EHR Workshop – National Approaches for Sustainable, Semantically Interoperable and Trustworthy EHR Solutions

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Abstract. The workshop is a joint activity of the EFMI Working Groups “Electronic Health Records” and “Security, Safety and Ethics”. As health systems around the world turn towards highly distributed, specialized and cooperative structures to increase quality and safety of care as well as efficiency and efficacy of delivery processes, there is a growing need for supporting communication and collaboration of all parties involved by advanced ICT solution. The Electronic Health Record (EHR) provides the informational platform thereby developing towards the eHealth core application. For meeting the requirements sustainable, semantically interoperable and trustworthy EHR solutions, different standards and different national strategies have been established. The workshop summarizes the requirements for such advanced EHR systems and their underlying architecture, presents different strategies and solutions by corresponding protagonists and discusses pros and cons as well as harmonization and migration strategies for those approaches. The workshops will help to navigate through the specification jungle as well as to migration strategies.

Keywords. Electronic Health Records, interoperability, EHR architecture, eHealth platforms

Introduction

Distribution, specialization and integration of health services have been globally accepted for meeting the challenge for increased quality and safety of patient’s care as well as the efficiency and efficacy of care delivery processes, thereby turning health systems towards the personalization of care and its augmentation including prevention, home care, elderly and lifestyle services. For supporting such developments, the Electronic Health Record (EHR) as comprehensive informational reflection of the care subject’s status and all related processes is maturing to become the core application in any eHealth environment. The required communication and cooperation must be enabled by interoperable information systems, providing different interoperability levels for different purposes. Interoperable health information systems including the

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EHR have to meet specific requirements such as: openness, scalability, flexibility, portability, being based on standards, services-oriented, user-friendly, lawful, trustworthy, etc.

Information systems meeting those requirements have to follow specific paradigms. Here have to be mentioned: distribution; component orientation; being based on a reference architecture, model-driven, ontology-driven; formal concept, context and knowledge representation; offering security and privacy services embedded in the architectural components; following a unified process for analysis, design, implementation and deployment; and many others.

Objectives of the Workshop

Even under the restriction on advanced specifications and projects, there exists a huge number of current and emerging standards as well as national initiatives concerning EHR architectures and EHR systems. The workshop aims at the discussion of requirements and solutions for sustainable, interoperable and trustworthy EHR solutions. In that context an overview on main architectural and paradigmatic streams, existing and emerging specifications, but also most important international and national EHR projects is given. In special presentations, protagonists and representatives of projects will shortly introduce the principles as well as the claimed advantages of the corresponding approaches.

EHR solutions build the core of national health telematics infrastructures or eHealth platforms respectively. Therefore, many national approaches define an advanced infrastructure around EHR systems. The internationally relevant approaches of Denmark, Finland, Canada, Austria, USA, UK and Germany will be comparatively discussed, thereby fostering the competition of ideas rather than promoting a unified solution.

As eHealth communication and cooperation can not be restricted locally, regionally or nationally, but will be implemented internationally at European or even global scale, harmonization of different solutions, mapping schemes and migration strategies are inevitable.

Invited experts, but also participating scientists and practitioners will discuss pros and cons of the solutions presented, inform about emerging activities with the objective to recommend best practice solutions and to propose migration strategies.

Structure of the Workshop

The workshop is jointly organized by the EFMI Working Groups “Electronic Health Records” and “Security, Safety an Ethics”. After presenting internationally accepted EHR requirements and the state of the art for EHR architectures, the presentation and discussion of the different competing approaches as well as national programmes is organised in panels enabling an open and controversial view.

In the last part of the workshop, experts and participants are challenged with the development of strategies, recommendations and tooling for fostering international solutions.
Expected Participants

The workshop aims at addressing people involved in specification, implementation and deployment of EHR solutions and eHealth platforms, but anybody interested in these topics as well. In particular, informaticians and computer scientists, people involved in related standardization, ombudspersons, medical doctors, decision makers, politicians and administrators intended, engaged to or responsible for the analysis, design, implementation and use of distributed health information solutions with an EHR core application should attend the workshop.

The workshop provides a well-defined combination of basics and enhanced knowledge and understanding in advanced sustainable, interoperable and trustworthy EHR solutions, as well as finally practical outcome. Knowledge in EHR requirements, workflows in distributed healthcare delivery, architectural principles, system modelling, meta-languages, etc. would be supportive.

Speakers / Panellists

Blobel, Bernd, eHealth Competence Center, Regensburg, Germany
Stefan Sauermann, Technikum Wien, Vienna, Austria
Stig Kjaer Andersen, Aalborg University, Aalborg, Denmark
Ruotsalainen, Pekka, STAKES, Helsinki, Finland
Lunn, Ken, NHS, Leeds, UK
Rhodes, Harry, AHIMA, Chicago, USA
Gills, Grant, Canada Infoway, Canada
Nordberg, Ragnar, Gotenburg University, Gotenburg Sweden
Pharow, Peter,