

The openEHR Clinical Knowledge Manager

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The openEHR Developers' workshop
Medinfo 2015
São Paulo, 21.08.2015



Why Clinical Knowledge Governance?

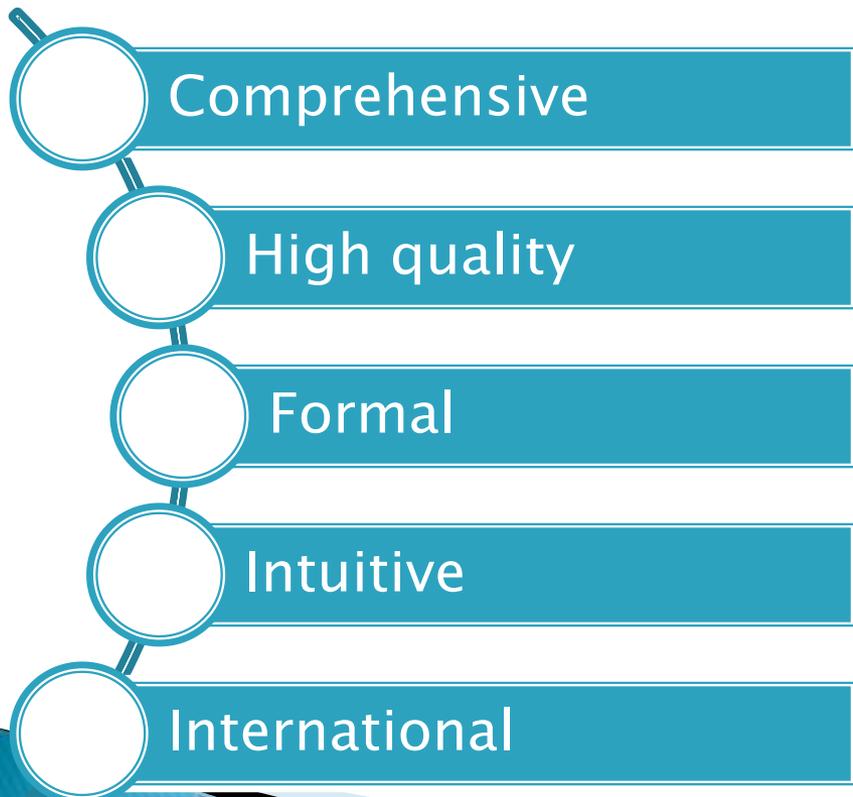
- ▶ “Large e–health programs are often severely hampered by **ill–defined user requirements, low levels of stakeholder engagement**, slow solution adoption rates among providers, and an unwillingness to invest the often large amounts of capital required.”

Bartlett, Chris et al. Optimising E–Health Value: Using an Investment Model to Build a Foundation for Program Success. Perspective, Booz & Company 2010.

Slide from Medinfo 2013.
This is changing [slowly]!

Why Clinical Knowledge Governance?

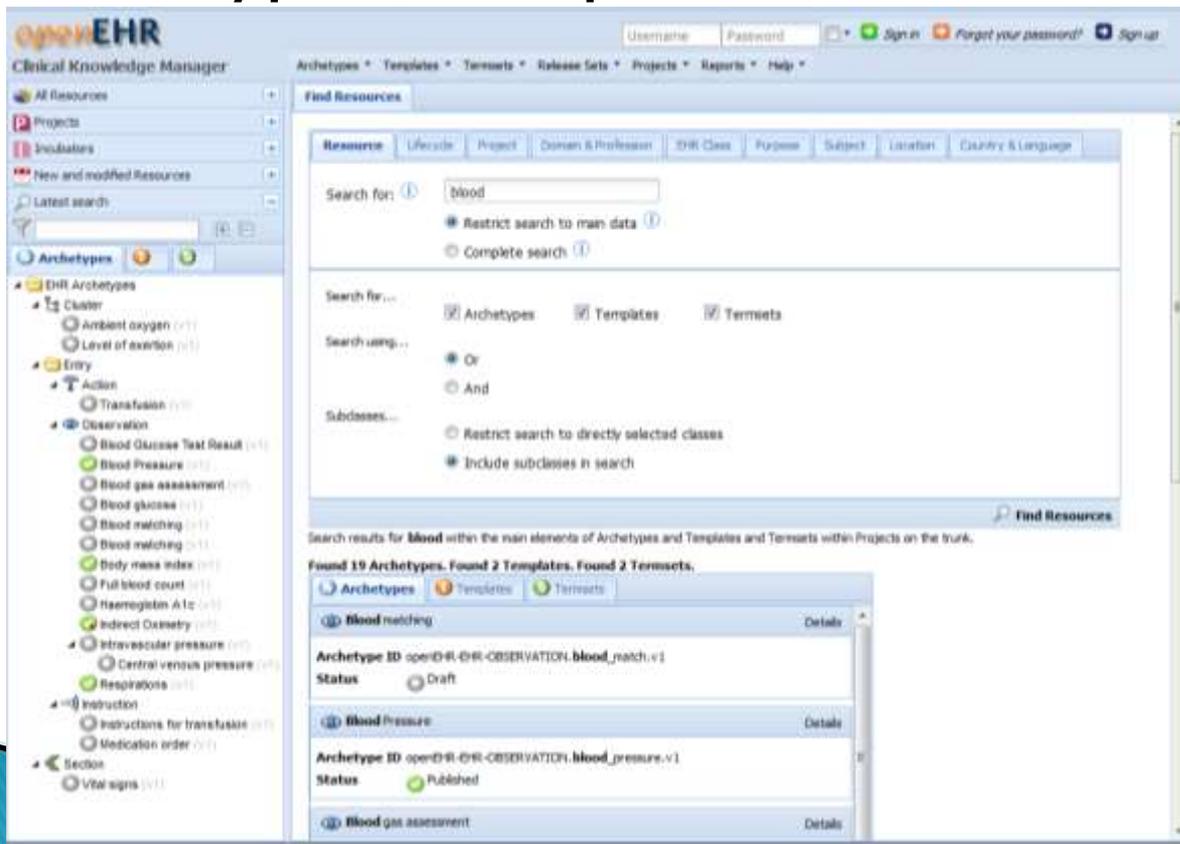
- ▶ Instead of defining clinical concepts again and again, do it right *once*. „*Infostructure*“



Without:
Impossible to exchange and then use information in a semantically safe way – no matter how well done anything (e.g. DSS) that works with the information is.

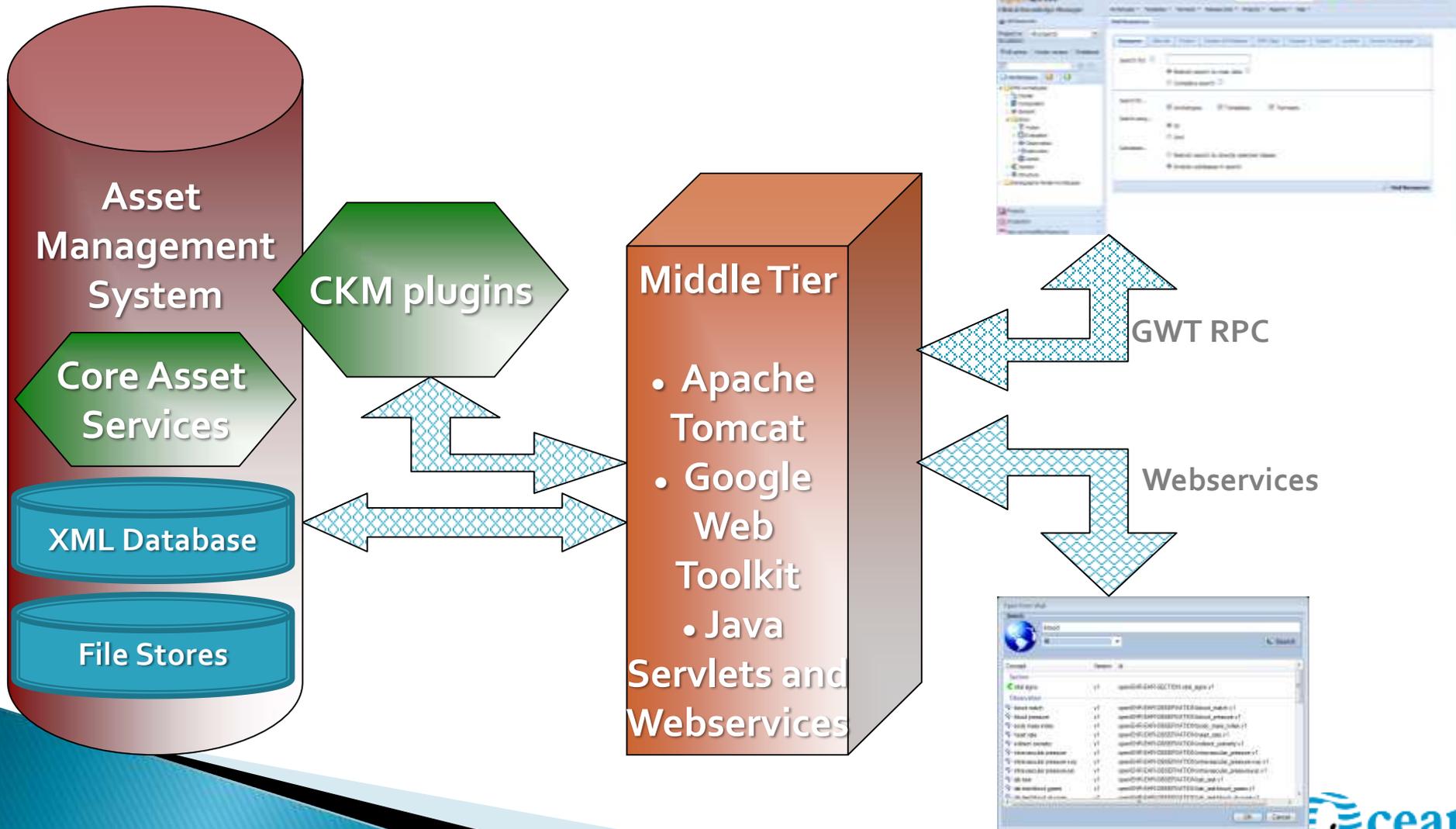
Clinical Knowledge Manager

- ▶ A web application for involving clinicians in defining clinical content based on archetypes, templates, and termsets



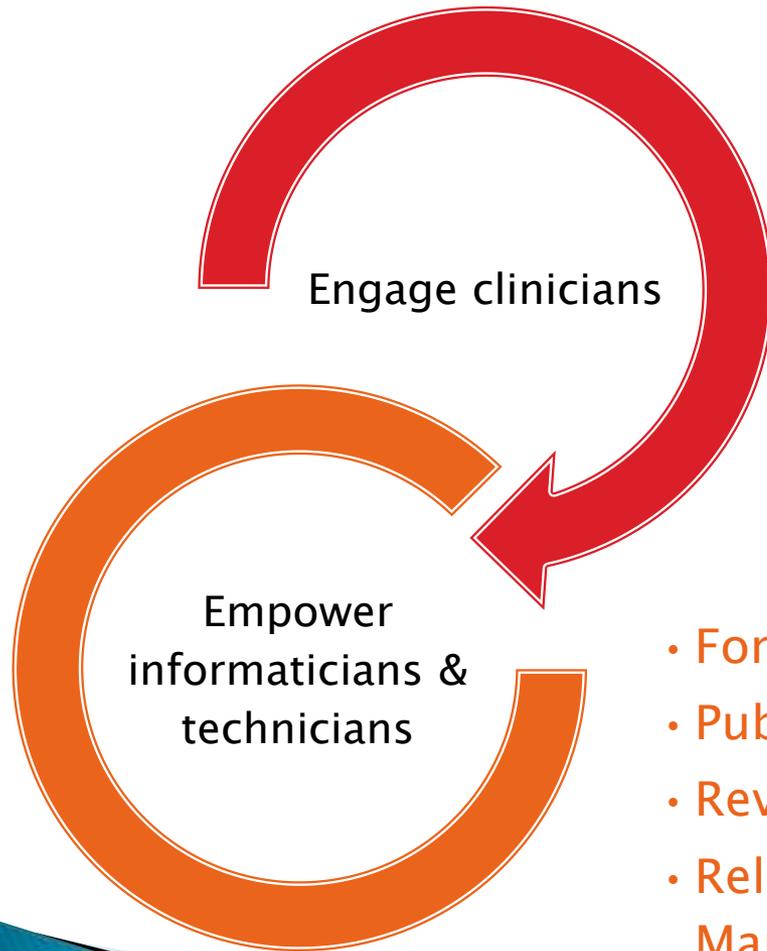
<http://openehr.org/ckm>

CKM Design Overview



CKM Core Principle & Challenge:

„Right“ separation of clinical and technical aspects!



- Informal Discussions, Change Request & Archetype Proposals
- Formal Reviews (content, terminology binding, translations)
- Projects & Incubators
- Can now use 5 mins or 1 hour of expensive specialised clinician; instead of days –physical meetings

- Formal expression of content
- Publishing
- Revision/Version Management
- Release and Dependency Management

Discussions

Sebastian Garde  Sign out.

Clinical Knowledge ManagerArchetypes ▾ Templates ▾ Termsets ▾ Release Sets ▾ Reviews ▾ Projects ▾ Discussion ▾ Reports ▾ Tools ▾ Help ▾

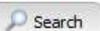
★ Preferred View All Resources Subdomain: All subdomains ▾Project / All projects ▾Incubator: All active Under review PublishedSet as preferred viewArchetypes  

- ▶ EHR Archetypes
 - ▶ Cluster
 - ▶ Composition
 - ▶ Element
 - ▶ Entry
 - ▶ Action
 - ▶ Evaluation
 - ▶ Observation
 - ▶ Instruction
 - ▶ Admin
 - ▶ Section
 - ▶ Structure
- ▶ Demographic Model Archetypes

Projects & Incubators New and modified Resources Resource Watchlist Checked-out Resources 

Find Resources Dashboard Search Discussions 

Search Discussions

Search for: 

Subject only Subject and text Username

Search results for ian.mcnicoll (105 Discussions)

 *Silje Ljosland Bakke* 
(24-Jun-2015 12:47)

Inclusion and exclusion of CLUSTER archetypes: Versioning [General Discussion]

2 replies 

With the recent change of unpublished archetypes to version 0, the inclusion and exclusion of CLUSTER archetypes in archetype SLOTS gets more complex. When adding a cluster for inclusion or exclusion, the major version is included. This makes sense to facilitate controlled change from one published major version to the next (e.g. from v1 to



 *Sabine Leh* 
(28-May-2015 15:34)

present absent equivocal indeterminate [Archetype: Tumour-Lymph node metastases]

3 replies 

"present absent equivocal indeterminate" seems a uniform concept for coding of choices in certain observations (example here: extracapsular extension). My first question is related to the term indeterminate. I think it means: "I am not able to make a statement about this observation".
Example: the morphology in the section is bad because of artificial



 *Pablo Pazos* 
(03-Jun-2015 00:02)

Is the protocol required? [Archetype: Glasgow coma scale]

3 replies 

Can we set 0..1 on that node?



 *Pablo Pazos* 
(27-Sep-2013 06:10)

Is this archetype suitable to record information during hospitalization? [Archetype: Encounter]

10 replies 

I don't see hospitalization as an encounter because encounters tend to be eventual and hospitalization records are related to a period of time. Also there are medical records and nursing records. So I don't know if this archetype is suitable to record hospitalization clinical info or if there's another archetype suitable to the task.





Switch to detailed view

Content Review Summary: Pulse/Heart beat (Revision: 11) (Summary view of 7 reviews)

Invitation

Header

Data

<p>Regular? T Coded Text Optional</p>	<p>The observed regularity of the pulse or heart beat.</p>	<ul style="list-style-type: none"> • Regular [The pattern is regular.] • Irregular [The pattern is irregular.] 	<p>Heather Grain (22-Jul-2015)</p> <p>If this is the observed regularity of the pulse the ? in the title seems irrelevant, the field does not seem to be asking is the pulse regular - rather it is asking to record a 'measure' of regularity.</p> <p>Editor Feedback:</p>
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<p>Irregular type T Coded Text Optional</p>	<p>More specific pattern of an irregular pulse or heart beat. Comment: Selection of a value from this value set is only valid if 'Irregular' is selected from the 'Regularity' data element.</p>	<ul style="list-style-type: none"> • Regularly Irregular [The pattern is irregular in a regular pattern, For example, a dropped beat once every 'n' beats.] • Irregularly Irregular [The pattern is irregular in a chaotic and unpredictable manner. For example, atrial fibrillation.] 	<p>Heather Grain (22-Jul-2015)</p> <p>If the value of regular is -irregular or perhaps rather not regular - what is recorded here - this seems to be an alternative to Regular?</p> <p>Editor Feedback:</p>
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State

<p>Position T Coded Text Optional</p>	<p>The body position of the subject during the observation.</p>	<ul style="list-style-type: none"> • Standing [The subject was standing.] • Sitting [The subject was sitting (for example on bed or chair).] • Reclining [The subject was reclining at an approximate angle of 45 degrees, with the legs elevated to the level of the pelvis.] • Lying [The subject was lying flat.] <p><i>Assumed value: Sitting</i></p>	<p>Diego Bosca (27-Jun-2015)</p> <p>Are these still valid if some kind of exertion is considered? Probably if the patient is running then 'standing' could be still applied. However the description and terminology binding of standing should be carefully done in this case (standing position is synonym of orthostatic position)</p> <p>Editor Feedback:</p>
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Archetype Reviews



Translation



Terminology



Content

Template Reviews



Initiate Template review round: Demo with hide-on-form

You can now add special questions for the individual resource elements.

These questions will be displayed to the reviewer directly below the element.

Review Invitations: Add special review questions

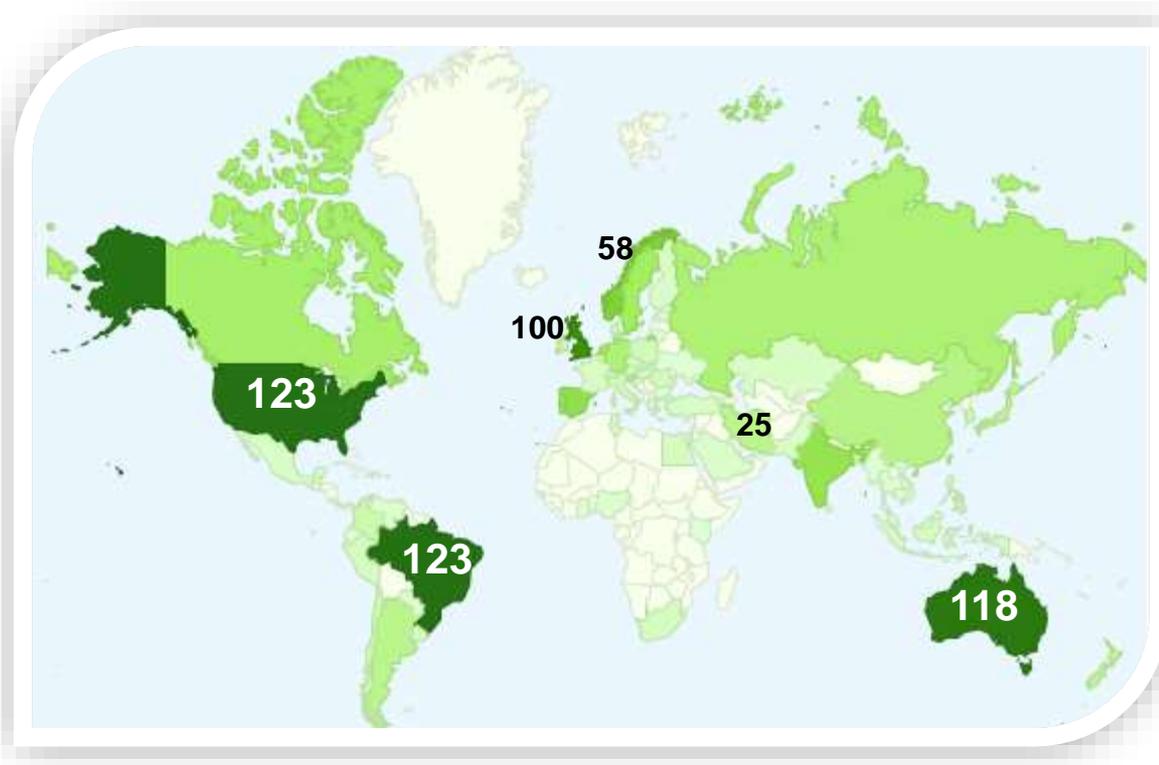
Header	Data	
T Text	or health problem	Special Question: <input type="text"/>
[-] Symptom Cluster Optional, repeating (0..*)		Special Question: <input type="text"/>
Symptom T Text Mandatory (1..1)	The symptom experienced	<ul style="list-style-type: none">• short of breath Special Question: <input type="text"/>
[-] Features Cluster		Special Question: <input type="text"/>
Clinical description T Text	Description of the symptom	Special Question: <input type="text"/>
Severity ⊖ Ordinal	The severity of the symptom	<ul style="list-style-type: none">• trivial [1]• mild [2]• moderate [5]• severe [8]• very severe [9] Special Question: <input type="text"/>
Current intensity degree ⊖ Ordinal	The degree the symptom is bothering the patient	<ul style="list-style-type: none">• not present [0]• trivial [1]• mild [2]• moderate [5]• severe [8]• very severe [9] Special Question: <input type="text"/>

Projects & Incubators

Common resources	Pathology Synoptic reporting	Demographics	Multiple Sclerosis Functional Composite (MSFC)	Ophthalmology	EU-SHN Heart Failure Summary
Cataract surgery models	Handling non-lab reported Blood Group	SHN Heart failure Summary	epSoS Patient Summary Templates	AMD, Diabetic Retinopathy & Glaucoma	Discharge administration incubator
NEHTA referenced archetypes @	FHIR/openEHR archetype development	FHIR/openEHR Collaboration	EU-PARENT Hip arthroplasty register project	PARENT ISA Demographics	Industry Sprint
Norwegian referenced archetypes @	EU-PARENT Hip arthroplasty register incubator	EU PARENT / Irish Skin Foundation Atopic Dermatitis Registry	EU PARENT / Irish Skin Foundation Atopic Dermatitis Registry Incubator	Problem/Diagnosis family of archetypes	Dentistry Incubator
UK Clinical Models referenced archetypes @	EMPOWER	Physical Examination findings	Laboratory and pathology testing		

CKM Users

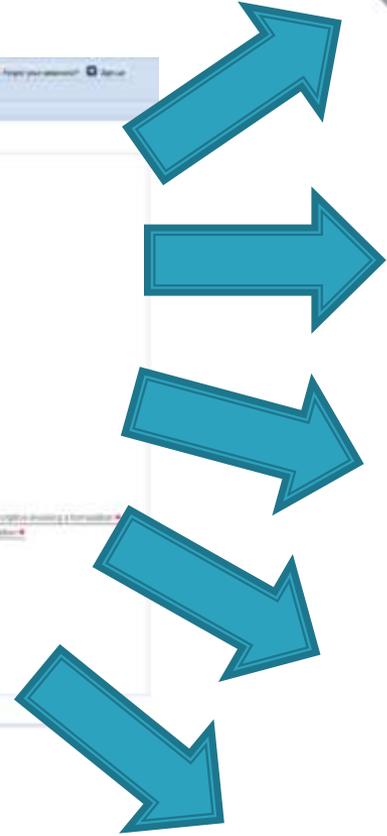
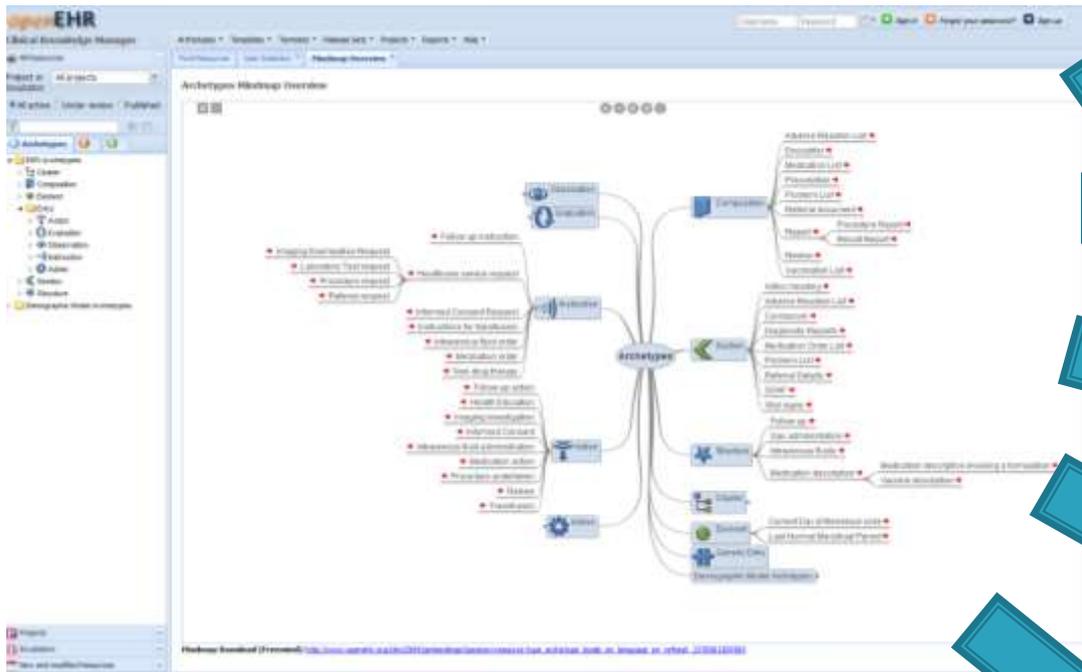
- ▶ International *openEHR* CKM instance
 - > 1350 users
 - From 85 countries
 - From all Health professions and many health domains



Other CKM instances

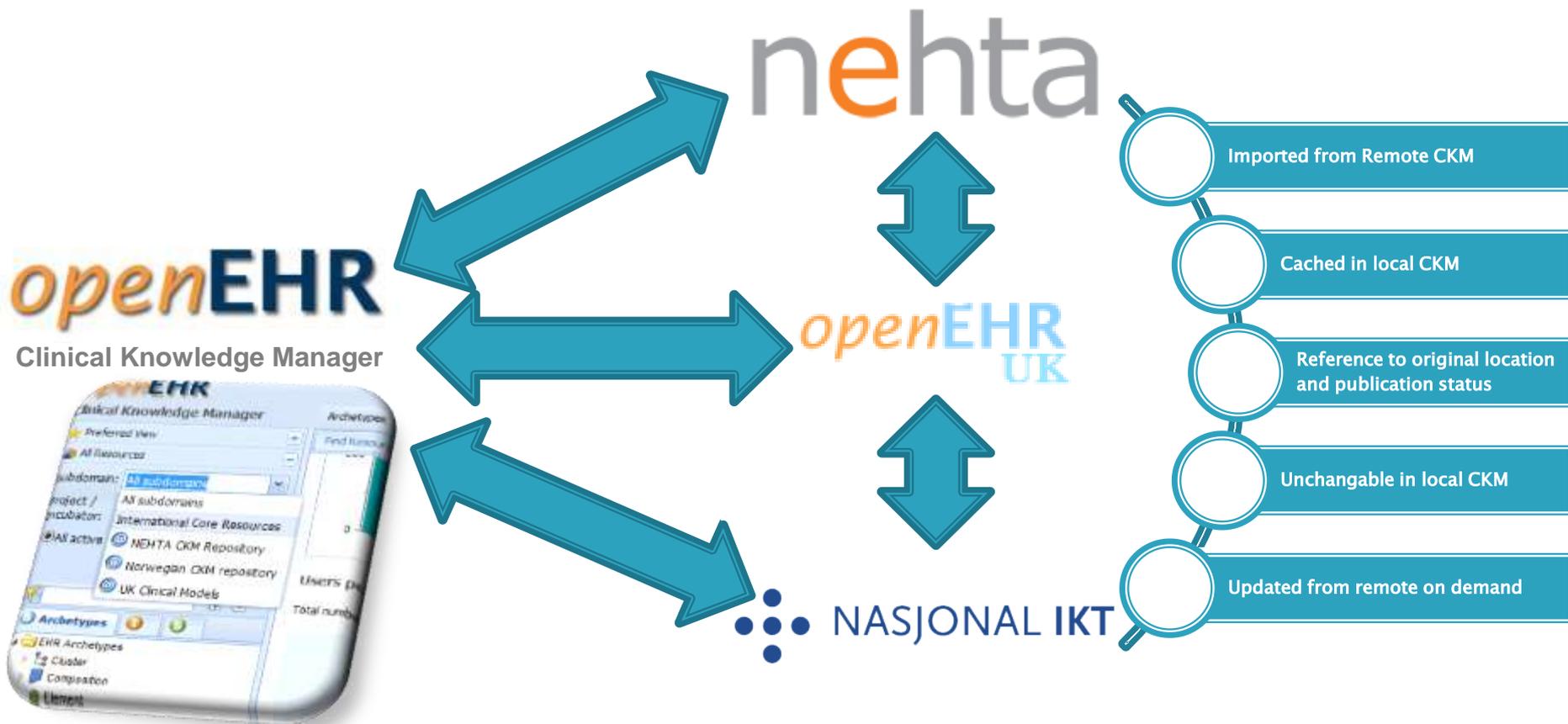


Use the Same Archetypes in Various Applications, Worldwide



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Federation of CKM Instances



Some recent additions

Support for the community-agreed “v0” archetype ids for in_development archetypes

Introduction of additional meta-data for each archetype, managed by CKM where applicable: revision number, namespaces, unique ids, etc.

Formally „fork“ an archetype as and when required

Propose new archetypes as a normal user (Archetype Proposals)

Formal Change Requests

Search 'within' templates (Advanced Template Search)

An additional technical view for archetypes to show some of the more technical details of an archetype if and when required

Enhancement of CKM's webservices to support the serving of XML archetypes in addition to ADL

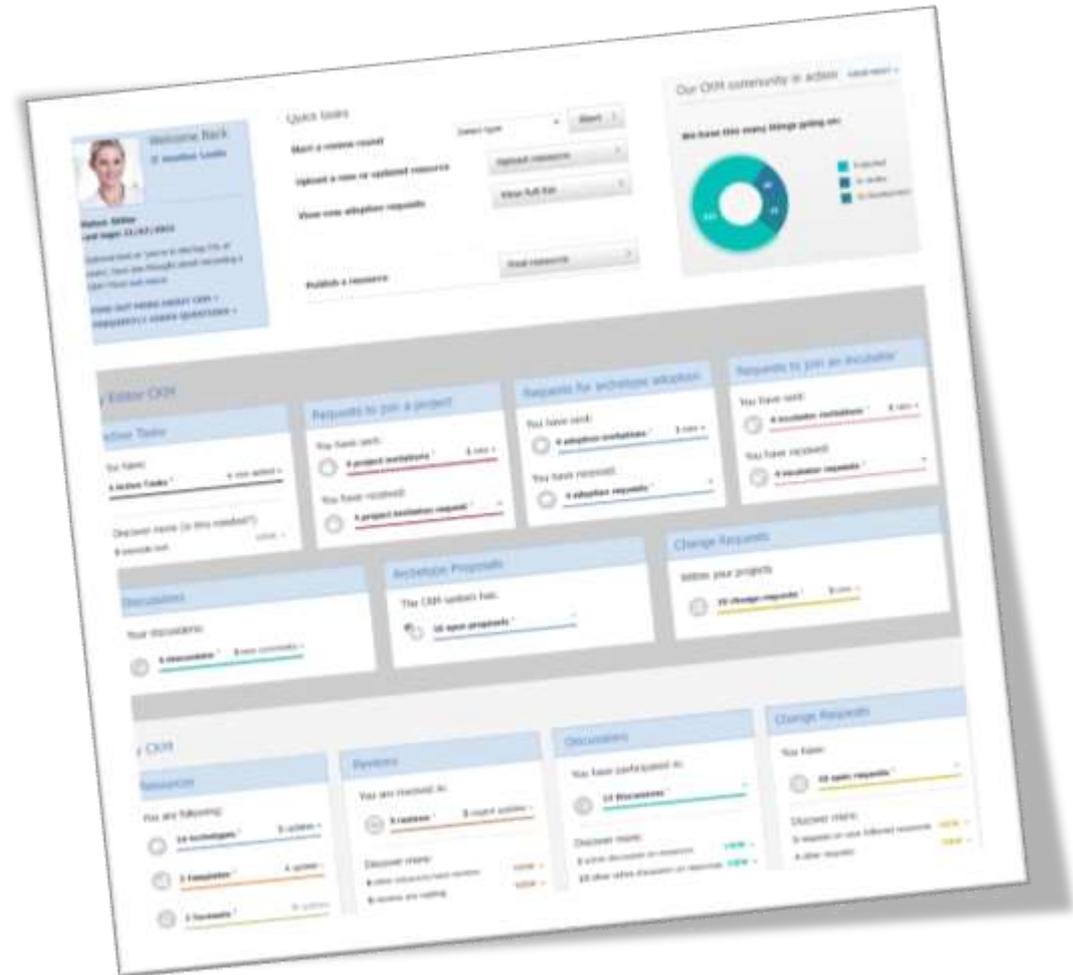
A new CKM-wide discussion search functionality

Streamlined Sign-up process

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Challenges & Next Steps

- ▶ Dashboard rework
- ▶ GDL
- ▶ ADL 2
- ▶ ...?



Key Messages

- ▶ Knowledge Governance is crucial
 - High-quality archetypes with high-quality clinical content
 - Semantically interchangeable between clinical systems; also the basis for decision support
 - Key to success: how to engage with clinicians and capture their knowledge
- ▶ CKM is the tool for it
 - Regionally, nationally & internationally
 - Register at <http://www.openehr.org/ckm>