



# FHIR ~~vs~~ + OpenEHR

- Alastair Allen, CTO Healthcare



# **hello** my name is...

**Alastair Allen**

Healthcare CTO, Kainos



@alastairallen



alastair-allen

# Evolution of health standards in Kainos



Year	2008	2010	2012	2014	2016	2018	2020+
Customers	1	4	8	13	21	29	35+



## 1<sup>st</sup> Customer

Ipswich Hospital NHS Trust select Kainos to deliver an Electronic Document Management System to digitise their legacy and day-forward case-notes.

Monolithic architecture with proprietary data model



## 1<sup>st</sup> Mobile App and Public API

Our first secure, offline-first **mobile app** and accompanying **REST API's** are released, starting our interoperability journey

REST-ful API's with proprietary data model



## 1<sup>st</sup> Live FHIR Application

We adopt a cloud-first policy for all new product lines and **go live with our first application using FHIR** for data exchange and persistence

Microservices architecture with standards based services

## FHIR + OpenEHR

Combine FHIR and OpenEHR to provide a rich vendor neutral data platform with industry standard API's



openEHR

# FHIR vs OpenEHR



Alastair Allen

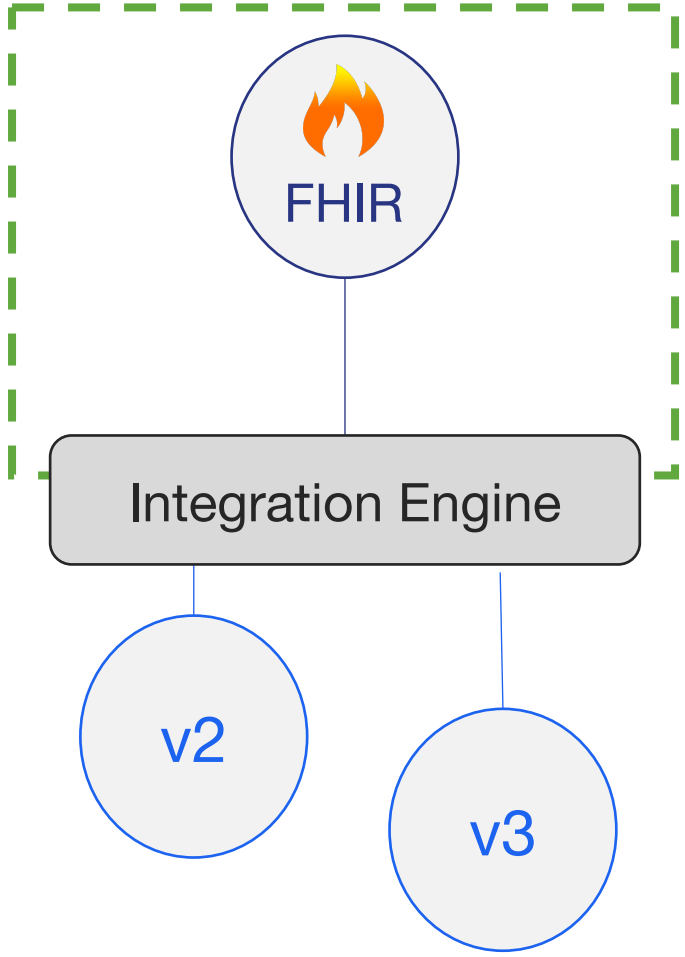
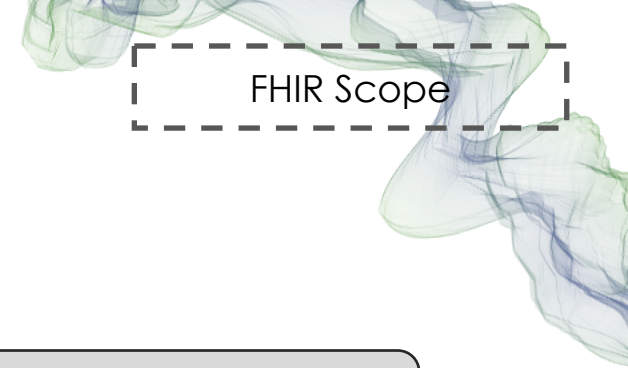
Sep 20, 2017 · 3 min read



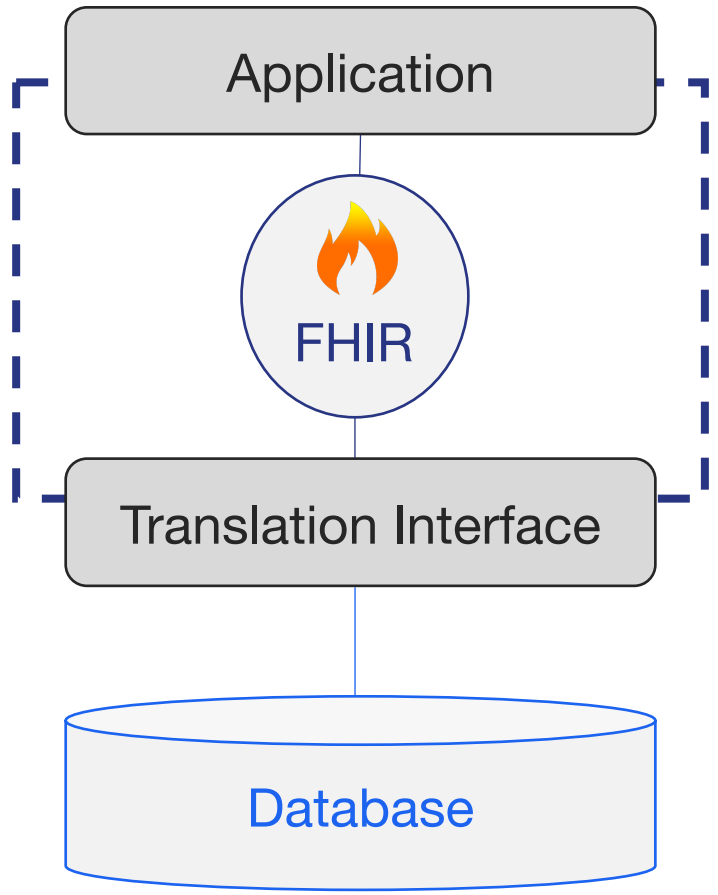
Today I attended an event on the NHS and openEHR, hosted by Salford Royal NHS Foundation Trust. It was a great event with lots of interesting and inspiring stories about how people are combining innovation and open standards to help enable the delivery of better care to patients. As someone who has been working with FHIR for a number of years to help solve similar problems I was interested to learn more about openEHR, how people are using it and also how it aligns with FHIR.

<https://medium.com/@alastairallen/fhir-vs-openehr-75a0a7c6e5a7>

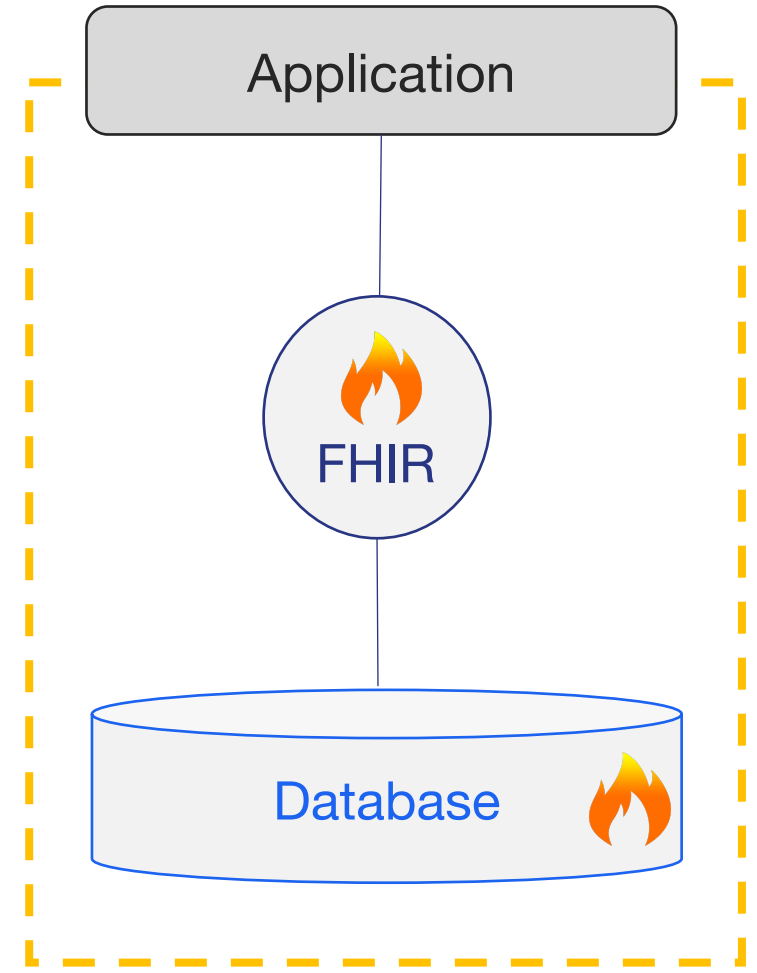
# FHIR Use Cases



1. EXCHANGE



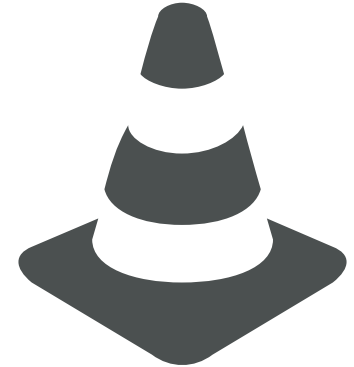
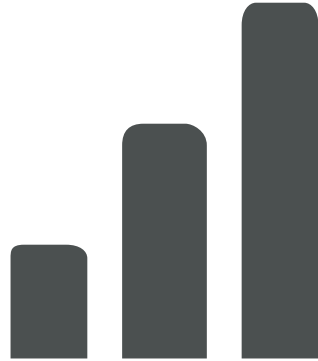
2. FACADE



3. PERSISTENCE



# Challenges



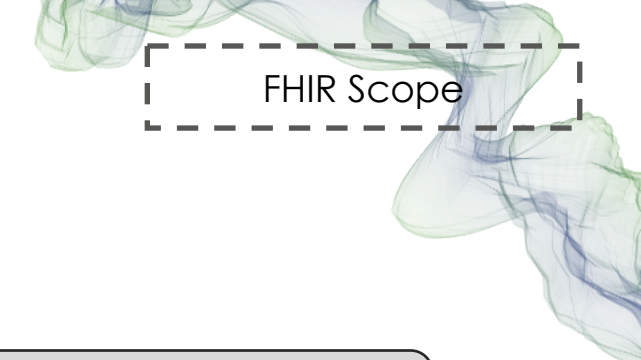


FHIR

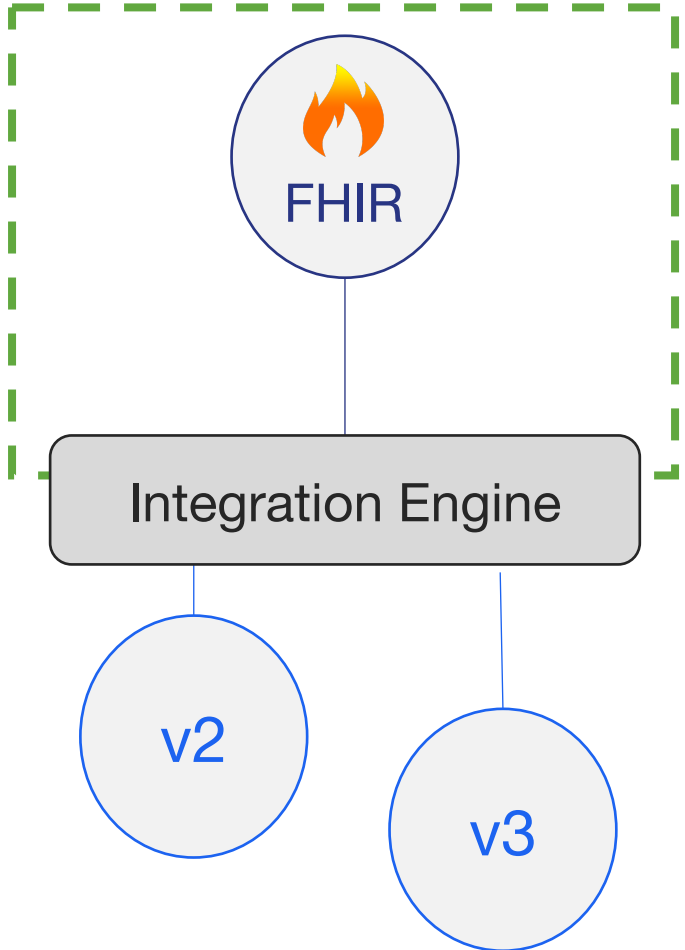
**vs**

*open*

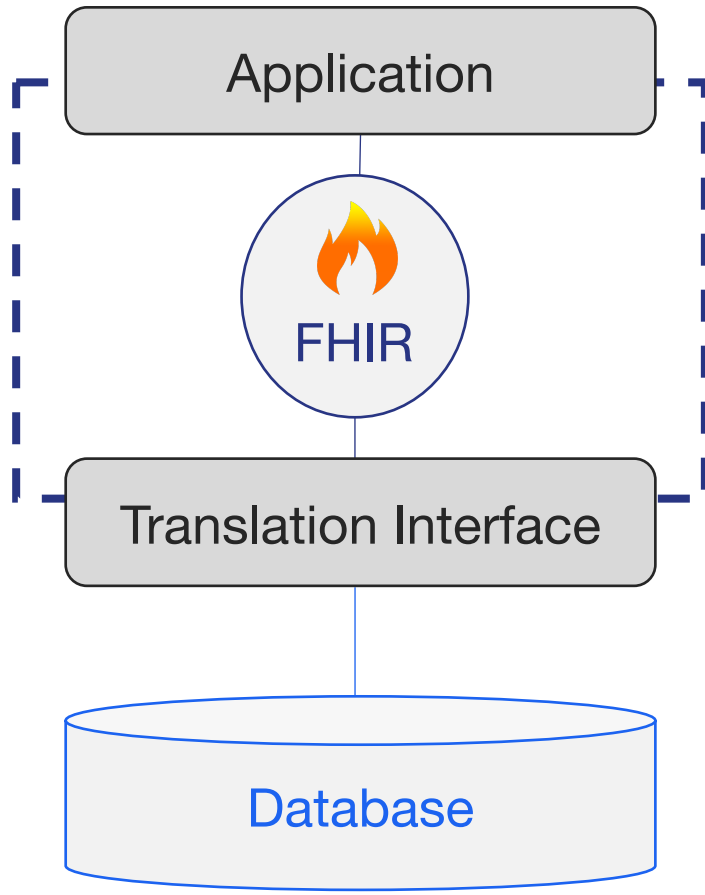
EHR



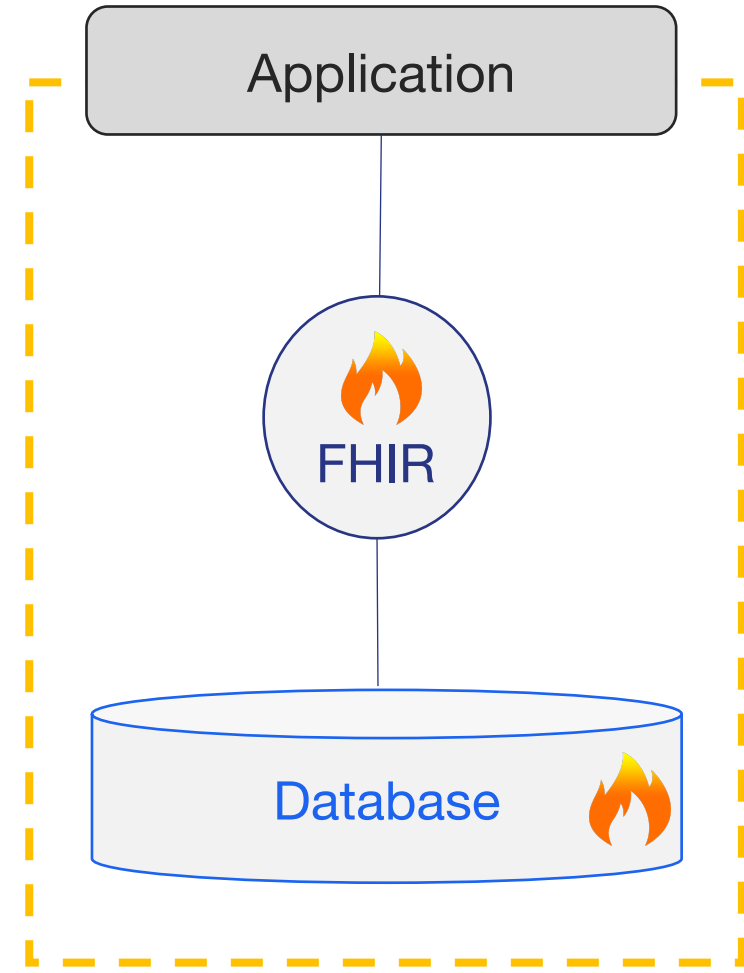
FHIR Scope



1. EXCHANGE



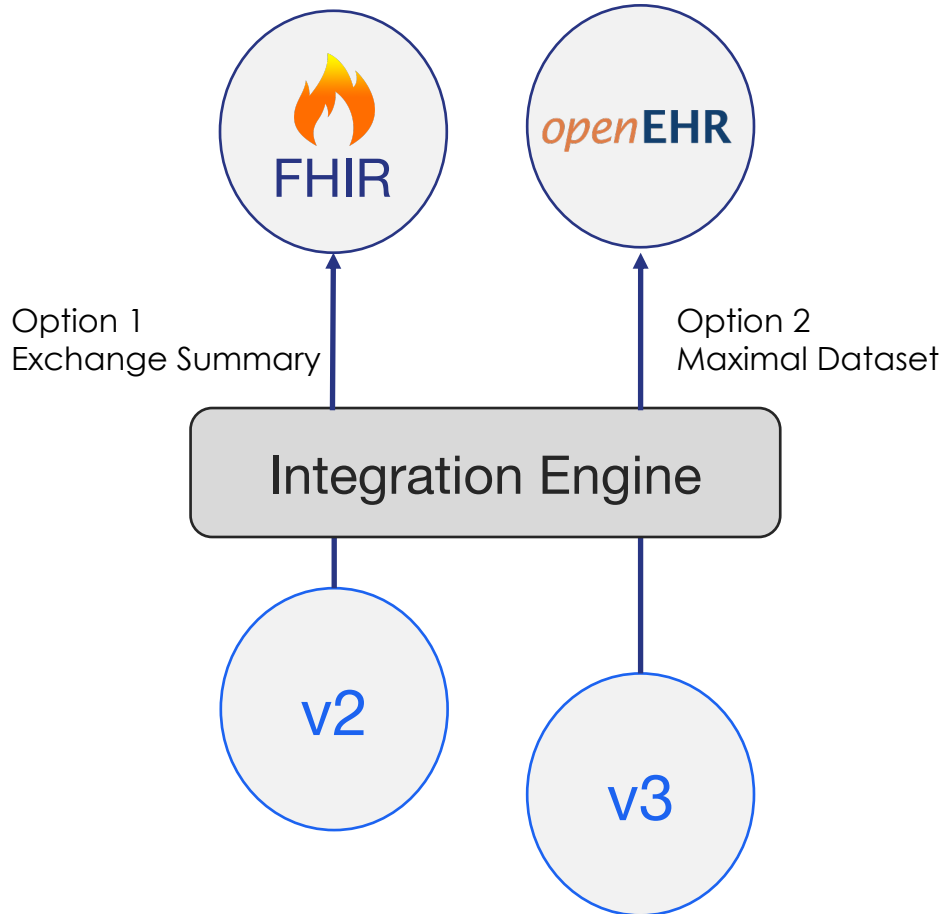
2. FACADE



3. PERSISTENCE



# FHIR + OpenEHR (Exchange)



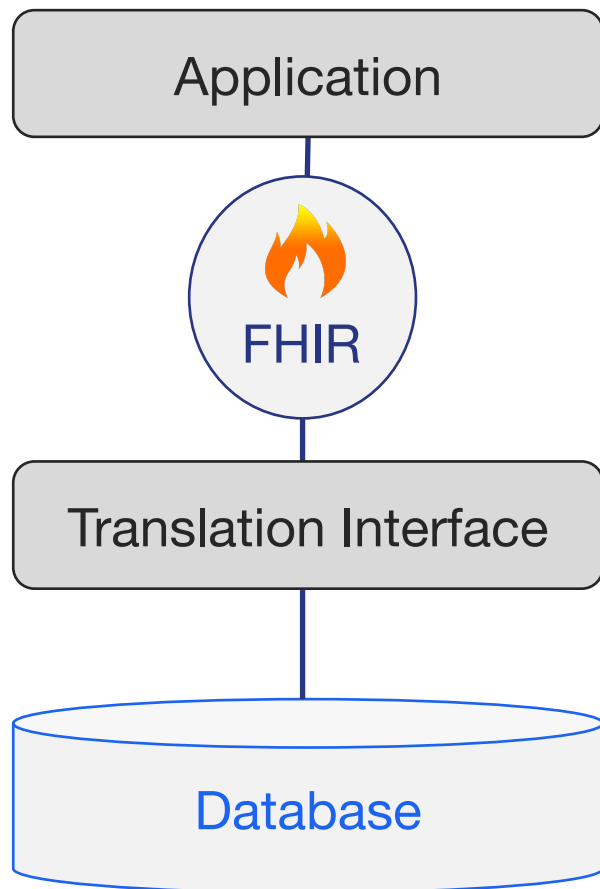
## Pattern:

- Use FHIR API for exchanging summary data between systems e.g. Secondary Care to Primary Care
- Use OpenEHR API for writes to applications that need to capture a broad dataset

1. EXCHANGE



# FHIR + OpenEHR (Facade)



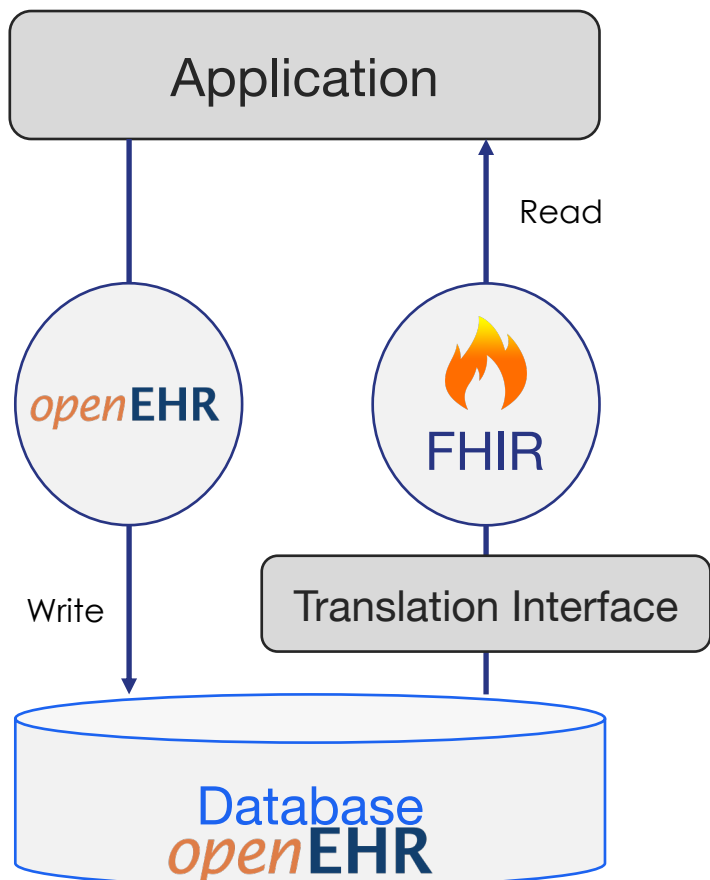
## Pattern:

- Don't use OpenEHR (unless there is a need/desire to move database to OpenEHR)

2. FACADE



# FHIR + OpenEHR (Persistence)



## Pattern:

- Use FHIR API for READS
- Use OpenEHR API for WRITES

3. PERSISTENCE



# Use Case Summary

## OpenEHR optimized for:

- Storage of data in vendor neutral format
- Clinically designed models following “maximal dataset”
- Semantic querying of data through AQL

*open***EHR**

## FHIR optimized for:

- Exchange of information between systems
- Common models following “80/20” rule
- Exposing data through industry adopted API's



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# Learns

- Translation and normalization of data between systems must be clinically led. Standards will not address this challenge
- Translation between FHIR and OpenEHR is improving but still limited. Maturity is needed for a FHIR+OpenEHR partnership to thrive
- Education is important to get beyond the hype



# In summary

FHIR and OpenEHR are **complimentary, not competitive**. Combine both to create an open, interoperable eco-system

**Thank you**



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