

Chapter 7

Digital Transformation Challenges for the Development of Quality Electronic Medical Records in Greece

Dimitrios G. Katehakis

 <https://orcid.org/0000-0002-3763-191X>

Foundation for Research and Technology, Hellas, Greece

Angelina Kouroubali

 <https://orcid.org/0000-0002-3023-8242>

Foundation for Research and Technology, Hellas, Greece

ABSTRACT

This work presents, analyzes, and discusses the digital transformation challenges that need to be addressed for the development of quality electronic medical record (EMR) systems in Greece in the aftermath of the 2019 coronavirus disease pandemic. The authors highlight quality EMR characteristics and provide an overview of factors affecting their adoption within the wider context of the European digital single market towards supporting continuity of care. Key challenges addressed include the linking of EMRs with the medical practice workflow in a standardized manner, building trust and acceptance by making the best use of champions to build capacity, and by financing the digital transformation transition and sustainability in a coordinated manner. Foreseen benefits include better support of medical decisions across all stages of the patient journey, patient empowerment through virtual dossiers with clinically significant information, enhancement of vendor potential to implement innovative tools to support continuity of care, and acceleration of evidence-based research.

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INTRODUCTION

Over the past two years, the coronavirus pandemic accelerated the adoption of digital solutions (Golinelli et al., 2020; Hantrais et al., 2021) to combat the disease. Telemedicine has been extensively used for consultations, while professional attitudes towards everyday technology use in healthcare have significantly shifted. As a result, many mobile apps have already been implemented for education, the exchange of information, risk assessment, self-management of symptoms, contact monitoring and decision making, offering fast, effective, and easy to use pandemic support digital tools (Kondylakis et al., 2020).

At the same time, the health crisis has pointed out obstacles that need to be overcome to truly move the implementation of digital tools towards highly coordinated, physician-guided, and patient-involved medical care (Mertz, 2021). The value of these systems lies in the data. Next steps for technology-assisted health care include (i) understanding how to better view and use patient data; (ii) build patient connectivity; and (iii) improve patient-clinician communication.

Today, market fragmentation and lack of interoperability across health systems hinder an integrated approach to disease prevention, care and cure. Appropriate regulatory frameworks and high-quality data are necessary to realize and safeguard the rights of individuals and society. Secure access to a comprehensive electronic health record (EHR) anywhere in the European Union (EU) will enable citizens to share their health data for medical treatment, preventive services, and research, irrespective of where the data is located and in line with data protection legislation.

The national health system (NHS) of Greece is responsible for providing healthcare services in the country. The execution of the operational program for implementing the information society strategy for Greece (2000-2010) resulted in the introduction of modern information technology (IT) systems for the vast majority of hospitals in the country (Katehakis et al., 2011). Foreseen benefits included an upgraded quality of services to citizens through business process re-engineering, reducing medical errors, securing medical information, and efficient access to the EHR.

Following the introduction of integrated IT systems at the hospitals, many electronic health (eHealth) services have been introduced, in line with EU priorities, to control costs and improve services in a secure manner (Katehakis, 2018). Today, all the digital services of ministries, agencies, organizations and independent public authorities, which are already provided via the internet, including those for health and welfare, are hosted through the national gov.gr portal, which started its operation in March 2020. Typical categories of available services for the health sector include those for people with disabilities and chronic diseases, health professionals, electronic prescription, electronic pre-approval of drugs, visit and hospitalization, availability of appointments with doctors of the national organization for the provision of health services (EOPYY), the atomic EHR (AHFY, the national electronic medical record), and coronavirus disease 2019 (COVID-19) services, such as for free check-ups, vaccination appointments, vaccination certificate, etc. (<https://www.gov.gr/ipiresies/ugeia-kai-pronoia>). The country participates actively in the EU cross-border services development projects, and a national contact point for eHealth (NCPeH) is already in place. Even though significant progress has been made to link hospitals, regional health systems, and primary care, no uniform access to EHR is available nationwide.

The objective of this work is to discuss challenges related to electronic medical record (EMR) implementation within the context of the Greek NHS. The authors highlight quality EMR characteristics and provide an overview of factors affecting their adoption within the broader context of the European digital single market towards supporting continuity of care. Both the national and the European perspectives are presented together with key factors contributing to EMR adoption. The authors propose specific

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