

# Online patient appointment reservation system



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## **Online Patient Appointment Reservation System**

### **Literature Review**

#### **Definitions**

Health informatics or medical informatics is the intersection of information science, computer science, and health care. It deals with the resources, devices, and methods required for optimizing the acquisition, storage, retrieval, and use of information in health and biomedicine. Health informatics tools include not only computers but also clinical guidelines, formal medical terminologies, and information and communication systems [1].

Subdomains of (bio) medical or health care informatics include: clinical informatics, nursing informatics, imaging informatics, consumer health informatics, public health informatics, dental informatics, clinical research informatics, bioinformatics, veterinary informatics, pharmacy informatics and healthcare management informatics.

#### **Health Information System**

The earliest use of computation for medicine was for dental projects in the 1950s at the United States National Bureau of Standards by Robert Ledley.

The next step in the mid 1950s were the development of expert systems such as MYCIN and INTERNIST-I. In 1961, a major career change occurred when Morris F. Collen, abruptly went from medical practice into medical computing. The primary goal was to develop a comprehensive health care information system to provide an integrated, continuing patient medical record [2]; Dr. Sidney Garfield decided In 1965, the National Library of Medicine started to use MEDLINE and MEDLARS. At this time, Neil

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Pappalardo, Curtis Marble, and Robert Greenes developed MUMPS (Massachusetts General Hospital Utility Multi-Programming System) in Octo Barnett's Laboratory of Computer Science at Massachusetts General Hospital in Boston. In the 1970s and 1980s it was the most commonly used programming language for clinical applications. The MUMPS operating system was used to support MUMPS language specifications. As of 2004, a descendent of this system is being used in the United States Veterans Affairs hospital system. The VA has the largest enterprise-wide health information system that includes an electronic medical record, known as the Veterans Health Information Systems and Technology Architecture or VistA. A graphical user interface known as the Computerized Patient Record System (CPRS) allows health care providers to review and update a patient's electronic medical record at any of the VA's over 1, 000 health care facilities.

In the 1970s a growing number of commercial vendors began to market practice management and electronic medical records systems. Although many products exist only a small number of health practitioners use fully featured electronic health care records systems. Homer R. Warner, one of the Fathers of Medical Informatics, founded the Department of Medical Informatics at the University of Utah in 1968, and the American Medical Informatics Association (AMIA) has an award named after him on application of informatics to medicine [3].

The US HIPAA of 1996, regulating privacy and medical record transmission, created the impetus for large numbers of physicians to move towards using (Electronic Medical Record) EMR software, primarily for the purpose of secure medical billing. The US is making progress towards a standardized health

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information infrastructure. In 2004 the US Department of Health and Human Services (HHS) formed the Office of the National Coordinator for Health Information Technology (ONCHIT) [4], headed by David J. Brailer, M. D., Ph. D. The mission of this office is widespread adoption of interoperable electronic health records (EHRs) in the US within 10 years. See quality improvement organizations for more information on federal initiatives in this area. Brailer resigned from the post in April, 2006 [5].

The Certification Commission for Healthcare Information Technology (CCHIT), a private nonprofit group, was funded in 2005 by the U. S. Department of Health and Human Services to develop a set of standards for electronic health records (EHR) and supporting networks, and certify vendors who meet them. In July, 2006 CCHIT released its first list of 22 certified ambulatory EHR products, in two different announcements. [6] [7]. In Hong Kong a computerized patient record system called the Clinical Management System (CMS) has been developed by the Hospital Authority since 1994. This system has been deployed at all the sites of the Authority (40 hospitals and 120 clinics), and is used by all 30, 000 clinical staff on a daily basis, with a daily transaction of up to 2 millions. The comprehensive records of 7 million patients are available on-line in the Electronic Patient Record (ePR), with data integrated from all sites. Since 2004 radiology image viewing has been added to the ePR, with radiography images from any HA site being available as part of the ePR. Pekka Loula and Jaakkola Hannu discussed the concept of virtual hospital and telemedicine as a part of daily hospital operations [8]. The concept of the virtual hospital is analyzed by using business, application and technology point of views. In 2005, Byeong-il Lee, Jeong Min Ham, Ki soo

Park, Su-Ho Ok, Jong Min Kim and Heoug Kook Choi, [9] Proposed a system for patient scheduling in a department of nuclear medicine. Regarding Ambulatory Care, N. H. Lovell, K. Balakrishnamoorthy, D. Le and J. Paleologos from Australia developed a user – friendly, database-driven system accessible via internet, which replaced the current paper-based system [10].

Some Japanese researchers: Kabushiki Kaish, Kosaku Hideki, Kurihara Tsuyoshi and Suzuye Takehiko [11] developed an integrated system containing medical information providing system, hospital reception method, medical information database and patient terminal for reception of hospital.

Vipool K. Goradia, M. D. found that the documentation affects patient care, physician efficiency, and ultimately affects the accuracy of coding [12].

### **Bibliography**

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