MEDICAL INFORMATICS, MICROCOMPUTER LABORATORIES AND THE MEDICAL SCHOOL

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Recent developments in information technology and improved telecommunications networks mean that great changes are taking place in the way in which medical information is acquired and managed. The medical community today simply has to re-think aspects of education, patient care and research if it is to exploit fully the benefits of developing technologies[1]. As medical librarians we must provide access to technology in our libraries, to support teaching, patient care and research. We must also be prepared to teach students and Faculty how to use this technology, and to manage medical information. The famous GPEP Report Physicians for the Twenty First Century emphasised that teaching information management principles should receive high priority in the medical school curriculum[2]. Current thinking suggests that information management skills must, therefore, be integrated into the curriculum, not merely as a course or a series of courses, but as a repeated theme throughout medical school[3].

The Royal College of Surgeons in Ireland is situated in the heart of Dublin, Ireland's capital city. It was founded in 1784 by doctors, to educate doctors, and it continues to be governed by a Council of Surgeons[4]. It differs from other Royal Colleges in that it has an undergraduate medical school, in addition to postgraduate faculties of anaesthesia, radiology, dentistry and nursing. There are some 900 undergraduate medical students from over 32 different countries. One third of the student population is Irish, one third comes from the developing world, and one third is from the developed world. The Library dates from the foundation of the College, and it is rich in historical and archival material relating to the history of medicine, in addition to its collection of modern textbooks and journals.

A new Library, The Mercer Library, covering an area of some 27,000 sq. ft. on three floors behind the facade of a former hospital, was opened officially by the President of Ireland, Mrs. Mary Robinson, on 9 September 1991. It has a book capacity 80,000 volumes and 250 reader places[5]. I wrote the Brief for the new Library, and was involved in its planning and layout, working closely with the architect and the buildings committee. What we have achieved, I think, and many of you have seen it, is a modern hi-tech library with a fully integrated computer system, URICA, a medical informatics laboratory, a second network of microcomputers, and a number of CD ROM workstations, which we are in the process of networking.

Considerable thought was given to wire management and telecommunications power in the new Library, and Level 1 and Level 2 of the library have cavity floors. We were, in fact, planning for the 21st century, when every reader place may be a workstation! Conscious of the need to
teach students information management, provision was made too for a medical informatics laboratory to be included in the Library, in addition to open access microcomputer workstations.

According to our original plan, the medical informatics laboratory was to have been supported by the Library, but this changed, and it is now under the direction of the College Computer Committee with a Lecturer in Biomedical Computing responsible for teaching computer literacy to medical students.

Classes in computer literacy are given to students in three of their undergraduate years. Students are introduced to computers in their pre-medical year. The first term introduces the Macintosh and its resources, using an interactive tutorial program. The second term involves teaching students to use a simple word processing package, in our case Microsoft Word, together with basic data collection and display. In their first year students are assigned a small data base on which they have to write a statistical report. In fourth year a course on critical appraisal within the Epidemiology course is given, and part of that course involves a review of the literature.

There are twenty four Macintosh LCII computers in the medical informatics laboratory and the laboratory is available to all library users when not in use for classes. On Level I of the Library we have an additional network of ten Macintosh computers in open plan workstations.

With the increasing importance of information management, the question inevitably arises regarding who should be responsible for teaching information management to medical students[6]. There are, in fact, many reasons for involving librarians. By profession, our work involves managing information, and we should take the initiative and establish ourselves as teachers of information management. We have plenty of experience with user education programs, and with introducing students and staff to the benefits and delights of CD ROM! In a recent article, it was pointed out that the emerging role of librarians as technologically adapt professionals, with expertise in the latest technologies, has enhanced our image in the eyes of both Faculty and Administration, and this indeed is no bad thing! [7]

Many librarians see teaching computer literacy and information management skills as a logical extension to our work. Unfortunately, many of us have limited time, resources and expertise with which to approach this challenge[8]. A recent editorial in the Library Journal points out that the technological and electronic empowerment of people and guarantees of their access to information, will be the issues of concern to librarians during the 1990's, and as medical librarians we should be aware of this fact[9].

Why specifically do medical students need to be computer literate? All the evidence suggests that by the 21st century it is likely that the computer will dominate all aspects of medical practice[10]. Doctors inevitably need access to up-to-date knowledge for patient care purposes, and more and more of them are accessing the biomedical literature to support clinical decision making. Computers in medicine are becoming like the X-ray and stethoscope, essential clinical tools providing doctors with improved expertise in solving patient management problems[11].

The availability of so many integrated hospital information management systems today means it is now essential for doctors to become familiar with these systems. They also need to learn to use communication networks and process knowledge. Biomedical knowledge will, in the future, become increasingly digital and visual, with new multimedia workstations and networks everywhere. At the moment, for example, we are looking at interactive videodisc technology for our Library.