

Ocean Health Systems,  
Lessons We Learned, and What We Think about *openEHR*  
Dr. Seref Arikan, Technical Lead

Contact:

London, UK: [seref.arikan@oceaninformatics.com](mailto:seref.arikan@oceaninformatics.com)

[www.linkedin.com/in/seref-arikan](https://www.linkedin.com/in/seref-arikan)



# First things first

A personal thanks to those who made openEHR possible:

Professor David Ingram,  
Bozena Ingram,  
Dr. Sam Heard,  
Dr. Merridy Pitcher,  
Dr. Chunlan Ma,  
Dr Heather Leslie,  
Thomas Beale,  
Heath Frankel



# WHO AM I?

- Technical lead: Ocean Health Systems (A.K.A Ocean Informatics)
- Long time (old) software developer in E-Health
- PhD on openEHR and AI for Clinical Decision Support



# WHO ARE WE?

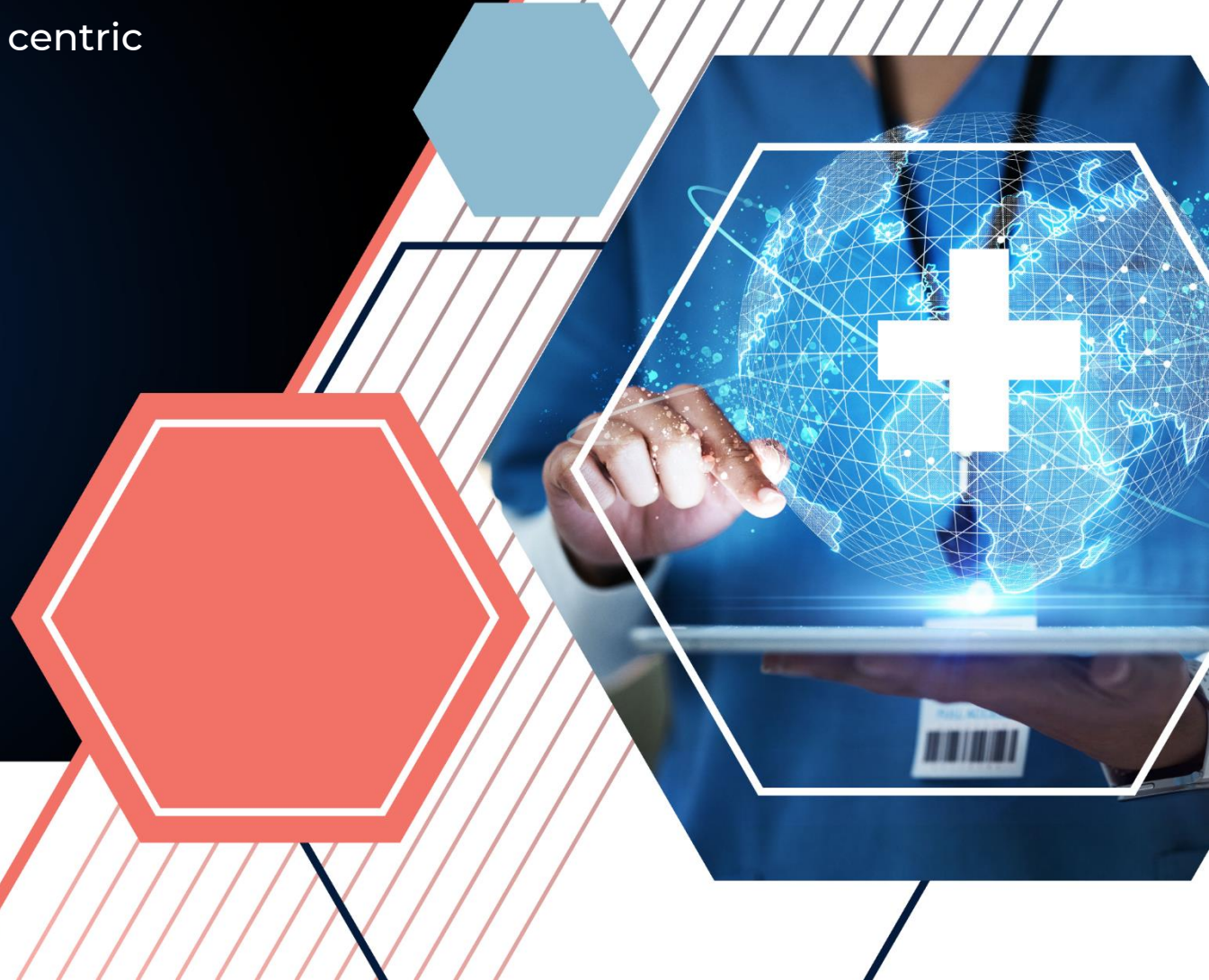
- Ocean was founded 25 years ago.
- First company:
  - To implement **openEHR** specifications
  - To implement modelling tools
  - To offer an **openEHR** based platform to vendors
  - To offer a knowledge governance solution (CKM)
  - To implement openEHR based clinical applications
- We also developed the Archetype Query Language (AQL) (Dr. Chunlan Ma, lead author)
- Still active in SEC and other programmes





# AGENDA

- What do we know as Ocean after 25 years?
- What do we think about openEHR and the patient centric EHR concept?



# WHAT DO WE KNOW?

- openEHR works! (We have proof)
  - Multiprac Infection Control System
  - NTCP (eHealthNT Clinical Portal)
  - LinkedEHR
  - NPS (National Prescribing Service) MedicineWise App
  - Clinical Knowledge Manager (CKM)



# WHAT DO WE KNOW?

- openEHR works! (We have proof)
  - **Multiprac Infection Control System**
    - Built on Ocean's openEHR platform
  - Serving a population of more than 4 million people
  - Across 14,000 beds across Australia
  - 136 sites, used by around 600 infection control staff
  - 30,000 HL7 messages per day (spiked to 90K during the pandemic)
  - Around 160 million versioned clinical documents



# WHAT DO WE KNOW?

- openEHR works! (We have proof)
  - NTCP (eHealthNT Clinical Portal)
    - Built on Ocean's openEHR platform
  - Electronic Health Record System (Clinical Portal)
  - Integrated with national My Health Record Services
  - Integrated with national healthcare identifiers service





# WHAT DO WE KNOW?

- openEHR works! (We have proof)
  - **LinkedEHR**
    - Built on Ocean's openEHR platform
  - Shared Care Planning Application
  - Integrated to GP systems
  - Allows clinicians in different facilities to create, update care plans and follow progress
  - Care plan, medication list, allergies, clinical notes, pathologies, care summary ...



# WHAT DO WE KNOW?

- openEHR works! (We have proof)
  - **NPS (National Prescribing Service) MedicineWise App**
    - Built on Ocean's openEHR platform
  - A free mobile app for medication and health management
  - Consider Carers:
    - 2.65 million people in Australia (Acc. To Carers Australia)
    - 861,000 of those are primary carers
    - Average age: 54.
      - 1 in 11 under 25
  - Used by 200,000 people in the last 7 years
  - 45,000+ active users



# WHAT DO WE KNOW?

- openEHR works! (We have proof)
  - Clinical Knowledge Manager (CKM)
  - Users from across 110 countries
    - (We're working on the remaining 85)
  - 3159 registered users, around 50% are clinicians
  - 915 archetypes, 304 templates



- Meet the Ocean Health Systems Clinical Knowledge Manager
- <https://www.youtube.com/watch?v=78oPUN4mBG0>



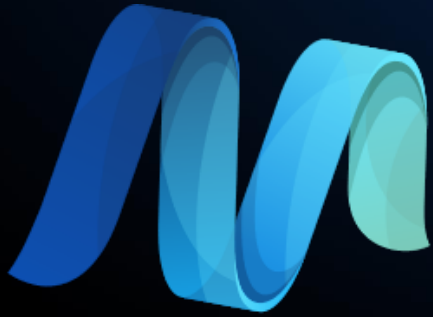
# WHAT DO WE KNOW?

- openEHR works! (We have proof)
- We think that *openEHR* works better if ...



# WE THINK THAT

- Success depends on fitting into existing environments, communities and roles.
  - Clinical (environment)
  - Technical (environment)
  - Academic (Research) (environment)
  - Government (environment)
  - Public (patients!)
- EHR eco-system should address stakeholders from all of the above, in their own domain language.



**MULTIPRAC**

INFECTION CONTROL SOLUTION



# WE THINK THAT

- Stakeholders are partners
- Working together from the very beginning helps.
- Shaping the EHR platform for the stakeholders works better than shaping the stakeholders for the platform.
- Using what we already have as much as possible helps.
  - Existing skills, investments, roles and career paths



CKM rocks...

SHARED KNOWLEDGE

# WE THINK THAT

- Not everything necessarily belongs to the EHR
- It is OK not to feel guilty for not doing everything with *openEHR*, or not "doing *openEHR* right"
- A healthy dose of pragmatism stops the best and better becoming enemies.
- There is a balance to be found between pragmatism and idealism and that's different for every adopter. (You don't need to become Picasso to paint a wall...)

# WE THINK THAT

- We made mistakes
- We learned some lessons the hard way
- It helps to share mistakes as much as it helps to share successes.
- Everyone recognises success once it arrives, failure is much harder to spot.

# FINALLY

- We are as excited about *openEHR* as when we started!
- We think Catalonia is doing something amazing.
- We would love to help you in any way we can.
- We'd love to hear your comments and questions.
- Thank you!



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