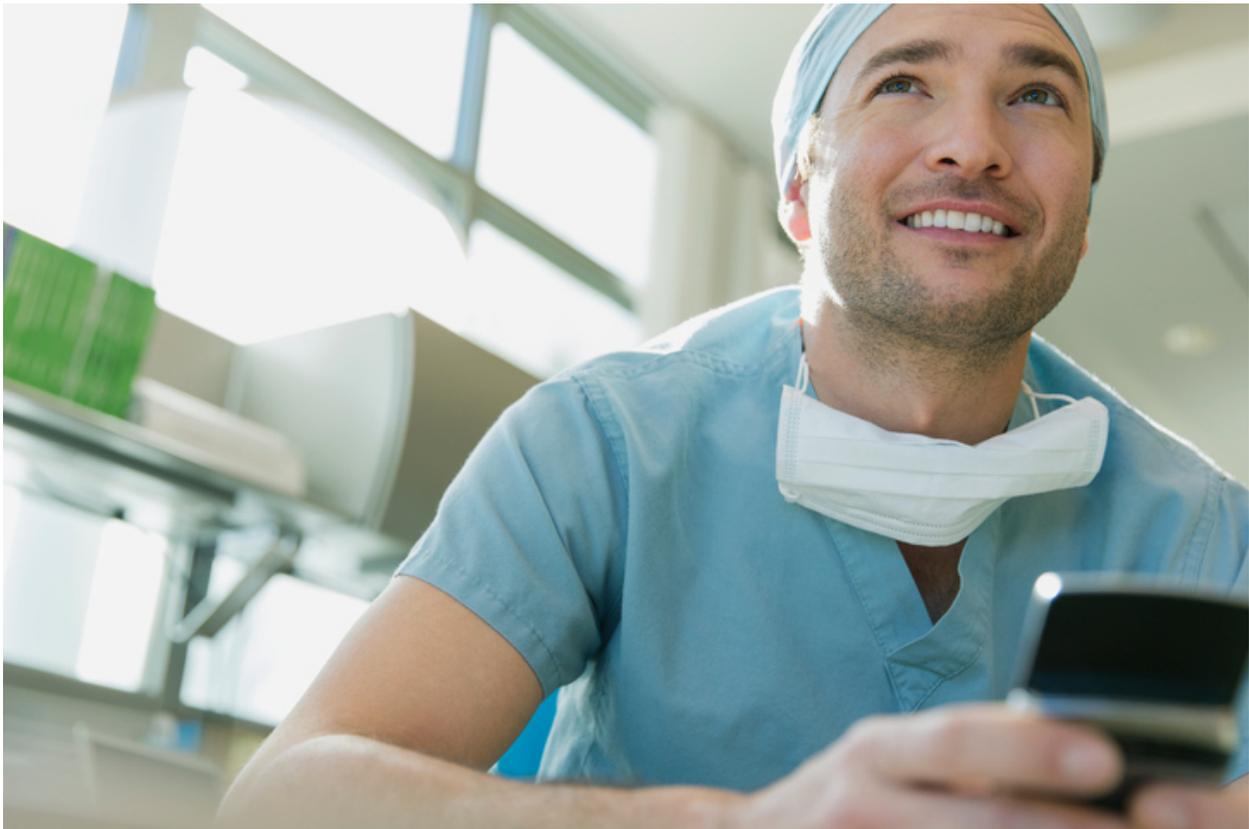


Connected healthcare is better healthcare

Patient engagement is the latest buzzword in the healthcare world, with the idea that patients who take part in their health will ultimately be healthier.



There has been a lot of talk in recent years about the importance of empowering patients. This notion, as it is being promoted by governments, physicians and patient advocacy groups, all points toward technology and particularly apps on smartphones, to engage patients. But what about physicians? How are they empowered by technology? How do recent technological advancements make them more connected to their patients and to each other?

To start with, when patients are empowered, so are their physicians, and vice versa. With the advent of electronic health records more than ten years ago, technology has advanced at a rapid rate to include personal health records controlled and updated by patients— and a host of apps, whereby physicians can gain additional data on their patients outside of a clinical setting. This is particularly useful in caring for

patients with chronic diseases who require daily monitoring.

In 2011, the U.S. established a federal incentive program to encourage healthcare providers to adopt electronic health records, and establish a secure way for patients to email their physicians. I remember being so thrilled that I could email my physician. I could ask her to refill a prescription, make an appointment, and send her my data, all online. It was a whole new world, and it drew me in and made me want to participate in my own healthcare that much more. This is a small example of what lies ahead. Patients are building a vast body of data collected on the growing number of health apps. Physicians are equally excited that their patients – prompted by these apps and devices – are improving their health.

But with each improvement comes complications for physicians and healthcare providers. There are valid fears to contend with: will the records be used against them in medical malpractice lawsuits? Privacy breaches are all too common, and sometimes unavoidable. Physicians feel vulnerable. And, last but not least, there is the disruption in workflow that doctors must face. But data is the key to change, and unfortunately it must be entered electronically to be usable. Many of these growing pains are disappearing as big data in healthcare is gathered to improve care. Healthcare is desperately trying to catch up to other industries, like the financial world, for example, that have been using and exchanging data for far longer.

The power of FHIR

Health Level 7 International (HL7), is an organization that has spent years developing standards to be used in application program interfaces (APIs) that allow physicians to retrieve useful information from their patients' apps, mostly found on their smart phones. This set of standards, known as **Fast Healthcare Interoperability Resources (FHIR)** and pronounced "fire," is literally lighting up the world, as the power of apps is being unleashed for physician use in practicing medicine. The impact of the new release of the HL7 FHIR standards has yet to be fully grasped in healthcare, but when it is, the support for it will be overwhelming.

Having written about health information technology for the past 11 years, I was able to get in on the somewhat ground floor level of electronic health record adoption in the U.S. I watched first-hand as physicians and health systems were slow to catch on to the promises awaiting them with the gathering of healthcare data electronically. Interoperability of this data has been a big challenge – and it still is – but FHIR will soon change much of that.

Precision medicine

Nowhere is the excitement behind this notion more evident than with a new research pilot being implemented in the U.S. In February 2016, two U.S. federal organizations, the National Institutes of Health (NIH) and the Office of the National Coordinator for Health IT (ONC), announced the launch of **Sync for Science (S4S)**, a pilot program that will advance medicine by allowing patients to use FHIR to access their health data and send it to researchers who are working on **precision medicine treatments**. This form of connecting data will advance research in precision medicine and empower physicians to make much more calculated decisions when it comes to treating their patients. Precision medicine, the use of DNA to provide individualized treatments is the next wave in the future in medicine, and can't be much more personal.

Telehealth

Telehealth is another form of connected health that is allowing physicians to connect with patients and is proving to be pivotal in healthcare. A **study** released in April 2017 by global consulting firm KPMG found that about a third of U.S. healthcare providers are using telehealth to connect with patients and with other healthcare providers, with most anticipating that usage to grow. The study, which interviewed 147 U.S. c-suite healthcare executives, also found that a quarter of them find that despite the increased usage in telehealth and its obvious benefits, the business case for using telehealth is still sometimes challenging.

Compare the KPMG study to the latest **Future Health Index**, released by Philips, which surveyed over

33,000 healthcare professionals, insurers and members of the public and combined it with data from the World Health Organization to discover where gaps exist between perceptions and the realities of connected care technology, and how these tools might influence the future of medicine. Philips found that 42% of healthcare professionals would be more likely to use connected care technology if they could see proof that it would make processes more efficient.

These two studies show that though the promise of better care is possible through connecting patients and physicians with technology, the doubts still remain.

New horizons are opening, to encompass the smallest of data in the human genome and the largest of data — big data— being collected on human diseases. As is always the case, technology will baffle while it first comes into our view. But soon, we will begin to see the benefits that all of this interconnectedness is creating. And just like those physicians who couldn't see their way, at first, from paper to electronic health records—all physicians will likely soon embrace the world of technology that is beginning to light a path for them to practice medicine like they never have before. Connectedness is not something to fear, but something to embrace. Technological connectedness in healthcare can save lives.

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