Are We Ready for Portable Healthcare?

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by Julie J. Welch, MBA, RHIA

The portable PC market has been around for years, but early users had to put up with heavy machines, brief battery usage times, and quirky keyboards. Today, with high-capacity hard drives, Pentium chips, and corporate information systems support for palmtop, laptop, and notebook users, it seems as if mobile workers can and will become the norm.

Portable Healthcare

In the healthcare industry, palmtops have the potential to provide better care for patients. For example, med-i-nets.com, a medical technology start-up company, has designed a palm-top product that automates the prescription-writing process. Relying on a secure Internet connection and custom software, med-i-nets.com's electronic prescription pad checks for drug interactions and insurance formularies and then transmits the prescription to the patient's pharmacy. The product aims to reduce labor costs and time in every part of the prescription-writing process.

Hand-held devices not only support portable dictation, but can also provide physicians with added functionality such as e-mail and scheduling. Many portable dictation units include the integration of voice and text. By bringing the full power of computing to mobile clinical staff users, workflow is enhanced and point-of-care electronic clinical documentation can be obtained.

An award winner in the patient-care category of *Modern Healthcare's* 1999 Innovation in Healthcare Information Technology Awards demonstrated another use for palmtops. A hospitalist management company based in North Hollywood, CA, designed a system called IPC that provides hospital-based physicians with hand-held personal computers into which they enter patient data. Users transmit data via modems to IPC's communication server, which is then formatted and faxed to hospitals and other healthcare providers.[1] The system improves communication while also providing information for trending, validation of performance, and quality improvement.

The hand-held PC can be an invaluable tool in diagnosing patients, according to a Michigan State University associate professor. Dr. Mark Ebell created the InfoRetriever program as a reference for physicians. With medical literature, case studies, and drug information, the InfoRetriever aims to bring the medical library to a physician's palm.[2] The university plans to use the computers in classes and local clinics as teaching tools as well as for a research study to investigate the future of this type of technology.

Palmtop technology offers an affordable option in disease monitoring for home-based disease management. These home-based technologies empower the patient with the ability to track his or her health status and are especially useful for chronically ill patients. Although many home health providers offer low-cost, telephone-based disease management services, hand-held computing devices are becoming more pervasive as the technology costs decrease.

Not only can patients use portable technologies at home, but home healthcare providers have also taken advantage of its benefits. As greater numbers of patients migrate from acute care to less costly settings like the home, the technology needed to deliver quality care must move as well. The portable computer can help home health caregivers manage the mountains of paperwork necessary to document care and bill for services, assist the caregiver in obtaining proper documentation for the record, and reduce many of the manual and redundant tasks. Remote areas requiring lengthy travel between hospitals and homes could also benefit from portable information technology.

Weighing the Benefits

Hand-held PCs will be an important tool for healthcare organizations that want to move to paperless records. By carrying a hand-held PC loaded with the proper software, physicians and clinicians will be able to document in the record as they see patients.

Other benefits include:

- accessible health information
- ability for multiple users to access a record at the same time
- ability to access records anywhere
- potential to integrate scheduling and patient records functions
- decrease in costs for filing supplies, paper, and printing
- less staff effort needed to create, assemble, retrieve, and maintain records

The potential for hand-held computing devices to increase the quality of patient care are immeasurable. However, there are still a few considerations. Costs for the technology are still rather high. Prices range anywhere from approximately $300 to $800 per device. Though the demand is steadily increasing, prices may need to decrease a bit more before the entire healthcare industry embraces this technology.

Further, hand-held PCs may not match a PC's functionality for e-mail or Internet access. Some are incapable of displaying file attachments, and most rely on pen-based input methods rather than keyboards so they can be inefficient for composing long e-mail messages. Because palmtop screens are small and most Web sites are formatted for PC-size screens, reading a Web page may require a lot of scrolling up and down. And frequently, the weight of a palmtop corresponds to its abilities, so many of the smaller units have less memory and less functionality. Because palmtops run on batteries, length of time for battery power and how long the PC operates in various power modes (running, idle, etc.) are also considerations.

The palmtop has the potential to be a critical tool in healthcare today for both patients and caregivers. However, organizations should research all available products on the market, comparing size, cost, and functionality before implementing a wireless solution.

Notes

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2. O'Donnell, Lindy. "Michigan State University Professor Helps Create Software for Handheld Healthcare." *The State News* (June 16, 1999).

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