
Most of us grew up with the Garvey-Griffith model of scientific communication, which mapped the steps from the inception of an experiment through the dissemination of results [1]. As it pertains to biomedical communication, just how much this neat and orderly model has changed is clearly reflected in Libraries and Information Services in the Health Sciences, published as the summer 1993 issue of Library Trends. Beginning with an overview of socioeconomic and technological developments over the past twenty years, this collection of articles leads the reader through specific issues and concerns to a final wrap-up on what all of this means to health information professionals and what they can do about it.

With exceptionally clear insight, Weiss reviews five major developments in health sciences libraries since 1974: the advent of online searching, integrated library systems and networked resources, expansion of documentary delivery systems, the Integrated Advanced Information Management Systems (IAIMS) concept, and contributions of the National Library of Medicine. She then shows how these challenges can enable librarians to play greater roles in information access and management.

Roper and Mayfield analyze previous surveys on skills and knowledge bases for librarianship, including the 1991 MLA survey. Interestingly, the latter survey showed high correlation in level of importance for the top ten knowledge bases now and projected into the twenty-first century. Rankin and Sayre report how technological changes and the integration of information management have led to promising changes such as inclusion of teaching activities by librarians in the medical curriculum. According to Buchanan, the information needs of health care administrators, compared to those of clinicians, are not well understood by librarians and need attention in a time of increasing managed care.

Dahlen's review of the complexity and problems of health information delivery is especially pertinent, given the emphasis on prevention and on consumer education in the forthcoming health care reform program. The state of the art of IAIMS programs since the first planning contracts were received in 1983 is reported by Roderer.

Marshall's well-written paper discusses and summarizes many aspects of clinical information delivery: end-user searching, quality filtering, relative use of information sources, and the value of information in clinical decision making. On measuring user needs, she makes clear distinctions among information for patient care, for research, and for teaching but stresses that these are not mutually exclusive activities. She argues that it is best to define these needs, not according to the individual's major area of activity (as is done in most user surveys), but according to the purpose and the setting in which the activity occurs.

The integrating function of the Unified Medical Language System (UMLS) is discussed by Squires, who suggests that the system may be best viewed as "a means of navigating among a disparate array of databases organized using different terminologies" (p. 128). But the potential of UMLS is much greater. For example, those of us who struggled with early mechanical translation and the simple matching of terms recognize the tremendous breakthrough when categories of relationships among terms (physical, temporal, functional, and conceptual) are captured in the system. Drawing from linguistics, computer science, medicine, and other disciplines, UMLS is an achievement of massive proportion.

Recently, computerized information networks have been developed by scientists and practitioners around many focus areas, among them national research initiatives (Human Genome Project, Human Brain Project), particular organisms (Caenorhabditis elegans), and specific conditions (alcoholism, Alzheimer's disease). The networks link both formal databases and informal sources such as colleagues, news from the field, and unpublished manuscripts [2]. Ginn describes development of the AIDS database as a response to needs among researchers, health professionals, and consumers.

Florance and Matheson rattled the cage of convention and suggest that libraries become business enterprises in a competitive market. Libraries are among many players in the information field, really one subset of the larger biomedical communication system. And, given that this system has many components and functions, the authors discuss how librarians can command a share of the action by creatively producing information-related services and products that enhance the goals of their organizations and meet the needs of their users. Florance and Matheson demonstrate how they have achieved this at Johns Hopkins University, where it can be said that their creativity is limited only by the reserve of time and energy that they can put to the tasks.

Editor Dalrymple is to be congratulated for producing an excellent assembly of papers that will be useful for administrators, policy makers, students, and all who are involved in health-related information.

Most librarians would concur that CD-ROM has utility as a source of database information with the benefit of predictable costs and that it is quickly gaining utility as a medium for full-text journals and multimedia applications. Chapter 1 begins, "How many years ago did information professionals hear of 'CD-ROM'? Its usage has grown so rapidly that the acronym has become part of standard library jargon" (p. 3). This opener echoed my own initial question about whether CD-ROM implementation had already been documented sufficiently in the literature. However, this well-formed compilation quickly convinced me of its relevance and value.

CD-ROM Implementation and Networking in Health Sciences Libraries neatly compacts information about the history, selection, and management of CD-ROM technology in libraries. It will be most useful to libraries that have not yet installed CD-ROM systems or that have stand-alone workstations and are planning a network. Yet, this book has something to offer even libraries with fully installed and networked CD-ROM systems, by way of case studies of successful programs that describe financing, networking problems, training and staffing issues, and future developments. Libraries at all levels of CD-ROM implementation can benefit from the solutions and ideas presented.

Editor M. Sandra Wood has divided the book into two parts. Part 1, "CD-ROM Implementation and Issues," offers four chapters that provide a foundation for understanding the technology: what it is, how it works, how to manage it effectively, and what to expect in the future. Part 2, "Description of Programs and Networking," presents seven case studies that describe successful programs and installations including stand-alone, local-area network, and wide-area network systems.

While some themes, such as education and staffing, are repeated in more than one chapter, each discussion contributes unique observations. The reader could use this text as a reference, gleaning from the abstracts those papers that seem most beneficial. However, the editor has arranged the chapters in such a logical progression that the book is also easily read straight through.

Part 1 begins with an introduction by Elizabeth H. Wood, who describes CD-ROM in all its technical glory. This introduction provides an excellent physical description, followed by a past, present, and future look at the application of this technology. The evaluation and selection criteria for CD-ROM products is comprehensively discussed by Virginia A. Lingle and Eric P. Delozier. The authors have included a checklist of noteworthy selection criteria and a selected bibliography. Dudee Chiang and Elizabeth H. Wood depict seven management issues: equipment requirements, physical location, access and security, policies and procedures, staffing, training and documentation, and copyright and site licensing. To know where we are going, it is instructive to study the past, and, in a most interesting chapter, Paul W. Kittle and Elizabeth H. Wood write about the history and future of CD-ROM.

Pricing and site licensing is a recurring topic throughout part 1 and a topic generally acknowledged to be a major stumbling block in the advancement of CD-ROM use. It would have been helpful to have included a paper on this subject alone, which could provide more information about electronic copyright issues, current pricing trends, and suggestions for negotiating license agreements. Chiang and Wood maintain that librarians play a role in licensing issues and offer the following words of encouragement: "Librarians can assist in the development process by avoiding an adversarial approach to producers and by making suggestions on what real usage is, how it can be monitored and assessed, and how librarians can work together with producers to maximize the benefits to all of the immense potential of information sources on CD-ROM" (p. 43).

The first case study in part 2 is by Howard Silver and Judy Gelziniis Donovan, who describe their migration at Hahnemann University from one end-user MEDLINE system to another. They present a thoughtful discussion about the steps to follow to ensure success that could easily be applied to making any technological change. Instructional implications are discussed by A. Janet Lamki and Patricia G. Hinegardner from the University of Maryland. The authors describe the evolution of a robust educational program, including point-of-use instruction, seminars, course-related instruction, and consultation services. Ann S. Nista, Karen M. Albert, and Beth M. Lewis narrate the development of a CD-ROM cost-reco-