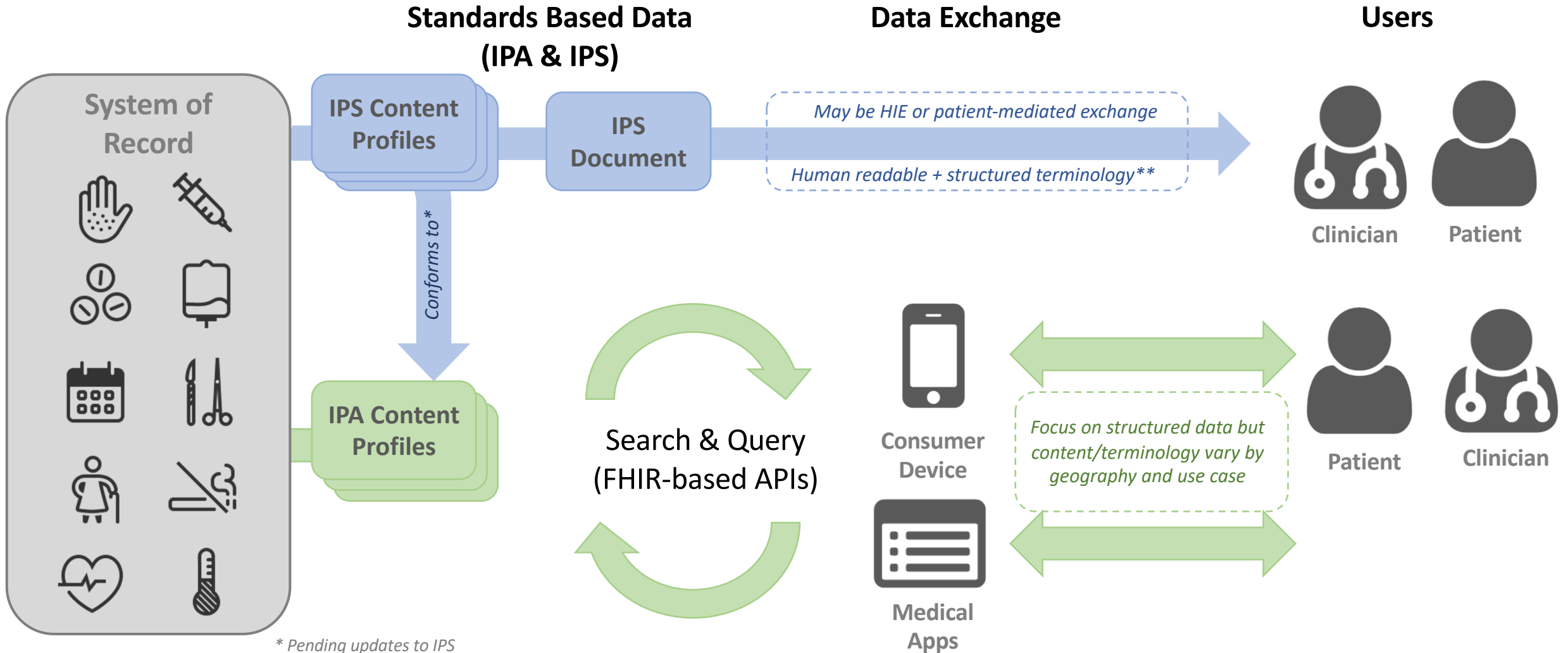
- Norway: work initiated by a government agency, now industry more involved. Still some challenges in getting funding and proper adoption?
- Denmark: initiated by industry, government agencies involved. Government agency needs to stamp a HL7 Denmark proposal before it gains official status. Steady progress.
- Finland: initiated by healthcare providers, work carried by industry. Government agencies comment.
- Sweden: initiated by a government agency, lack of funding, industry works on their own, parallel implementation guide.

International Patient Access (IPA)

- A step towards a global FHIR profile
- Use case: access to patient data – for both patient and practitioner
- Mainly relevant for EHR vendors and app developers

- I believe we should base the harmonized Nordic FHIR profiling on IPA
- Finland and Denmark are already doing so in their guides

IPA vs. IPS



* Pending updates to IPS

** IPS primarily uses the SNOMED IPS Terminology where most appropriate

Get Involved!

- Become a member of your country's HL7 affiliate
 - HL7 Denmark, HL7 Finland, HL7 Norway, HL7 Sweden
- Nordics on FHIR
 - Monthly [Teams calls](#)
 - Discussion stream in chat.fhir.org
- mikael@sensotrend.com