

5 Things Preventing Technology Adoption In Health Care



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Pharma & Healthcare

The [Stanford Medicine X](#) conference is one of the most publicized events in health care. Its hashtag [#MedX](#) was a top-trending term on Twitter throughout last week's event.

Every year, thought leaders, physicians, academics and entrepreneurs gather at MedX under common desire: to transform American health care through technology. But they also share a common frustration: American health care's slow and unsteady embrace of new technology.

Why do so many seemingly great technologies fail to penetrate the health care system?

That question was the topic of my [MedX keynote address](#). And I hope the following five answers shed some light on the realities of technology adoption in health care.

1. Many New Technologies Don't Address The *Real* Problem

Tech entrepreneurs often take a backward approach to invention. They start by discovering a nifty technology. Later, they figure out how people can use it.

This technique often teaches entrepreneurs a tough lesson: Technology is worth nothing if it doesn't solve an important problem or improve lives.

Alan Cooper, considered by many to be the father of modern [user experience design \(UXD\)](#), said the ideal approach is "goal directed."

Meaning, innovators should start with the goals of the end-user. The solutions come next. When the order is reversed, the results usually disappoint.

As an example, the health care world recently has become enthralled with wearable devices. Many of these devices help solve the problem of what gift to give a loved one during the holidays. But few of these devices solve major health problems.

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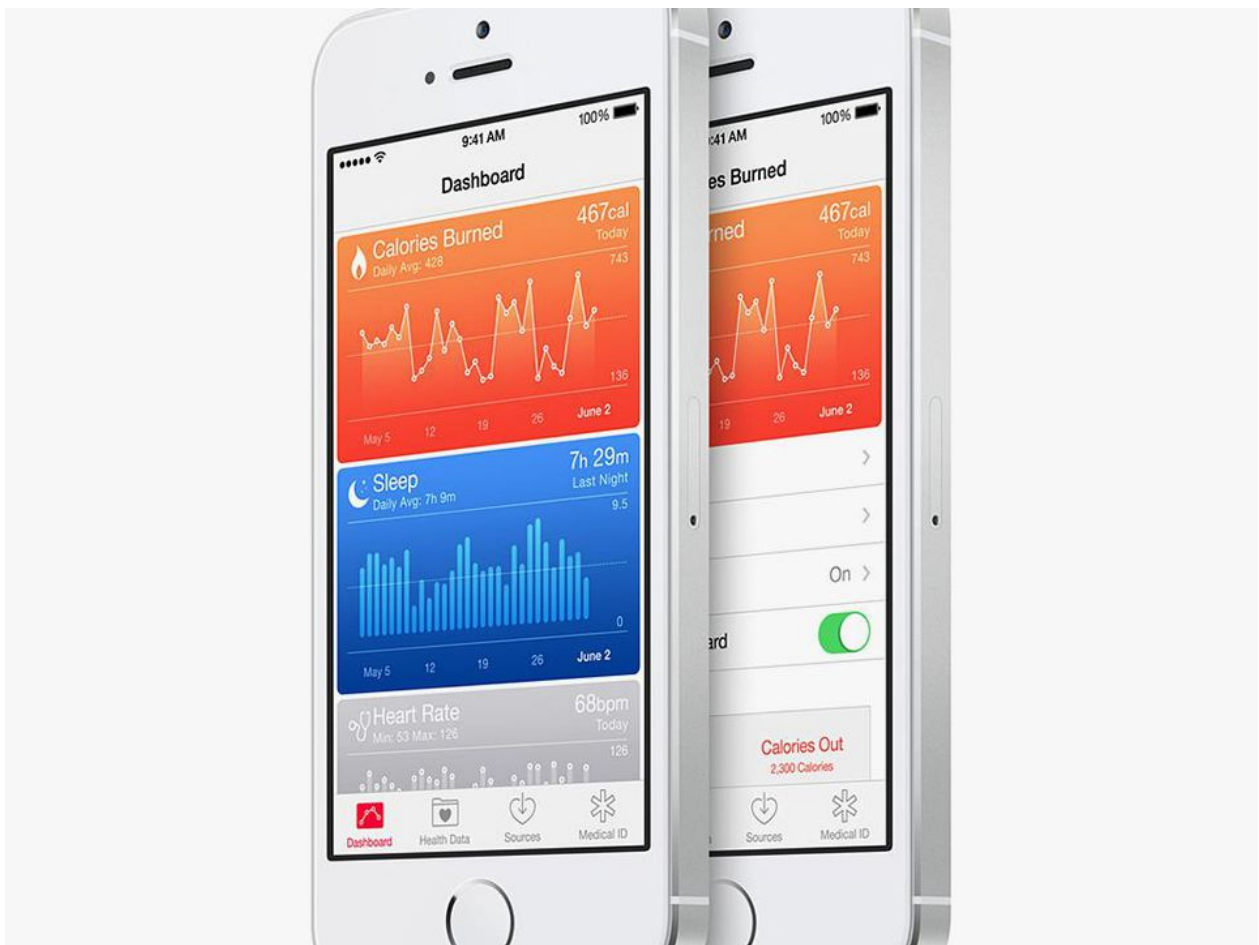
These wristbands, sensors, headsets and even “smart clothes” can obtain and transmit huge amounts of data on anything from heart rhythms to blood pressure. But there’s little evidence those wearing them overcome abnormal heart rhythms or elevated blood pressures better than those who don't.

Besides, physicians don't want all that data anyway. They find it overwhelming, redundant and unlikely to make a clinical difference.

Physicians would love a tool that truly helps patients better manage their diet, exercise and stress levels. Many applications available today claim to modify behavior through alerts, reminders and real-time feedback, but few have demonstrated measurable success.

Entrepreneurs hoping to make a positive impact on our health should focus on helping patients avoid chronic diseases and manage health problems when they arise. And they would be wise to do this using technology that already exists while developing solutions that are easy to use and inexpensive to buy.

Apps using new, complex or expensive technologies will face an uphill battle for adoption.



Few health apps have proven useful for both patients and doctors. Will future technologies break this trend?

2. No One Wants To Pay For New Technologies

Creating an innovative tool or app that can help doctors and patients isn't enough. These products must also be monetized.

In health care, that proves difficult.

Patients, physicians, hospitals and insurance companies long for the benefits and value of new technology. However, each thinks someone else should pay for it.

Further, entrepreneurs must understand the financial difficulties inherent in health care's current [fee-for-service payment model](#). Doctors and hospitals will be slow to embrace any technology that lowers costs or reduce patient visits. Why? Because today's payment model financially rewards doctors and hospitals for the volume and cost of services they provide – not the quality of outcomes they achieve.

Until our payment model moves from fee-for-service to “pay-for-value,” some of the most effective technological solutions will be hard to sell.

3. Physicians Are Reluctant to Show Patients Their Medical Information

Prior to the modern electronic health record (EHR), common wisdom was that doctors owned the medical information contained in a patient’s chart.

It made sense at the time. With only one copy of the medical record on hand, the safest place for it was the chart room located in the back of the doctor’s office.

Many doctors believed it was necessary to keep it out of the hands of patients, worrying the information could be harmful if read.

Much has changed in the era of information technology and consumerism. More and more, patients object to the paternalism of the past – asserting their right to access to their own health records.

But now there’s new medical record problem arising. As computers and keyboards replace charts and pens in exam rooms across the country, technology is now the physical barrier between patients and physicians.

But computers don’t have to create distance.

Some doctors are flipping their computers around and using the health data on screen to educate patients. This transparency ensures the information is accurate. It invites patients to participate more closely in their own treatment plans.

Still, today’s exam-room computers are clunky. Physicians would relish a more user-friendly tablet, capable of rapid data entry and mobility. And patients want access to their health data beyond the doctor’s office. Entrepreneurs who can address both of these needs will find an eager market.

4. Technology Slows Down Many Physicians

For the average physician, entering data into an EHR takes longer than keeping a paper record.

The problem isn't just the time it takes to type but also the structured format of the data entry. It simply takes more time when the application prevents physicians from skipping steps or leaving out clinical details.

Frustrating as it may be for doctors, the added information reduces the risks of medical error, avoids redundant testing, and facilitates easier access to test results. But the benefits to the patient are clear, even when the technology adds time for the physician.

Just think, an EHR can prompt surgeons to ask patients about drug allergies as part of their medical history. Using this information, an EHR app can trigger an alert should the doctor accidentally try to order an antibiotic the patient is allergic to.

Physicians like to assume they'd never make such a mistake. Science proves otherwise. Some estimate the [rate of drug errors by doctors has jumped 50 percent](#) in recent years. Another study found [1 in 5 medications used by seniors](#) are prescribed inappropriately.

Entrepreneurs can help physicians reduce the time needed for data entry by developing software applications that include macros and smart lists. Apps with alerts can help reduce medical errors.

But, of course, getting doctors to embrace these more effective approaches will be the next big challenge.

5. Many Physicians See Technology As Impersonal

Go ahead and ask a baby boomer physician, "What is personalized medical care?"

The doctor is likely to talk about the importance of the human touch or about how subjective the "art of medicine" is.

Yes, these are important factors in medicine. But providing personalized care in the future will require much more than that.

With the advent of [gene sequencing](#) and the exponential growth of medical information, physicians won't be able to meet the unique medical requirements of individual patients without advanced IT systems.

As medical knowledge advances, the perceived rift between "high tech" and "high touch" is becoming a relic of the past.

Telling a patient he has cancer requires time, compassion and well-honed interpersonal skills. This is the traditional art of medicine. But figuring out the exact cancer treatment – given dozens of alternatives, the patient's unique genetics and the many sub-types of each cancer – is more a matter of technology and science. Increasingly, treatment possibilities exceed the human mind.

In addition, when doctors lament modern medical practice becoming impersonal, they fail to understand how most people prefer to manage their lives.

In today's era of consumerism, if you ask patients what they mean by personalized medical care, they'll talk about being able to decide how, when and where they obtain information and treatment – just like they do when they travel or buy retail products and services.

Today's busy people want to receive care through technologically enabled alternatives like video visits and secure e-mail, rather than through the traditional office visit. And they're frustrated by a health care system that refuses to accommodate them.

There's a waiting market for entrepreneurs who can help people receive care virtually, without having to miss work or school – particularly if the solutions are less expensive.

To meet these preferences, entrepreneurs need to look further than at the hundreds of millions of smartphones resting in the hands or pockets of Americans today.

Overcoming These Barriers

Across history, it often has been the next generation that figures out how best to use new technology. Health care may be no different.

But if hungry entrepreneurs don't want to wait 10 or 15 years for the demographics to change, they would be smart to provide solutions that use currently available technology to solve patient's problems in the simplest and least expensive ways.

Many of the participants at the Stanford Medicine X conference left eager to begin.

Dr. Robert Pearl is the bestselling author of "Mistreated: Why We Think We're Getting Good Health Care--And Why We're Usually Wrong" and a Stanford University professor. Follow him [@RobertPearlMD](#)

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