Medical institutions and Hospitals now feels the requirement for a very much structured Computer-based Patient Record and Appointment Management System (CPRAMS). Healthcare organizations are encountering an information explosion with respect to the data generated. It is commonly acknowledged that a CPR ought to cover the following components: Personal information (statistic and regulatory), restorative history list, information security and integrity, authorized access, remote multi-access, medicinal examinations and tests, connections to medical databases etc.

Computer-based patient record systems are continuously expanding in order to support more clinical activities and serve healthcare professionals more efficiently. For this reason healthcare organizations and providers are asking their staff to interact more often with computer systems during their everyday work. Hospitals and healthcare centers are nowadays sufficiently rich in their computing infrastructure to handle the internal administrative and clinical processes for both inpatients and outpatients. The data stored in computer-based patient record systems include medical documents relating to the past, present, or future physical condition of a patient, the results of examinations in the form of multimedia (text, medical images, sounds, and videos), and financial and demographic information [1], [2]. In addition, the rapid development in communications through fixed or mobile networks has opened new ways in computer-based health systems by providing the capability of remote and distributed access to patient’s medical data [3], [4]. Remote patient monitoring in terms of telemedicine and the provision of clinical guidelines used for the patient's care from distant locations [5] are supported within networked computer-based patient record systems, while retrieval of medical data [6] and remote teleconsultations between healthcare professionals are also possible [7]. Medical data are captured and transmitted, received or updated, stored or retrieved securely and in real time by users in geographically distributed and organizationally independent organizations or distant locations.

Computer-based information systems are now abundant in a large percentage of European hospitals as well as in primary care settings. Systems support general tasks such as patient administration, scheduling, and billing, as well as specific tasks such as in the clinical laboratory, radiology, or the catheterization laboratory. Hospital information systems are primarily administration oriented and seldom contain patient record data other than, for example, laboratory results, drug prescriptions, or diagnostic codes. Some systems store patient data, but none of them fully replaces the paper-based patient record. Many existing systems are not connected or are only loosely interconnected in networks. CPRs are being developed as part of a hospitalwide network (Degoulet et al., 1991; Van Mulligen et al., 1994; Scherrer et al., 1995) or as stand-alone or interconnected applications, such as in primary care (Westerhof et al., 1987; Branger et al., 1992; van der Lei et al., 1993). Increasingly, systems are being interconnected by electronic data interchange.

The patient record of the future will have many more users and uses than it has at present. Direct providers of care (physicians, nurses, dentists, and other health care professionals) will remain the users of highest priority in design considerations. five objectives for future patient record systems are proposed. First, future patient records should support patient care and improve its quality. Second, they should enhance the productivity of health care professionals and reduce the administrative costs associated with health care delivery and financing. Third, they should support clinical and health services research. Fourth, they should be able to accommodate future developments in health care technology, policy, management, and finance. Fifth, they must have mechanisms in place to ensure patient data confidentiality at all times. To achieve these objectives, future patient records must be computer based. However, merely automating the form, content, and procedures of current patient records will perpetuate their deficiencies and will be insufficient to meet emerging user needs. Hence the computer-based patient record is an electronic patient record that resides in a system specifically designed to support users through availability of complete and accurate data, practitioner reminders and alerts, clinical decision support systems, links to bodies of medical knowledge, and other aids. This definition encompasses a broader view of the patient record than is current today, moving from the notion of a location or device for keeping track of patient care events to a resource with much enhanced utility in patient care (including the ability to provide an accurate longitudinal account of care), in management of the health care system, and in extension of knowledge. Several technological barriers still must be overcome before robust CPR systems can be fully realized, although no great technological breakthroughs are needed. The human interface—the place where man and machine meet— remains a major challenge (despite such advances as the graphical user interface and voice inputting) and is closely tied to system performance. As we move further into the 1990s, the major technological barriers to widespread implementation of the CPR include problems with text processing, the lack of appropriate confidentiality or security measures, and inadequate health data exchange standards.

Existing

In the past, a patient record has served the basic function of storing patient data for retrieval by users involved with providing patient care. Even this classic function must be broader in the future, however, especially with respect to the key feature of flexibility. Different health care professionals will require different modes of record information retrieval and display. Today, both paper and computer records are often cumbersome tools for these tasks. Over the past decades, progress has been steady toward developing complete CPR systems, and several powerful clinical information systems have become operational in recent years. Typically, development of these systems began at least a decade ago, and some have been under development for more than two decades. No current system, however, is capable of supporting the complete CPR. Those clinical information systems that most closely approximate the CPR system envisioned by the committee share several common traits. First, they maintain a large data dictionary to define the contents of their internal CPRs. Second, all patient data recorded in the CPR are tagged with the time and date of the transaction, thus making the CPR a continuous chronological history of the patient's medical care. Third, the systems retrieve and report data in the CPR in a flexible manner. Finally, the systems offer a research tool for using the CPR data. Most of the technological barriers that formerly impeded development of CPR systems have either disappeared already or are about to dissolve. Nevertheless, although no technological breakthroughs are needed to realize CPR systems, further maturation of a few emerging technologies, such as handheld computers, voice-input or voice-recognition systems, and text-processing systems may be necessary to develop state-of-the-art CPR systems in the 1990s. In some cases, promising technologies must be tested further in ''real-life" situations; in other cases, technologies that have proved beneficial in applications in other fields must be adopted for use in health care.

An effective patient appointment scheduling system is very critical in hospitals to ensure effective and efficient service delivery in the health sector. In current system if the patient needs to book a Doctor’s Appointment one has to call the clinic or personally visit the clinic and book the arrangement. This consumes valuable time of the patient. Likewise, if the specialist is pre-occupied with his/her timetable, the patient does not know about it unless he/she goes to the clinic. In order to target efficient appointment scheduling, there is a need for appropriate management and quality evaluation of the scheduling system.

Proposed

The foundation for digitalized system from paperwork is a vital prerequisite, particularly now when the digital communication is growing quickly in all fields. The advantages of digitalized application include making up of the time and distance gap between doctors and patients, also helps in providing quick and adequate therapeutic solutions to the patients. Through the association of digital communication, both specialists and patients can get obliged information to accomplish a better interaction. Hence the proposed application fabricates a digitalized framework that will facilitate the way by which booking an appointment with the specialist takes place and also the communication among the working associates of the hospital/clinic. The specialist will have the estimation about the number of patients he needs to attend for a given date. The application will save the patient’s as well as the doctor’s time and reduces the receptionist’s paper work. The application proves valuable for specialist as he can check his commitments whenever and from wherever he wants.

The record of the future must be far more flexible, allowing its users to design and utilize reporting formats tailored to their own special needs and to organize and display data in various ways.

The patient record system of the future must provide other capabilities as well, including links to administrative, bibliographic, clinical knowledge, and research databases. To meet the needs of clinicians, CPR systems must be linked to decision support systems; they must also support video or picture graphics and must provide electronic mail capability within and between provider settings. Future CPR systems must offer enhanced communications capabilities to meet emerging user needs. The systems must be able to transmit detailed records reliably across substantial distances. Physician offices must be able to communicate with local hospitals and national bibliographic resources. In hospitals, all of the various departmental systems (e.g., finance, laboratory, nursing, radiology) must be able to communicate with the patient record system. In the larger health care environment, computer-based information management systems must be able to communicate with providers, third-party payers, and other health care entities, while at all times maintaining confidentiality of the information. If users are to derive maximum benefits from future patient record systems, they must fulfill four conditions. First, users must have confidence in the data—which implies that the individual who collects data must be able to enter them directly into the system and that the system must be able to reliably integrate data from all sources and accurately retrieve them whenever necessary. Second, they must use the record actively in the clinical process. Third, they must understand that the record is a resource for use beyond direct patient care—for example, to study the effectiveness and efficiency of clinical processes, procedures, and technologies. Fourth, they must be proficient in the use of future computer-based record systems (i.e., the systems described in this report) and the tools that such systems provide (e.g., links to bibliographic databases or clinical decision support systems).