Ob/Gyn EMR Software, a Solution for Obstetricians and Gynecologists

Konstantinos Bougoulias, Biomedical Engineering Laboratory, School of Electrical and Computer Engineering, Division of Information Transmission Systems and Material Technology, National Technical University of Athens, Athens, Greece

Kostas Giokas, Biomedical Engineering Laboratory, School of Electrical and Computer Engineering, Division of Information Transmission Systems and Material Technology, National Technical University of Athens, Athens, Greece

Dimitris Koutsouris, Biomedical Engineering Laboratory, School of Electrical and Computer Engineering, Division of Information Transmission Systems and Material Technology, National Technical University of Athens, Athens, Greece

ABSTRACT

The increase of computer usage and the cooperation between medicine and informatics has lead to the development of important research and educational activity as well as high quality infrastructure in the field of biomedicine. Concentrating on Health Information Management (HIM) and Health Information Exchange (HIE) systems, Electronic Health Record (EHR), and Electronic Medical Record (EMR) software is being developed in order to provide efficiency in health care and improve patient-doctor relationship. The Ob/Gyn EMR software developed focuses on the needs of small obstetrics and gynecology organizations. The necessary gynecological information was gathered via research concerning the needs of the practice and was organized and categorized according to its importance to the clinicians. Seven different data tabs are provided, including obstetrics, gynecological, surgical, sterilization, and PAP test data, while also offering video and image file storage possibilities and schematic visualization of clinical findings. It is of great importance throughout the whole software that the user can store and manage all the quality information concerning patients and that the software is highly functional. A simple and effective software was created that can offer a reliable solution to the data processing needs of the organizations in concern. The software is autonomous, can be installed directly on the clinician’s PC, and can be accessed at various locations within their clinic.

Keywords: Data Processing, Electronic Health Record (EMR), Gynecology, Health Informatics, Health Information Management (HIM), Obstetrics, Software

INTRODUCTION

Information Technology has rapidly become over the past years one of the most important concepts in almost all daily activities and has expanded its influence over Health Care as well. Health Informatics combines Information Science, Computer Science and Health Care possibilities. A new level of cooperation and coordination is provided in managing and orga-
nizing data and Health Care services, for both research and knowledge application purposes. Health Informatics optimizes the acquisition, storage, retrieval and usage of information in Health and Biomedicine through the resources, devices and methods that Information and Computer Science can provide. Health Informatics tools are not limited to computers, but also include medical devices and information and communication systems, as well as clinical guidelines and clinical data management software. The cooperation of Health Informatics tools opens up new ways of practicing medicine and contributes highly to improving the quality of health care services.

The interdisciplinary nature of Health Informatics allows the simplification of every Health Care concerning activity. It is applied to various areas of Health Care including direct medical services for any specialty, pharmacy, public health analysis, therapy, and research. Efforts in improving Health Informatics system have transformed Health Care by optimizing information and communication systems, enhancing provided services (in level of analysis, therapy coordination methods, results evaluation techniques, etc.), improving patient care and clinician—patient relationship. This cooperation has been essential in developing and designing the necessary tools to implement health care with improved safety, efficiency, accuracy and making it more patient-centered.

Considering the continuously rising importance of Health Informatics and analyzing its benefits and applications in international Health Care systems we concentrate on designing an EMR Software that can be applied in Greek Obstetrics and Gynecology Health Organizations. Our software was designed by evaluating the usage and efficiency of similar software used in more highly advanced Health Care systems of other countries and adjusting the results of the analysis to the Greek Health Care system and the needs of the specialty in Greece. The analysis was concentrated in the history and the development of Health Informatics mainly in the US and the UK, the general value of Health Informatics in Health Care and the modern technologies used to implement Information Technology tools in Medicine. In addition to that local factors such as specific methods of testing, therapy and data management were taken into consideration and implemented in the software in order for it to better fit the exact needs of Obstetricians and Gynecologists.

**BACKGROUND**

Worldwide use of Information Technology in Health Care began in the early 1950’s with the rapid increase of computers usage. In 1949 Gustav Wager established the first professional organization of informatics in Germany. During the 1960’s various specialized university departments were established in France, Germany, Belgium, Holland developing Informatics educational programs, while Health Informatics research facilities began during the next decade in Poland and the US. Since then the development of high quality research, education and facilities of Health Informatics was the prime goal in the USA and the European Union (Grossman et al., 2009).

In its beginning Health Informatics was not referred to using one specific term and was usually known as medical computing, medical computer science, computer medicine, medical electronic data processing, medical automatic data processing, medical information processing, medical information science, medical software engineering and medical computer technology.

Health Informatics community is still growing and is not as highly organized and well-structured as other technological communities. However the work of the UK Council of Health Informatics Professions has led to the proposal of eight main areas of interest in an attempt to extend it more rapidly. Specifically it was proposed that advancements in domain - information management, knowledge management, portfolio/programme/project management, ICT, education and research, clinical informatics, health records (service and business-related), health informatics service management are ex-
Modification of Arruda’s Accessory Pathway Localization Method to Improve the Performance of WPW Syndrome Interventions
www.igi-global.com/chapter/modification-arruda-accessory-pathway-localization/13028?camid=4v1a

Knowledge Sharing for Healthcare and Medicine in Developing Countries: Opportunities, Issues, and Experiences
www.igi-global.com/chapter/knowledge-sharing-for-healthcare-and-medicine-in-developing-countries/192730?camid=4v1a