



FHIR and the Finnish national PHR

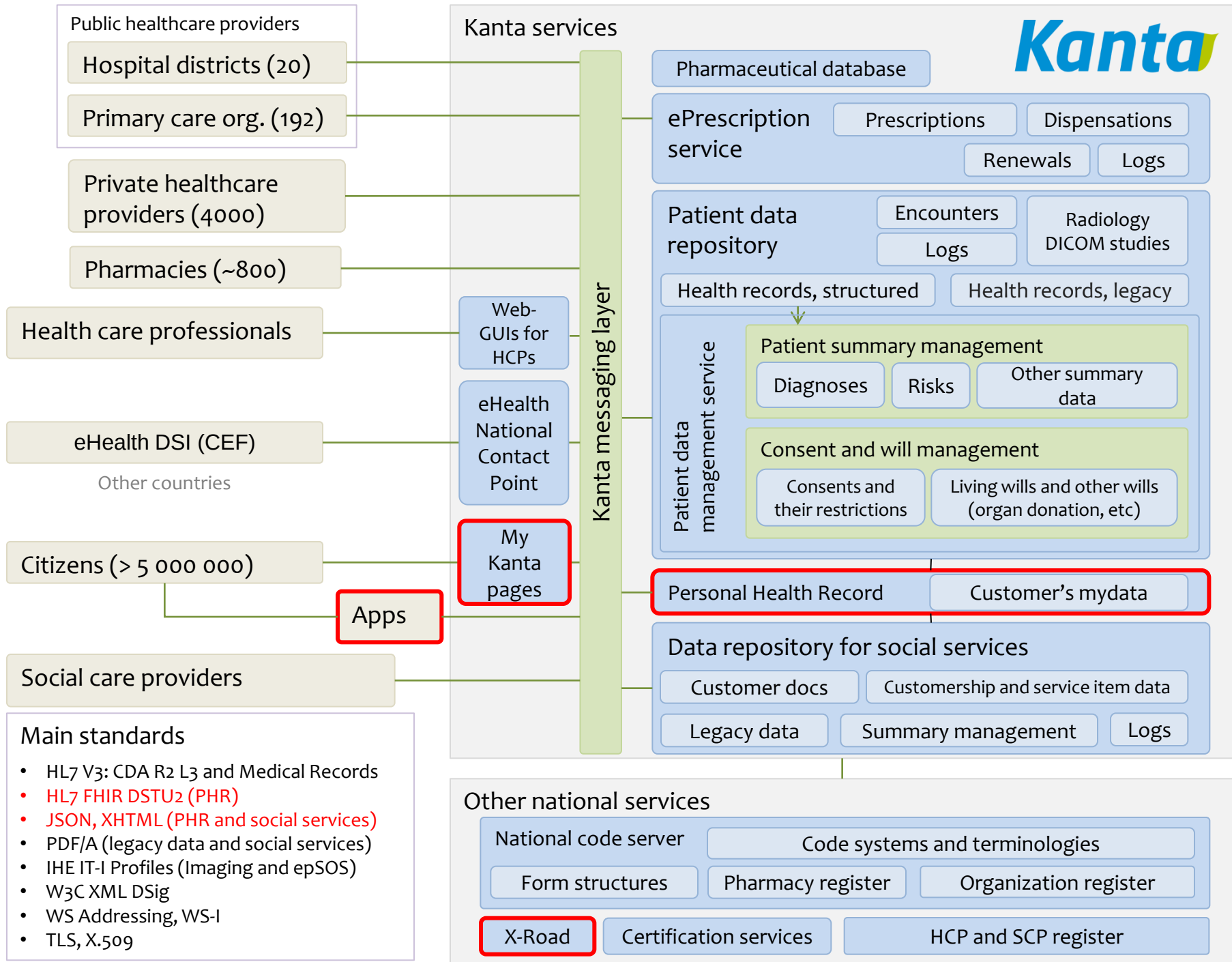
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PHR = Personal Health Record

- At the moment, Kanta services store health data entered by healthcare professionals. All Finnish public healthcare organizations (100 %) and the biggest private healthcare organizations are connected to Kanta.
 - Also social services, from 2018 on.
- Personal Health Record is designed to enable citizens to enter their own health-related information. PHR is an extension of Kanta.
 - Data can be entered through web applications, online services and mobile apps.
 - Kela builds the PHR data management platform and some *essential* web user interfaces as part of My Kanta Pages (Finnish national patient portal).
 - Third parties will develop services which produce, store and analyze the data. Nationally and regionally coordinated projects are developing self care solutions – a general trend and hot topic at the moment.
 - Two big national projects are involved: ODA (for primary healthcare) and Virtual Hospital (for specialized healthcare)
- Healthcare professionals will be able to access the data with patient's consent, and put parts of it on the official patient health record.
- Currently being developed, first phase ready by end of 2017.

Why FHIR?

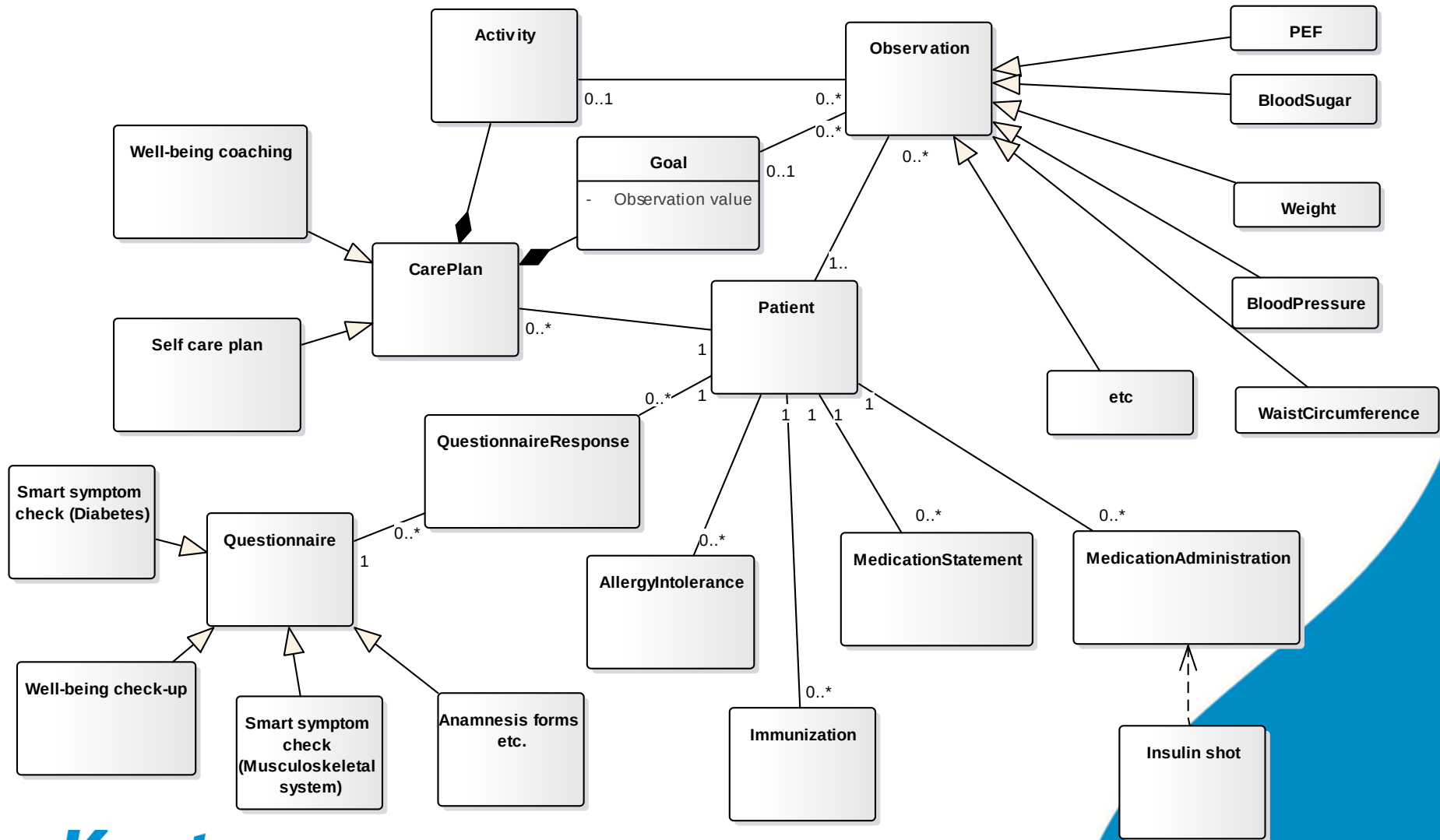
- A general trend for new innovative services
 - High on the hype cycle, but also works
 - Promoted as the "next" standard by HL7 International
- Mobile first
 - Citizen-oriented apps and innovative web services are among PHR goals
- Extensible
 - Many suitable resources, Observation being the most versatile for the PHR needs
- Lots of tools and libraries already available



A process for extending the data model

- **The data model is open and strict...**
 - All profiles are open and published online
 - The PHR server only accepts resources with references to profiles. Resources are validated against the referenced profiles.
 - Note that validation does not work yet (target spring 2017)
- **... but as flexible as reasonably possible**
 - Anyone can offer a new profile or extension
 - After verification (common sense, clinical, technical) and any required fixing the suggestion becomes a part of the official PHR data model.
 - Jira or Github issues for tracking the progress.

A preliminary PHR domain model



How do we use FHIR

- DSTU2, looking forward to STU3
 - Mainly for validation features implemented in STU3-compliant libraries
 - Otherwise DSTU2 is sufficient for PHR needs
- HAPI-FHIR
 - The library itself is good, although its design is "not Finnish" 😊
 - Some problems with the JPA server, plans to switch to a NoSQL database (Cloudant)
- Forge and Simplifier.net
 - 25 StructureDefinitions (profiles and extensions) and 9 ValueSets published on Simplifier.net (still drafts)
 - A launching customer for Simplifier.net