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Medicine on the move

By Michael McBride

Wireless computing inside & outside your practice

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Get ready to innovate. Soon you may find that to compete and operate within medical home communities and accountable care organizations (ACOs), you will have to integrate mobile healthcare technologies into your practice. How will this affect the way you practice?

Health information technology (HIT) has come a long way in a short period of time. Just a few years ago, physician pushback to implementation of electronic health records (EHRs) in their practices and hospitals was quite high. Today, however, doctors have little choice but to use the technology available to them.

Not that they care to object anymore. For as they have adopted iPads, smartphones, and other mobile devices in their private lives, those primary care physicians (PCPs) who decried not long ago that electronics interfered with the practice of medicine are now more likely to describe mobile technology as "cool" and "a must-have."

A PLETHORA OF DEVICES AND APPLICATIONS

Laptops, tablets, android smartphones, iPhones, iPads, and USB drives—the options for using mobile technology in healthcare are many and varied. Software applications (apps) run the gamut from evidence-based decision support tools, to updated formularies, to patient education tools for use at the point of care, to clinical laboratory alerts, and many more. Literally hundreds of medical apps are available from which you can choose. Many of them are free. And hundreds more are released each year.

Housecall Doctors Medical Group (HDMG) employs California-based "residentialists" who practice medicine in the same way hospitalists treat in-hospital patients—except that HDMG clinicians travel to home-bound/access-challenged patients all over Orange, southern Los Angeles, Riverside, and San Bernardino counties to diagnose disease and advise and treat patients in their homes. To accomplish this, HDMG uses a plethora of mobile technologies.

"It's not about the toys. It's about the patients," says Norman Vinn, DO, MBA, founder, chief executive officer, and medical director, Housecall Doctors

Medical Group. "You don't want to be in a position where, when you're a hammer, everything starts looking like a nail."

Norman Vinn, DO, MBA, HDMG founder, chief executive officer, and medical director, operates a delegated managed-care model that reduces costs by lowering the number of hospital in-patient re-admissions, emergency department (ED) visits, and skilled nursing days. Medical groups bring in Vinn's residentialists to assist them with treating their highest-cost, highest-risk patients.

"We've measured the before and after utilization [of healthcare] with this population of patients," Vinn says, "and [the delegated managed-care model] has yielded significant reductions in utilization."

It has also produced an interesting side benefit: improved patient satisfaction. "Imagine a world that's almost the antithesis of the old world of 'Dr. No' and 'you can't do this and you can't do that,' " Vinn adds. "It's a much more empowering model that delights patients rather than makes them feel that they didn't get everything they needed."

HDMG residentialists use mobile-formatted EHRs—customized to the needs of home care patients—to evaluate and treat the whole patient in a home environment and to document that information in real time over a broadband wireless connection to their practice's office network. Then they move that information to other providers and managers in a timely fashion to improve continuity and coordination of care and smooth care transitions with the goal of pre-empting duplication of services or utilization of unnecessary ED and hospital services.

Vinn defines mobile technology as having three distinctly different categories:

- Communication and documentation—fundamentally, this is mobile EHRs and tools for moving information around to the proper stakeholders in a timely fashion;
- Clinical diagnostic—used to treat patients at the point of care; and
- Remote monitoring—transmitting and receiving information on a patient's status when a clinician is not present.

"The reason I put mobile technology into those three buckets," Vinn says, "is to differentiate what we do currently, what we don't do currently, and what I think is likely to happen with our residentialist clinicians and other homecare clinicians in the future. [With mobile technology] we can intervene in a timely fashion while onsite and pre-empt the need for more costly reactive care."

MOBILE TECHNOLOGY IN THE HOME

HDMG long has used traditional portable medical resources such as mobile x-ray, ultrasound, echocardiogram, and handheld blood analyzer systems to diagnose disease in patients' homes and to determine whether further treatment at home or in-hospital is warranted. Portable diagnostic systems have been a boon to home-based medical care.

The capabilities of these systems, however, do not always align perfectly with the needs of patients, and they can be exorbitantly expensive to own. Therefore, where the concept of mobile technology's use in home healthcare is concerned, Vinn's philosophy is "sometimes, less is more."

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Today's wireless mobile technologies for healthcare—such as iPads and tablet PCs used to collect, send, and receive patient data at the point of care—are revolutionizing the home healthcare industry.

Since it first became available, Vinn's residentialist doctors have been using tablet PC and smartphone technology to record patient data onsite and then cut and paste it into the patient's personal health record (PHR) chart. However, a clinician recently demonstrated how the iPad's built-in wireless technology establishes a direct two-way, real-time link to the practice's network and enables clinicians to remotely enter medical data directly into a patient's chart in real time. This ability really got Vinn's attention.

"We got into our [computer network] with the iPad just as effectively as with the tablet and keyboard, and the iPad's ability to shrink and enlarge images overcame certain issues we had with screen resolutions," Vinn says.

Vinn says that when residentialists need to find a drug's formulary or interaction information that isn't immediately available within the patient's PHR, they can go online and flip back and forth between applications very quickly. This enabling technology allows them to practice more robust information-gathering in the field. With smartphones, he adds, the residentialists can look up things online very quickly, and with the iPad's screen resolution capabilities, the device probably is the future of field-based "anywhere/anytime" medicine.