Is Wireless Technology at Hand for Healthcare?

by Cheryl M. Smith, BS, RHIT, CPHQ

It wasn't so long ago that HIM professionals witnessed the introduction and use of computers to assist in performing everyday functions in an HIM department. The computerization of the master patient index moved us from typing patient demographic data and filing individual patient index cards to entering patient data into a computerized system that enables access of patient data at the touch of a button or the click of a mouse.

With the increasing technological advances and development of the computerized patient record (CPR), the tools used in the management of health information continue to evolve. One of the most promising new tools is wireless technology.

Why Not Healthcare?

Wireless technology and hand-held computers are widely used by numerous industries in America to perform daily functions. Shipping companies provide their carriers with hand-held computers to track packages, determine sender and receiver information and help organizations conduct business efficiently. Car rental employees can pull up driver and car rental information in the parking lot, hundreds of feet from their computers.

Used in healthcare, wireless technology can improve the quality, efficiency, and cost effectiveness of work. Although the laboratory, radiology, pharmacy, and patient order management and results reporting departments have been automated for two decades, these information systems typically did not aid the clinician at the point of direct patient care. In most cases, unless bedside computer terminals are being used, a clinician must access a computer terminal, usually located in the nursing station, to retrieve information.

However, wireless devices can streamline the flow of information: nurses no longer need to return to a central location to check the latest doctor's orders while physicians making rounds can access a patient's complete history and know the most current status. Further, wireless technology can provide a caregiver directly with information in real or near-real time, which will enable them to make informed decisions quickly.

Wireless technology can introduce a new level of quality in patient care. Point-of-care technologies increase the mobility of caregivers documenting treatment and using information throughout the healthcare facility. Patient information can go directly to the electronic medical record, enabling real-time patient management. Further, this technology can aid HIM through standardized documentation, compliance, increased record access, and reporting capability. Problems such as charting timeliness, order tracking, and data collection can also be resolved.

Availability of Wireless Technology

Several types of wireless technology currently available are dramatically changing the way physicians practice medicine and HIM professionals manage health information. Wireless computer networks allow access to a facility's network resources without conventional network cabling. Wireless local area networks (WLANs) give the end user freedom and mobility as well as connectivity away from the hard-wired local-area network (LAN). And with the use of facility-wide wireless networks, multiple wireless devices, including personal digital assistants (PDAs, also known as hand-held computers), notebook computers, and medical technology recording devices bring information technology to the point of patient care. A recent report by WR Hambrecht & Co., a financial services firm headquartered in San Francisco, states that by 2004, 20 percent of US physicians will be using hand-held devices in their practice.[1]

Widespread physician acceptance may be slow, however. Physicians may be reluctant to embrace wireless hand-held computers until there is a practical speech recognition interface that is as easy to use and reliable as a cellular phone. In the

meantime, physicians using PDAs are limited to employing a detachable stylus (a pen-like instrument used for data entry). Styluses can be easily lost, however, and without one, data entry is virtually impossible.

Proprietary Barriers

Further obstacles to wireless technology come in the form of proprietary technology. It precludes the use of multiple devices and systems from different manufacturers. One way to address the proprietary issue is the use of open architecture and development of open architecture standards. A system that uses open architecture has openly published interfaces that permit products from multiple vendors to work together as part of a system. With an open architecture system, all computer components are standard products and contain no integrated parts, which are often proprietary and difficult to replace.

Open architecture tends to go hand in hand with standards. A product can have an open architecture without having anything to do with any standard. As soon as a product exists, however, it is a candidate for becoming a de facto standard. In today's market, users are seeking out vendors who provide both open systems and open architecture.

Wireless technology in healthcare is just the beginning of technological advances that will change the practice and management of medicine. Emerging technologies, along with the increasing use of wireless technology and the computerized patient record, can help provide the means to improve the quality of patient care.

Note

1. WR Hambrecht & Co. "Industry Report: The Cure Is In Hand." October 19, 2000.

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