

THE E-PATIENT OF THE 21ST CENTURY: HOW DIGITAL TOOLS FOSTER THE PATIENT/PHYSICIAN PARTNERSHIP BY EMPOWERING, ENGAGING AND EDUCATING

I recently spoke at the [Medical Informatics World](#) Conference where I discussed how a digital tool-kit is now available to help patients and physicians communicate consistently, coordinate patient care among all of the individual's providers and ensure continuity of care over the long-term.

I talked about how electronic health records are the fundamental core for gathering all of a patient's information in one place and having it available to all of the patient's providers on the health care team. It has been a long journey from the paper-based health care system that existed only a few years ago, to this point, where a robust digital record that includes full data capture and sharing, and patient access to the summary notes of the healthcare encounter, changes the health care delivery system.

One of the important tools that will foster this new dynamic of patient care is Open Notes, a national initiative to give patients access to the visit notes written by their providers. Open Notes which has many early adopters, including Geisinger, Kaiser Permanente, and the Beth Israel Deaconess Medical Center, allows individuals to securely access their health information and share it with health care providers, caregivers and others they trust.

[Blue Button](#), which was designed by the VA, enables patients to securely view online and download their health record to their computer, tablet, thumb drive or smart phone, without special software. Supported by several Federal agencies, health plans and vendors of personal health records, Blue Button makes it possible for the patient to have control of their full information at the point of care and share it with others who have the need to know.

Other digital tools in the kit include email which fosters ongoing communication between patients and providers because it is immediate; available; 24/7; enables communication from anywhere, at any time; and eliminates the time constraints of traditional patient/physician communication.

Patient portals, secure online web sites which encourage patients' direct involvement in their care, enabling them to access lab and procedure results, get referrals, renew prescriptions, and easily connect to educational materials. In this way they help patients manage some of the details of their care and cut down on unnecessary office visits. They also help providers save time when they use the portal as a secure messaging forum where they can post reminders to patients (e.g. get your flu shot), or post patients' results and automatically schedule a call or an online visit.

The sheer volume of health information, most of which resides on the Internet, changes the dynamics of health information dissemination.

The Web is another powerful tool that empowers patients and providers by supplying appropriate resources for patients to find viable data about health issues and connect with other patients on social health networks. The Web is also where providers can access the information to insure that they are deploying evidence-based medicine and best practices at all times.

Mobile Health/cell phones are available today to 98% of the world's population. There are 6 billion mobile subscriptions worldwide. Even in the most remote parts of the world, people are sending and receiving text messages via Short Message Systems (SMS) about many health issues, using their cell phones. Additionally, there are thousands of health apps for smartphones, including an electronic stethoscope, heart monitors, screening devices for vital health information and the popular apps that track exercise, fitness, weight and diet.

Wearable devices have also emerged as part of the tool kit that engages and empowers patients to be in charge of their health. With embedded sensors, these devices, which include hats, shirts, mats, wrist bands, shoes, Velcro straps, watches and even the Google Glass help patients monitor their chronic conditions for safer medical practice.

[The E-Patient of the 21st century](#)

HOW TO MAKE COMMUNICATION A PRIORITY

Now that we have all the tools that foster better communication in health care, including: digital health records, the Internet, email, mobile phones with lots of apps, patient portals, e-Visits, Blue Buttons and OpenNotes – patients, caregivers doctors and their colleagues should be communicating with ease and often. But, that is not happening.

It is estimated that 80% of serious [medical errors](#) involve miscommunication amongst caregivers when patients are transferred or handed off. A successful hand-off is a real-time process of passing patient-specific information from one caregiver or team to another, to ensure the continuity and safety of that patient's care. Poor communication in this process has resulted in patient harm, increased cost, and patient dissatisfaction.

Hand-offs is one area where communication has to improve. The office visit is another. Poor communication is blamed for patient frustration, non-compliance with treatment and medications and general lack of trust in the physician. Some of the issues patients cite include:

1. Too little time during the office visit for patients to explain their issues and concerns, discuss potential problems, review medications and allergies, outline the plan for chronic care management, and receive a comprehensive physical exam.
2. Complaints about the doctor not looking the patient in the eye during an office visit, particularly with physicians who focus on the computer screen and not the patient.

Most doctors are truly interested in their patients and want to make the right decisions regarding patient care. The reality is that the number of required tests and conditions primary-care doctors are supposed to screen for, has skyrocketed, while treatment regimens for common conditions like diabetes, heart and lung disease, cancer and other

problems are becoming more complicated. The result is that in the 15 minute office visit there is too little time for communication and occasions when a missed diagnosis could lead to prolonged illness and even death.

For example, [Newsweek Magazine](#) reported the story of a man who began suffering from a variety of ailments: he was losing weight, his blood pressure went up; and then he cracked a rib, and started suffering from debilitating back pain. Each time a new problem arose, the Washington, D.C., resident visited his doctor, who, after a very cursory exam dismissed him with the standard treatment: blood pressure medication, cough medicine, and narcotics for the back pain. After months of suffering, the patient and his wife did some research only to find that the symptoms pointed to kidney disease. They returned to the doctor who wanted to treat the patient for depression. At the wife's insistence the doctor ordered an MRI of the back. It revealed advanced kidney cancer. The patient died three months later.

The real problem here was miscommunication. We cannot make the assumption that the doctor simply did not care. But clearly this physician did not take the time to carefully and fully listen to the patient or properly evaluate his symptoms.

Most communication mishaps do not end quite so tragically. But the short office visit, coupled with doctors who have to spend half again as much time handling paperwork on their patients, opens our eyes to a complex situation that may have a resolution in technology.

The question becomes whether or not our newest digital tools can help partially resolve this communication gap by providing efficient new methods to diagnose, reinforce and address patient problems in an effective way that will improve health outcomes.

The answer is yes. When patients and providers use tools such as: the Internet and mobile phones to track medical conditions; patient portals to engage in e-visits; and email to discuss non-emergency issues between visits; the web to research questions; wearable devices, phones and the Internet to monitor chronic conditions; mobile phones to text for more instant messaging and to deploy apps to track

heart rate, blood pressure, blood sugar, weight, fitness, physicians and patients will communicate more efficiently and effectively.

What can e-Patients specifically do?

- Construct a personal health record (there are govt websites, insurer sites) as well as smart phone apps for creating a personal health record that is always available. This health record should include health history, medications, allergies, surgeries and procedures, emergency contact information, insurance information and physician's name and contact information.
- Request that your physician allows you to see the summary notes from your last office visit so you can check the medications and allergies list and make sure that everything in the physician maintained electronic health record is accurate and up to date.
- Ask your physician for advice on mobile apps that might help you with diet, prevention, and wellness.
- Most important, work out an arrangement with your physician for quick and efficient communication between office visits, whether that be text messaging, phone calls, via a patient portal on the Internet or via email.

What can Physicians Do?

- Provide visit summaries to your patients.
- Implement a patient portal and incentivize your patients to use the portal for e-Visits and email exchange to get questions resolved before the office visit.
- Educate your patients on how they can retrieve their lab and procedure results, schedule appointments, renew prescriptions and get referrals through the portal so those details do not have to be discussed during the short office visit
- For those patients with chronic conditions, set up a strategy for tracking vitals and communicating on a daily, weekly, or monthly basis, so that all that data is available to both of you when you have a face-to-face encounter.

- Work out a communication arrangement with your patients whether you use the phone, text messaging, email or the portal so there is the opportunity for interaction between office visits.

When all the parties in the health process understand the need for communication and work at providing the pathways to make it happen there will be less frustration and dissatisfaction, and the safer practice of medicine for all concerned.