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Coming Soon: Going Wireless in Health Care

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Leslie: Last month we discussed how new models for managing health information are challenging health information management (HIM) professionals to redefine their role in the electronic practice environment. Technology is enabling these models and requiring us to come up to speed with technology advances that change the way data is collected, stored and accessed.

Patty: One of these technologies is wireless devices. Before we talk about their application in health care, let's discuss common wireless devices that have changed our everyday lives. Leslie, what kind of wireless technology do you use?

Leslie: I have been using a personal digital assistant (PDA) primarily in three ways, to keep track of my addresses, appointments and to do's, set reminder alerts for important family and work events and to download content from the Internet such as books, driving directions, music and world news. I also synchronize with my PC at work so I can stay on top of e-mails and read work documents during my commute. I also use my cell to keep in touch with family and co-workers.

Patty: With your every day data at your fingertips, how has this changed your life?

Leslie: Well, I understand PDA devices, which helps me to envision its use in health care. It also keeps key data at my fingertips, which is a time saver for me. I must admit though, it isn't easy being so mobile. Communication expectations are greater and technology keeps advancing so there are new devices and accessories to learn about.

Patty: The same thing is happening in health care. PDAs and mobile PCs are being used in a variety of ways to improve efficiencies in documenting and accessing data.

Leslie: Patty, let's talk about some actual uses today.

Patty: Some medical schools and teaching hospitals, where standards can be enforced across interns and residents, are on the cutting edge of using wireless solutions by physicians. Typically, the institution can provide the necessary infrastructure to support this technology. Interns and residents are required to retrieve updated patient information when they come on duty by synchronizing their PDA to the clinical database. They receive their patient lists and key test results. They even receive and view X-ray images on the PDA screen.

Leslie: Another common use of the PDA is as a dictation device. Dictation software can be loaded on the physician's PDA and then used as a hand-held dictation device. Throughout the day, the physician can then "synch" or wirelessly transmit data through infrared or docking stations to the facility's network so that

transcriptionists can receive the voice file.

Patty: I recently read an article in the July 2002 Advance for Health Information Executives, called "Investing in Hand-Held Devices," which describes how PDAs are used to receive patient census, radiology, lab results, medication information, transcribed reports and face sheets. In all of the case studies reported, physicians were more productive and in some case gained an additional hour to their day!

Leslie: With the heightened awareness of patient safety technology, it's only a matter of time for these devices to be adopted for order entry and clinical alerts.

Patty: I agree but it isn't around the corner. What is within reach is the potential to eliminate contention for nursing unit PCs to look up information. It also eliminates the physician's need to print reports or take notes prior to treating patients. The clinical data is moving to the physician rather than the physician moving toward the data.

Leslie: We have been discussing PDAs mostly but there are other wireless devices aren't there?

Patty: Yes. Wireless mobile PCs and Tablets are more expensive than PDAs but will be more practical for documenting than PDAs. Mobile PCs may be most common and are wireless units, which sit on a mobile cart. It will be interesting to see how these mobile/wireless devices will be used to compliment one another and communicate among one another.

Leslie: What is a Tablet?

Patty: It is often referred to as a Tablet PC or a pen-based pad. It is considered the next-generation wireless computing solution. The Tablet had the computing power of a desktop but looks like the color screen of a notebook. It uses a pen-like stylus to create handwritten documents or tap information into templates.

Leslie: Are there wireless standards that vendors use when developing wireless technology?

Patty: A wireless standard has been introduced by the Institute of Electrical and Electronics Engineers (IEEE). The standard is called 802.11. It is emerging as the defacto standard and provides wireless standards that specify an "over-the-air" interface between a wireless device and a base station or access point, as well as among wireless devices. It basically determines how data is transmitted over wireless systems.

Leslie: Does the use of wireless devices create new security challenges?

Patty: Technology has progressed quickly in this area, giving rise to new wireless VPN and encryption solutions. The use of biometrics can also be included with mobile PC wireless devices. This includes finger print recognition for example.

Leslie: This is encouraging. What I like about wireless technologies is that they fit into the health care provider's workflow. The provider does not have to substantially change the way he works and can use these tools to improve access to the information he needs to treat patients.

Patty: That's true for accessing information but when the functionality includes data input, it requires vendors to consider current documentation practices and build tools that are easy to use regardless of the mobile device. Understanding providers' (nursing, allied health and physicians) workflows continues to be critical in design of software to be used with mobile devices. Fortunately, interns and residents are using mobile tools in their everyday life and are comfortable using them to accomplish their work.

Leslie: Are there specific applications and wireless tools that HIM professionals can use in their work?

Patty: HIM professionals can purchase software that facilitates the collection of data for medical record reviews, compliance studies and organizational studies. Online data collection forms are created on a desktop and then downloaded to PDAs. Reviewers then complete the data collection forms by tapping entries into the PDA. This process enables multiple reviewers to collect data concurrently and enter data at the time of the review. Once the reviewer has completed their data collection for the day, they simply synch with the desktop or server where the application resides. From there, reports can be generated. This process has become very popular in preparation for Joint Commission on Accreditation of Healthcare Organization (JCAHO) surveys.

Leslie: Despite the obvious impact to workflow efficiency and patient care, the technology is slow to be adopted. What are the barriers?

Patty: Tight budgets are certainly a factor with Health Insurance Portability and Accountability Act (HIPAA) initiatives and replacement of legacy systems vying for budgeted dollars. In addition, legacy systems typically do not support access to data through wireless technologies and enterprise wireless roaming is still not perfected. And while 802.11 is being touted as the defacto standard, the reality is that there is a lack of industry-wide adoption. But the showstopper in the end will be for financial reasons and not technology barriers.

Leslie: How does an HIM professional learn more about wireless technology?

Patty: Many articles appear on this topic in the information technology trade journals. An Internet search will produce a wide variety of articles from consumers using wireless technologies to its use in health care. I would also recommend learning more about the following products:

- McKesson's Horizon MobileCare
- MedRemote
- MedicWare Inc.'s MedicWare EMR
- Mdanywhere's m-Charge
- Allscripts Healthcare Solutions' TouchWorks
- Mercury MD's Mdata Enterprise System
- CPR Technologies' PDA Palm

Leslie: We should also look at articles about wireless technologies that are published in the newspaper and in consumer magazines such as PC Magazine. And remember the Super bowl advertising by AT&T suggesting people get mlifesm?

Patty: I think many of us were wondering what mlife meant. It was a good awareness campaign about wireless technology and the opportunities to improve our productivity and communications.

Leslie: The challenge to HIM professionals is to start imagining all of the ways that wireless devices can improve HIM functions and processes as they evolve to eHIM. We have so many opportunities to be innovative today; I can hardly wait to see the latest and the greatest from our readers.

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