Information Management in the Academic Libraries

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Abstract

Information management constitutes a major activity of the health care professionals. Health care institutions are considering, and a few are making, large-scale commitments to information systems and services that will affect every aspect of their organizations function. Health science libraries have to adopt several of the Integrated Academic Information Management Systems (IAIMS) concepts and implement them at a hospital library level. The ideal situation in which the healthy professions can profit fully from the rationalization and management of knowledge in the medical school setting is one of reapproachment between the transmitters (teachers) and receivers (students) of information, whether medical or in any other subject.

Introduction

Information management constitutes a major activity of the health care professional. Currently, a number of forces are focusing attention on this function. After many years of development of information systems to support the infrastructure of medicine, greater focus on the needs of physicians and other health care managers and professionals is occurring—to support education, decision making, communication, and many other aspects of professional activity. Health care institutions are considering, and a few are making, large-scale commitments to information systems and services that will affect every aspect of their organizations' function.

An integrated academic information management system (IAIMS)

Researchers at the University of Iowa are developing an integrated academic information management system (IAIMS) for use on the World Wide Web. The focus is on integrating continuing medical education (CME) into the clinicians' daily work and incorporating consumer health information into patients' life styles.This IAIMS serves a statewide population. Its design and evolution have been heavily influenced by user-centered evaluation[3].

The strategic importance of integrated information systems and resources for academic medical centers should not be underestimated. Ten years ago, the National Library of Medicine in collaboration with the Association of Academic Medical Centers initiated the Integrated Advanced Information Management System (IAIMS) program to assist academic medical centers in defining a process for addressing deficiencies in their information environments[5].

A management information system (MIS) provides a means for collecting, reporting, and analyzing data from all segments of an organization. Such systems are common in business but rare in libraries. The Houston Academy of Medicine-Texas Medical Center Library developed an MIS that operates on a system of networked IBM PCs and Paradox, a commercial database software package[2].

Integration of multiple information systems of a medical center will change the way physicians work and practice medicine in the future. Several major steps must be taken by an institution to make this a reality. Since 1983, Georgetown has been engaged in an Integrated Academic Information Management System (IAIMS) project to bring together multiple sources of information that reside on different computers and database systems[1].

The Network and Computer Systems department of the Health Sciences Library developed CPMCnet, an UNIX-based information and Internet server at Columbia-Presbyterian Medical Center. The project linked Gopher and World-Wide Web protocols as well as clients into an integrated application, providing the advantages of both. Development and use of CPMCnet has opened new channels of communication among information providers and end-users[6].

The need to access current, relevant health care information transcends the boundaries of the library. Many computer-based tools are now available that provide access to this information where and when it is needed. However, the provision of these tools often requires a substantial commitment of resources in the form of staff expertise, computer hardware and software, and user training. The need to access current information is critical for health care providers and students at all points of care regardless of the institution size or location. Unfortunately, the resources necessary to provide access to information may not be equally available at all sites. The Arizona Health Information Network (AZHIN) joins together librarians and information systems specialists from eleven institutions throughout the state in an effort to share computing resources and expertise in order to improve the quality of health care delivery,

education and research. This cooperative effort allows each institution to contribute both financially and in the form of staff expertise, based upon its size and available resources. Although the benefits of this type of cooperation seem obvious, in a competitive environment it is necessary for each member to retain independence. To balance cooperation and independence, a framework has been established to enable individual AZHIN member institutions to administer local access to the shared resources[9].

Since the mid eighties the department of medical informatics at the University Hospital of Giessen (Germany) has been engaged in the development of a comprehensive hospital information system. The installation of a campus wide network has set the basis to provide not only clinical patient-oriented information, but also general information resources for research, medical education and administrative purposes, thus creating an environment which in the U.S. became known as an integrated academic information management system (IAIMS). The underlying concept of the whole approach is to provide one-stop information shopping capabilities at the clinicians and administrators desktop in order to meet the increasing information needs of health professionals with the emerging reality of the potential benefits of computer and communication technologies[10].

Adapting IAIMS to a hospital library level

The Children's Hospital of Michigan Medical Library has adapted several of the Integrated Academic Information Management Systems (IAIMS) concepts and implemented them at a hospital library level. These have included features of network development, electronic interfacing and interlinking, and implementing an integrated information system in the library. The library has incorporated several information systems into library operations, including a variety of in-house, local, and national automated systems and telecommunication networks. Hospital libraries can incorporate IAIMS features and promote an institutional framework of interconnecting communication systems and electronic linkages[7].

Information management through integration of distributed resources

Duke University Medical Center conducted a strategic planning process focused on information management needs beginning in 1983 and ending in 1985. That effort concluded that the institution was ready to establish an Integrated Academic Information Management System

(IAIMS). A model was proposed in which information management was to be achieved through integrated distributed resources. The elements of the IAIMS model are ongoing policy development and planning; communications; an electronic library or resource inventory; coordination of the development or selection of the end-user function; user support; and ongoing evaluation. This model is being tested to determine its effectiveness in meeting the administrative, patient care, research, and educational needs of a basic science department and a clinical science department at Duke University[11].

The University of Cincinnati Medical Center has combined five existing units into a new organization responsible for initiating an Integrated Academic Information Management System (IAIMS). Ultimate goals for IAIMS include a patient-centered database, a decision-support system, and a knowledge network. The IAIMS prototype, currently under development for the University of Cincinnati Hospital's Internal Medicine Service, consists of components representative of the IAIMS model's ultimate goals. A major premise of this IAIMS effort is that it is patient-centered[8].

Conclusion

There is a definite and inexorable trend in medical schools toward changes in the training of physicians. This transformation of medical education is being seen in the most traditional schemes, which predominate in the medical schools of Latin America, and the most modern and complex approaches, even though they are relatively a minority phenomenon in many countries. The support facilities needed at each stage of this evolution are libraries, communication media, teaching and physical resources and technologies, and hospital and laboratory facilities. It was viewed that the common denominator among all aspects of medical education, from the student's physical environment to the sophisticated resources embodied in computers, must be the interpersonal relationship. The ideal situation in which the healthy professions can profit fully from the rationalization and management of knowledge in the medical school setting is one of rapprochement between the transmitters (teachers) and receivers (students) of information, whether medical or in any other subject[4].

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