

# ONC JASON report hearing

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*open***EHR**

# openEHR - history

- Started in 2000
- Focussed on semantically enabled EHR architecture
- Produces specifications for interoperable EHR
  - <http://www.openehr.org/programs/specification/releases/currentbaseline>
  - Technical basis for ISO 13606
  - Archetype Definition Language (ADL) used by CIMI
- Introduced the archetype paradigm ([FAQ](#))
  - enabling development of content models and terminology bindings that specify EHR content
- Developed around 400 clinical content models
- Growing adoption by European vendors
- Used in several national programmes

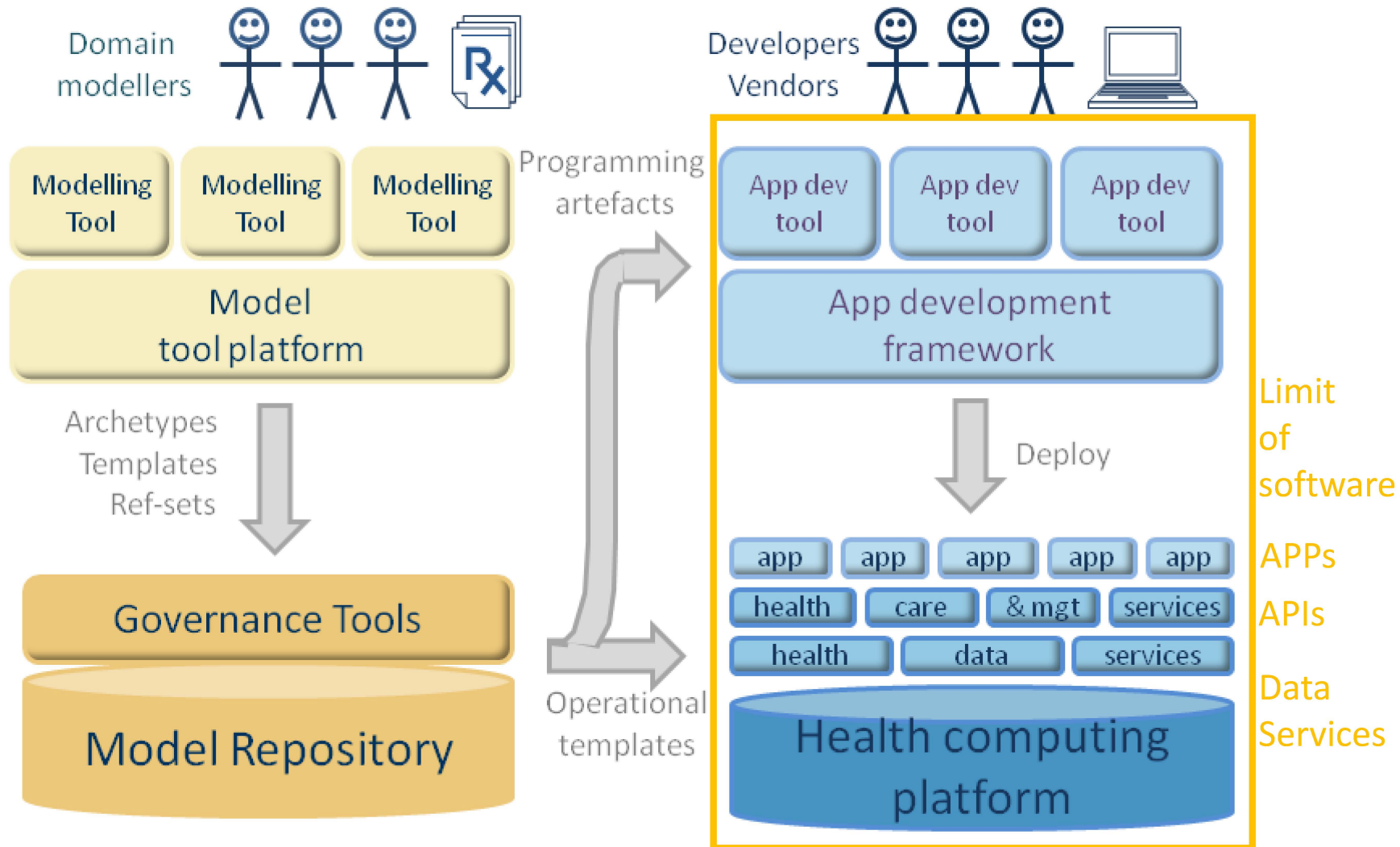
# openEHR – technical paradigm

- Key elements
  - **Reference model** - generic information model of EHR, data types, demographics etc
  - **Content models** ('archetypes') developed outside software, primarily by clinical professionals – form a library of data points and data groups
    - Including Terminology bindings
  - **Data set models** ('templates') created from composing specific elements of relevant archetypes
    - Including Terminology bindings
  - **Query Language** (AQL) enabling querying based only on models, not physical DB schemas
    - First effort to define **portable queries**
  - **Service architecture** – APIs for creating, retrieving and querying content

# openEHR – archetype formalism

- Specialisation and customisation
  - The archetype formalism (ADL/AOM) enables open-ended specialisation of content semantics
  - Critical for enabling localisation of content and terminology use
- Works with any reference model
  - openEHR / ISO 13606
  - FHIR resource definitions
  - CDISC BRIDG
  - CIMI RM
- Basis for code generation of XSDs and APIs for use by ‘normal developers’

# openEHR-based architecture



# openEHR archetype library

www.openehr.org/ckm/

Apps Ocean openEHR Media London TRAVEL Music Technology Philosophy ontologies HIT Logins BLOG HERE

**openEHR Clinical Knowledge Manager** Username

Archetypes Templates Termsets Release Sets Projects Reports Help

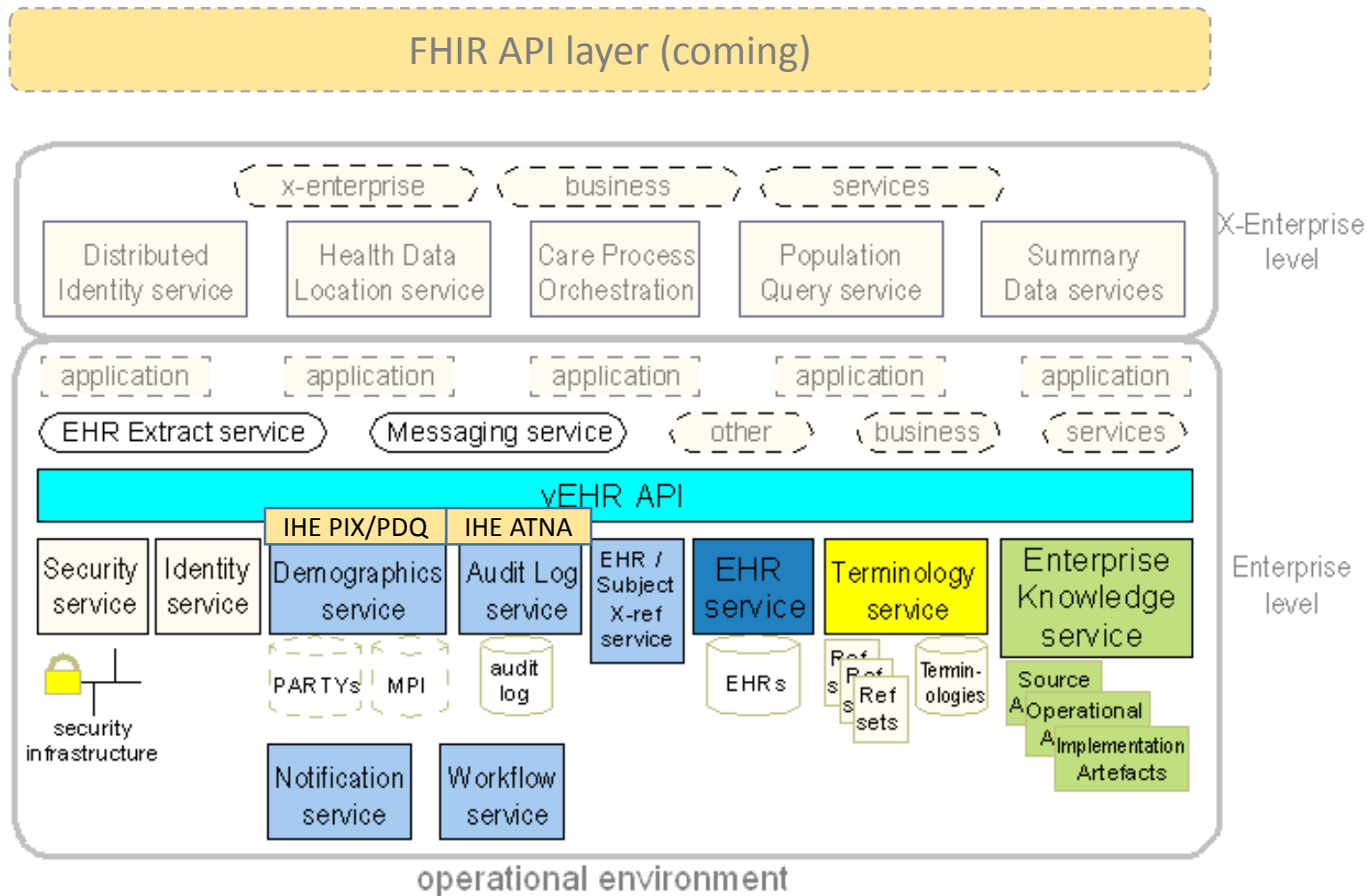
Find Resources **Body temperature** **MSFC Score** **Indirect Oximetry**

**Indirect Oximetry** English

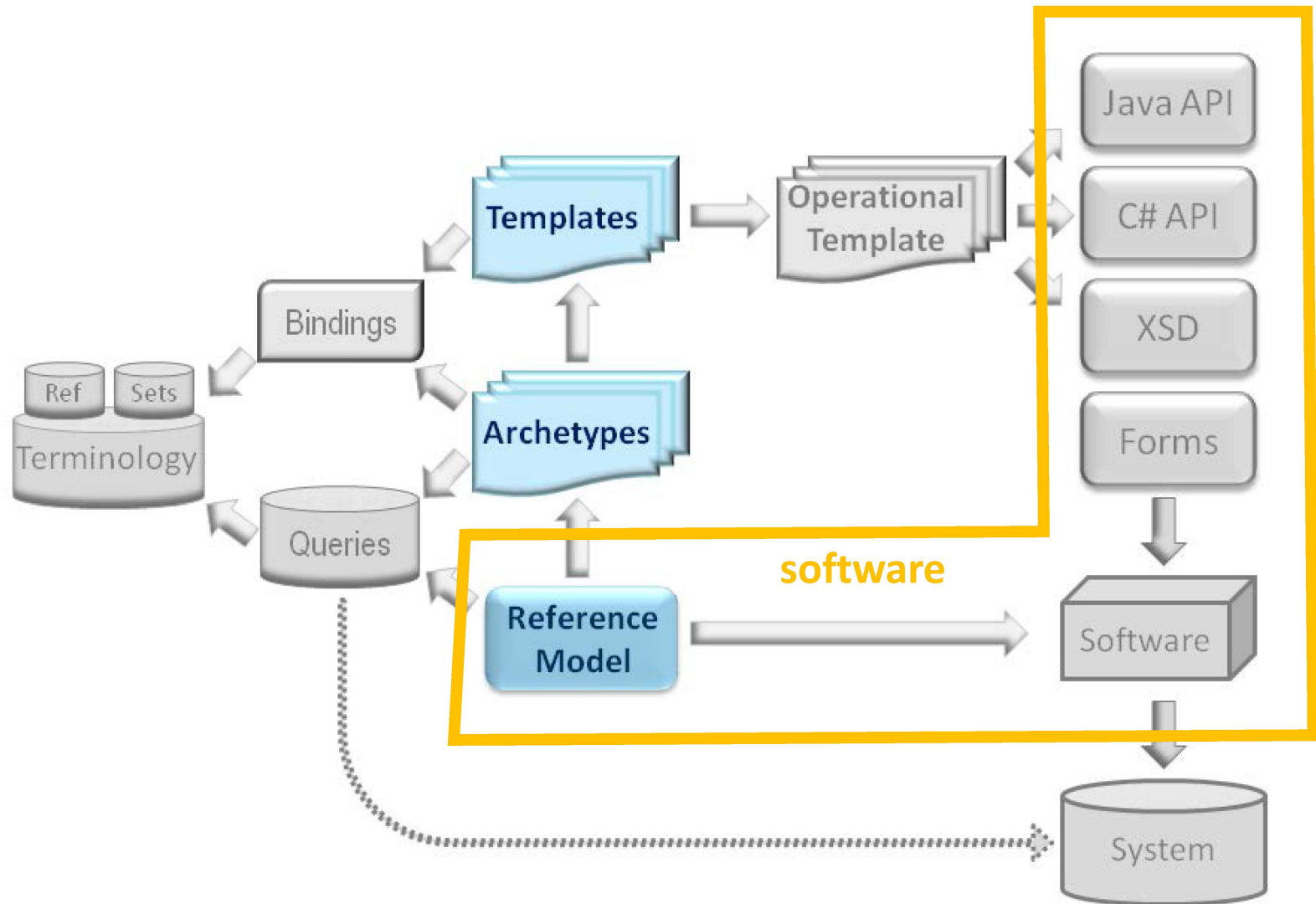
~400 archetypes @ 20 data points ave / archetype

- Fluid Balance (v1)
- Fluid Input (v1)
- Fluid Output (v1)**
- Fundoscopic examination of e
- Gestation (v1)
- Glasgow Coma Scale (v1)
- Global assessment (v1)
- Hearing Screening Result (v1)
- Height/Length (v1)
- Imaging examination result (v1)
- Indirect Oximetry (v1)**
- Intraocular pressure measure
- Intravascular pressure (v1)
- Laboratory test (v1)
- MSFC Score (v1)**
- Mantoux Test Result (v1)
- Measurement of chest and e
- Menstrual cycle (v1)
- Menstruation (v1)
- Modified Early Warning Scor
- NYHA Heart failure classifica
- Neonatal Braden scale (NSR/
- Nine Hole Peg Test (v1)**
- Operation Record (v1)

# Emerging service APIs



## openEHR &amp; JASON





# openEHR & JASON

- What openEHR may be able to contribute:
  - General paradigm and methodology ideas
  - Content modelling language (ADL)
  - Portable query language (AQL)
  - Methods for channelling content models into a FHIR-based API architecture
  - Ideas on remote web 2.0 engagement of clinical professionals to do modelling
  - 400 content models, plus various national models sets could be transformed into e.g. CIMI and/or FHIR structures