

Introduction to openEHR Clinical Modelling

Welcome to the Introduction to openEHR Clinical Modelling Course!

This course has been created in co-operation between Rosaldo Oy and freshEHR Clinical Informatics Ltd. Dr Ian McNicoll, Heidi Koikkalainen and David Jobling from freshEHR have been responsible for preparing the Course materials and are also acting as the facilitators on this course. Ian is the Director of freshEHR and has been working in health informatics for over 30 years. Heidi and David have been working as openEHR clinical modellers since the beginning of 2020.



If you study this Course together with a team, active communication with the other participants as well as with the facilitator is encouraged during your study. Chatting, commenting and asking questions will help you digest and analyze the topics from several viewpoints. If you study this Course alone, you have the chance to address your comments and questions to the facilitator.

You can also receive a certificate for completion of the Course.

The Course will familiarize you with the openEHR clinical modelling approach and the key tools used to develop openEHR data models. It will introduce the core concepts behind the openEHR approach and provide an overview of the modelling process. During the Course you will learn how to get started with the key tools and work with openEHR data models. Furthermore, the course will give an overview of the openEHR governance principles and describe how openEHR fits together with other standards and components in health information system infrastructures. After completing the Course you will have gained an understanding of the openEHR clinical modelling concepts, know how to start using the tools and understand the overall clinical modelling process using openEHR principles.



TRAINING CONTENT

The Course is structured in 8 parts

Part 1 Introduction to the Course

Part 2 What is clinical modelling? discusses different clinical modelling approaches and introduces the openEHR multi-level modelling approach.

Part 3 The basics of clinical modelling introduces the core concepts behind the openEHR modelling approach.

Part 4 Overview of clinical modelling tools introduces the key tools used in openEHR clinical modelling – the Clinical Knowledge Manager and Archetype Designer.

Part 5 Walkthrough of the clinical modelling process demonstrates the end-to-end clinical modelling process using the openEHR approach.

Part 6 openEHR governance provides an overview of the governance principles for openEHR archetypes and templates.



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Part 7 openEHR in wider context discusses health information system infrastructures which utilize openEHR alongside other standards and components.

Part 8 Takeaways from the course



Part 1: Introduction

The content of the Course and the facilitator are introduced in this part. You will also find general instructions regarding navigation and active participation in the Claned eLearning environment.

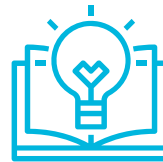
Part 2: What is clinical modelling?

In this part you will learn about the concept of clinical modelling and why it is important to developers of health information systems. Some traditional approaches to clinical modelling are discussed and examples given. We then introduce the openEHR multi-level modelling approach and discuss the problems it was designed to solve.

This part consists of the following modules:

Traditional clinical modelling approaches

There have been many approaches to clinical modelling in the past. In this module, we describe some common approaches and discuss the challenges involved.



The openEHR approach

openEHR aims to overcome common challenges in clinical modelling by introducing the idea of multi-level modelling. In this module, you will learn about the main ideas behind the openEHR approach and how it differs from other clinical modelling approaches. We explain the benefits of the openEHR approach and its impacts on the different professionals developing health information systems.

Part 3: The basics of openEHR clinical modelling



In this part you will learn about the core concepts behind the openEHR modelling approach – the Reference Model, archetypes and templates. We explain the openEHR health record structure and give an overview of the underlying Reference Model that defines the data types and structures used in openEHR data models, called archetypes. You will learn about the different archetype classes and how templates are built by aggregating and constraining archetypes. Finally, we explain the role of clinical terminologies and how they fit together with archetypes and templates.

Introduction to openEHR Clinical Modelling

This part consists of the following modules:

openEHR health records

In this module, we explain the generic structure of openEHR health records and how it makes data querying easier.

Introduction to the Reference Model

This module provides an overview of the Reference Model (RM), which defines the basic data structures and types used in openEHR data models. You will gain an understanding of what the RM is and how it is used to create archetypes and templates.



Introduction to archetypes

Archetypes are the main building blocks in openEHR. They are reusable clinical information models representing discrete clinical concepts and developed by the openEHR clinical community. In this module you will learn about different archetype classes and commonly used data types and gain an understanding of the main principles of archetype development.

Introduction to templates

This module provides an overview of openEHR templates and how they are built by aggregating archetypes and adjusted to fit specific data sets and use cases.

Introduction to terminology

In this module, we discuss clinical terminologies and explain how they can be used alongside archetypes and templates in the openEHR modelling framework.

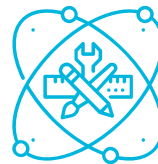
Part 4: Overview of clinical modelling tools

In this part you will learn about the tools that openEHR clinical modellers commonly use. We will give an overview of the types of tools that are available and what they are used for. Two key tools – the Clinical Knowledge Manager and Archetype Designer – are introduced in more detail and their main functionalities demonstrated. Through practical exercises, you will learn how to sign up and get started with both tools.

This part consists of the following modules:

Introduction to Clinical Knowledge Manager

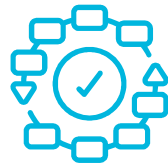
This module introduces the Clinical Knowledge Manager (CKM), which is an online application for collaborative development, management and publishing of openEHR archetypes and templates. We give an overview of the tool and demonstrate its main functionalities. Through a practical exercise, you will be guided how to sign up as a user and how to find archetypes on the CKM.



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Introduction to Archetype Designer

This module introduces the Archetype Designer tool, which is widely used by the openEHR clinical modelling community. We will demonstrate how to sign up and get started with using the tool. You will learn how to create a repository and import an archetype from the CKM in order to use it in a template.

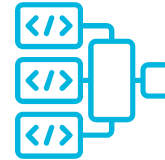


Part 5: Walkthrough of the clinical modelling process

This part provides a walkthrough of the end-to-end modelling process by demonstrating each step through a practical example. You will gain a high-level understanding of what the modelling process involves and how applications can be developed rapidly by utilising the openEHR approach.

Part 6: openEHR governance

In this part you will learn about the main principles for governing openEHR archetypes and templates. We describe different approaches that are being used by the openEHR community and discuss the advantages and challenges involved.



Part 7: openEHR in wider context

This part will provide an overview of the wider context in which openEHR is being used to build health information system infrastructures. We give examples of existing solutions and discuss how openEHR can be used alongside other international standards and system components to build modular and interoperable health information platforms.

Part 8: Takeaways from the course

This concludes the most important takeaways from the training. As mentioned, you can also get a certificate of completion!

