

Chapter 19

Use-Case Driven Approach for a Pragmatic Implementation of Interoperability in eHealth

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ABSTRACT

Innovation in IT solutions introduces new usages in ehealth that allows the patient to be more active in his (her) health care and well-being. Strong expectations on electronic exchanges or shared medical documents from healthcare professionals and patients are pushing decision makers and stakeholders to develop quickly efficient and structured data enabled health IT infrastructures. One of the challenges of this paradigm shift is to provide at the point of care interoperable solutions in full compliance with regulations, ethics, organizational and technical states of the art. This paper describes this approach developed as a four steps process and defines the basic concepts for designing an interoperability infrastructure. For each of the steps, examples will be provided and discussed accordingly with the different interoperability layers (legal, policy, process, information and technical) developed in the Refined eHealth European Interoperability Framework (ReEIF) (eHealth Network, 2015).

INTRODUCTION

A pragmatic approach for a more efficient deployment of solutions in eHealth is now more and more expected by the user stakeholders as well as by public authorities due to the acceleration of the technological and digital divide and by the paradigm shift in healthcare in term of users:

- Patients develop more interest in their health and well-being and therefore demand a more comprehensive and direct access to their data and care plan;

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- Innovative solutions provide more information that needs to be filtered depending on their usages and provide adequate access to entrusted users;
- New medical processes have not yet sufficiently evaluated (i.e., behavioral health, precision medicine, etc.).

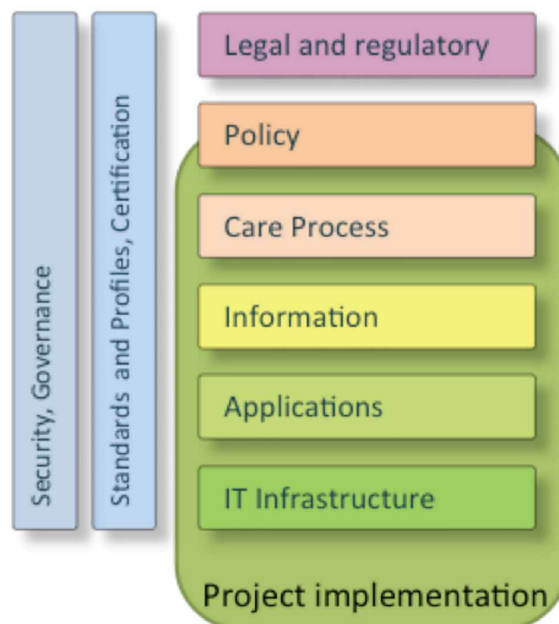
All these new processes require more direct and secure communication channels between healthcare professionals and patients taking into account the need for improved quality of data, extended care pathways where professionals are exchanging information within a collaborative process.

To facilitate the integration of those innovative solutions with the healthcare processes (current and future), and to involve end-users in the structured definition of their needs, a use case driven approach achieves faster a consensus among end users, stakeholders and healthcare software producers in order to develop interoperable solutions and services. That is the main objective of this paper: to demonstrate how this approach will help decision makers, project implementers as well as stakeholders to define and implement solutions that fit with interoperability requirements in a transparent and formal process. After a presentation of the concepts used, the methodology is presented, and experiences and best practices will complete the demonstration.

BACKGROUND

It is now consensually accepted that the interoperability concept [IEE¹, 1990] covers multiple dimensions (interoperability layers as a part of an interoperability framework) that were well described in the Antilope project (2015) and synthesized in Figure 1.

Figure 1. Refined Interoperability model (Antilope, 2015)



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