Case for Portable Electronic Health Records

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by Ed Cuellar

As the healthcare industry continues its steady move toward comprehensive electronic medical record-keeping, there is one solution that could easily be implemented now using current technologies, that offers several baseline benefits to patients, providers, and payers. That solution is a physically portable (personal) electronic health record—an EHR stored on a small, convenient, easily accessed portable device that a patient can carry.

In today's healthcare system, common events such as referrals from a primary care physician to a specialist usually involve the movement of the patient's recent records from one place to another. People with complex medical profiles and drug regimens frequently rely on unfamiliar providers during trips and vacations. By carrying their key health information with them, patients could receive better, more timely care. And in an emergency, all patients would benefit from a portable record that could speak for them—about medications, allergies, and advance directives—when they might not be able to.

Portable patient records would enable providers to deliver better care, more efficiently and cost-effectively, and that would benefit patients and payers. Providers would be better equipped to avoid medical errors—no small matter, when the total annual cost of medical error injuries runs into billions of dollars. They would also be able to virtually eliminate duplication of tests. The repatriation of patients receiving care out of network would be streamlined, too.

Putting the Pieces Together

The technologies are readily available for implementing a portable patient record. Patients could use personal health record management software already on the market to create and maintain their medical profiles on their home computers. With the support of providers and payers, a data set such as the Continuity of Care Record (CCR) could be adapted to create a standard for portable patient profiles. The CCR specification has received endorsements from a number of organizations including the American Academy of Family Practitioners, the American Academy of Pediatricians, and the American Medical Association.

On the device side, smart cards, flash memory cards, and USB drives could all serve as portable media for electronic patient records. Smart cards offer low cost and credit-card familiarity to consumers. They also have the security capability to protect data in case they're lost or stolen and the potential to provide selective access to patient data. However, the reliability and capacity of smart cards is limited. And smart card writers and readers are not common, either among consumers or in the healthcare industry.

USB drives and flash memory cards have plenty of data capacity for storing image files such as a patient's photo or even MRIs. In addition, flash memory cards have the security capabilities to protect patient data in case a device is lost or stolen. USB drives offer one huge advantage that make them the best current choice for portable patient records: they can be accessed by virtually any notebook or desktop computer made in the past four or five years. The key challenge for software application developers is to bring the security features of smart cards and flash memory cards to USB drives.

Three Key Issues

While the technologies exist for implementing a physically portable EHR solution, they must be combined and tuned to create a market-ready product that will meet the baseline requirements for reliability, security, and cost-effectiveness:

- Because it goes wherever the patient goes, a portable device bearing an individual's health records in electronic form must be sufficiently rugged and reliable to withstand everyday wear and tear, without damaging or compromising the data it contains.

- HIPAA regulations require healthcare organizations to control access to devices and media containing personal health information. Vulnerable to being lost, stolen, or misused, any portable device containing patient records has to have robust software- or hardware-based security and perhaps multilevel authentication and authorization built in.
- As with any new product, the acceptance of patient records on a portable device will be decided by the marketplace. The costs and who pays for them will play a key role in determining what kind of solution wins acceptance.

The trend is clear: patients are becoming more aware of their right to control their own medical records, and more patients want to do so. With widespread acceptance of portable, reliable storage devices such as USB drives, electronic medical records that patients can carry on their person promise to increase the quality of care while lowering its cost. And that will benefit everyone in the healthcare industry, from patients to providers to payers.

Benefits of Portable Electronic Patient Records

Patients	Providers	Payers
Provides better quality of care	Attracts more patients and retains current patients	Reduces costs and liability through improved patient safety and if used for authentication can reduce fraud
Lowers fees and co-pays	Reduces medical errors	Attracts more patients and retains current patients
Ensures communication of key medical information and advance directives in emergencies	Reduces duplication of tests	Reduces costs due to duplicated tests and streamlines patient repatriation

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