The Computer and Information Management in Family Practice

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The present revolution in computer technology has led to mass production of relatively inexpensive, powerful microcomputers that are now within the budgets of individuals and small groups. As a result over the last several years there has been a rapid increase in interest among physicians in possible computer applications in their practices. The reasons for this interest are well illustrated in these observations by Levinson[1]:

> The information technology to assist the physician is here or well on its way. Computer and telecommunication technology has created an information management tool of enormous power and versatility. Practical, cost-effective systems for automated medical records, hospital management, decision making, drug information, electronic mail and message service, literature search, and quality assurance protocols are available now; more sophisticated ones, especially high-level artificial intelligence programs that closely imitate sophisticated diagnostic and therapeutic decision-making processes, are under development. . . . The practice of medicine is largely an information management task. The gap between existing knowledge and its practical application to the care of patients can be successfully closed by using modern information services.

Advances in available computer technology are moving so fast as to be confusing and even unintelligible to many physicians. Only a few have had direct experience in working with computers in their practices beyond the usual practice management and accounting applications. Medical education at all levels has to date provided little training in the use of computers, though this deficiency is now being actively addressed.

This issue of *The Journal of Family Practice* is intended to provide the family physician with a basic understanding of computer technology as presently available and applicable to family practice. There are three major objectives:

1. To present an overview of current applications and limitations of computers in family practice for four potential purposes: clinical, administrative, educational, and research
2. To illustrate, through selected case examples, the process of assessment and implementation of computer systems in various family practice settings
3. To discuss future trends for computer applications in family practice in terms of equipment, capabilities, pitfalls, and costs

After two introductory papers dealing with computer technology and the medical applications of computers, successive papers describe and illustrate clinical, educational, and administrative applications of computers in family practice. Emphasis is placed upon microcomputers, and issues relating to their feasibility and selection are discussed in some detail. Finally, the results of recent national surveys of computer use by family physicians and general practitioners in the United States and Britain are presented. This issue will meet its goals if it provides family physicians with the necessary background to better understand the emerging roles of computers in medical education and practice and at the same time provides an approach to evaluating the feasibility of computer applications in their own practices.

Reference

1. Levinson D: Information, computers, and clinical practice. JAMA 249:607, 1983