Advances in Ambulatory Care Systems

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In recent years we have witnessed a technology revolution which has affected not only the design and proliferation of new computer-based ambulatory care systems but also enhancements to existing ones. This technology revolution has led to increased hardware capabilities with decreasing costs and has facilitated the sharing of data among diverse systems and end-user groups. A variety of inexpensive data-capturing devices are now available; the role of data communications has grown in importance; and innovative methods to store, summarize, and present data are being tried. Microcomputers have clearly spread into the medical marketplace.

This session focuses on ambulatory care systems and looks at them in light of advances in new technology. Four of the five systems being presented today have been demonstrated and/or reported upon at prior SCAMC symposiums. Two have been in existence for approximately ten years. Of interest are the refinements that are being made through technology, and new uses for the systems which have grown out of successful earlier applications. Specifically, McLatchey and his associates at Massachusetts General Hospital report on the use of graphic terminals for encouraging health-care providers to enter medical data directly into the computer, particularly in reference to the COSTAR system. Whiting-O'Keefe and others from the University of California at San Francisco (UCSF) summarize progress and experience with the STOR system, including its new role as a distributed database interface on the UCSF fiberoptics network. Gottfredson at the Salt Lake VA Medical Center (SL VAMC) describes new uses of the SL VAMC system, i.e., the system is now supporting two rural clinics at a distance of over 150 miles. Lloyd at the University of South Carolina emphasizes information management through independent software subsystems implemented on DEC micros or minis. Maxwell, the fifth author, introduces a new system, PERTS, to SCAMC attendees. Clearly, the designers have learned the lessons of the '70s and are relying on new technology to make PERTS cost-effective. As indicated in her paper, they are implementing a microcomputer-based system which is modular-, hardware-, and programmer-independent.

Further, all five authors share a concern for human factors design. Simplicity in data entry and retrieval are common key concepts. And, ease of use for the untrained physician and the need for substantial, phased user training are recognized realities for system design and implementation.

In summary, as shown in this session, time and experience have contributed to improved computer-based information systems. These improvements have been made possible through advances in computer and communications technology. We are far from the finish, however. The coming years will give us added opportunities to provide more cost-effective, efficient and user-accepted systems for meeting the information needs in an ambulatory health care setting. We look forward to hearing from our speakers today, and anticipate their return next year, and the next, and the next...