The art of ART

Functionality for Assisted Reproductive Technology (ART) using openEHR archetypes in DIPS Arena

2022 05 04 - Nordic openEHR Collaboration

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Oslo University Hospital and Norwegian governance of archetypes
Goal – replace homegrown system for ART

InVitro – homegrown Access db for treatment of infertility
  + Specifically tailored for use in ART
  + Easy to implement changes
  + Easy access to data for QA
  - Locally developed, risky for maintenance and governance
  - Little integration with other systems in the hospital, including PAS and EPR
  - Challenges in stability, security and privacy
Add functionality in existing EPR

Pros and Cons

+ Integration with EPR/PAS and Lab
+ Governance within hospital and service provider
+ Closing issues related to stability, security and privacy
+ "Use what we have, before buy new"
- Adaptive to local needs?
- Time to develop and make changes?
- Cost?
- Access to data for QA?
Analysing AS-IS

Reproduksjonsmedisinsk avdeling OUS: Prosesser IVF, ASIS

Henvisning til første konsultasjon
Assistert befruktning
Første konsultasjon
Assistert befruktning
Andre konsultasjon
Assistert befruktning
Siste konsultasjon

Uttak og bearbeidelse av donorsød
Eggunn
Befruktning av egg
Innsetting av egg
Svangerskapskontroll

Fornyelse av valgliste
Then what?

• DIPS AS, Bifrost – Oslo University Hospital (OUS) agreement
• Pay per hour, 1 day per week, 2 DIPS resources
• Increased to 2 days per week
• DIPS made "mock-up" functionality based on existing archetypes and preliminary, home made archetypes
• Agile development, weekly meetings OUS – DIPS
• OUS ART expert made draft archetypes
• DIPS included into the product archetypes in status "draft" and "published" as they were available
Archetype development - I

• OUS used/hired archetype experts nationally and from abroad

• Per May 4th 74 archetypes to be used
  • 24 in status "Draft"
  • 9 in status "In review"
  • 39 in status "Published"
  • 2 in status "Reassess"

• Of the 74:
  • 16 initiated by ART project alone
  • 23 partly initiated by ART as it share needs within the openEHR community
  • 4 local archetypes which will never be on review
Archetype/Template development - II

• First mock-up: 138 archetypes
  • Reduction based on
    • New and broader archetypes
    • Better knowledge of which archetypes existed
    • Got rid of preliminary archetypes

• External help very useful
  • Approx. 100 hours until now

• Templates made by domain expert and project
Status per now and plan

• Tested, given feedback x n in DIPS' environment
• Installed a version in a test environment in OUS
• Awaiting feedback from users in OUS
• Push as many archetypes through review and publish, until 1.June
• Remaining not-published archetypes will have _dips or _ivf suffix and to be included in next version
• Go-live mid September
Recommendations

• Simple forms and documents can be made locally
• Complicated functionality – leave it to the vendor
  • Form designer not suitable for complicated needs
  • Possible for vendors to compete
  • Why not use Tieto, Cambio, Better, Nedap, FreshEHR, ++ to make a module for DIPS Arena?
• Hybrid approach
  • Customer responsible for archetypes and templates
  • Vendor responsible for UI, implementation
• Knowledge and experience is important and takes time to obtain