

# Healthcare Mobile Apps: Can New Technology Bridge the Patient-to- Provider Gap?

The vision of patients becoming greater advocates to manage their health by leveraging health information has been slow to materialize. With easy access to real-time health information like test results, lawmakers and industry stakeholders envisioned greater patient-to-physician engagement that would help ensure greater understanding on both sides while also promoting optimal clinical outcomes and patient compliance. Despite a large investment in electronic health records (EHR) and web-based patient portal technology, patient engagement has fallen short of expectations.

Mobile health apps can improve accessibility to health information, making them ripe with potential to impact the way consumers manage both their wellness and their healthcare.

## Background

The creation of the Office of the National Coordinator under the Department of Health and Human Services in 2004 opened the door to the development of a healthcare information technology framework. One of the goals in moving the industry from paper records to the electronic age was to empower patients to leverage their health information and become greater stewards of their own health. With the advent of the Health Information Technology for Economic and Clinical Health (HITECH) Act five years

later, EHR funding for hospitals and physicians increased expectations that clinicians and their patients would share timely healthcare information, providing the best possible clinical decisions and outcomes. The first step was critical – the transition from a paper medical record to an EHR that could be securely and simultaneously accessed by the patient and clinicians across the entire continuum of care. A new term emerged in the healthcare vernacular to describe connecting EHRs with patients and all their clinical teams – “interoperability.”

The transition from paper to an EHR has largely been achieved in the provider community. Healthcare consumers, however, have yet to fully embrace the patient access and empowerment vision. According to the Office of the National Coordinator (ONC), 96 percent of the nation’s acute care hospitals had adopted an EHR certified by HHS as of 2017 (the most recent year for which data is available.) And seven in 10 hospitals provided patients the ability to view, download and transmit their health information electronically by 2015 – a number that most certainly has grown since that time.

The most recent ONC report released in April 2019 shows that 82 percent of the nation’s hospitals report using the EHR to support quality improvement, 81 percent use it to monitor patient safety, and 77 percent use it to measure organization performance.

But despite the industry's current EHR usage and readiness, ONC data shows lagging consumer engagement:

- In 2017, just 40 percent of patients said they had scheduled appointments or filled out paperwork online.
- 34 percent had used a computer, smartphone or app to track healthcare charges and costs.
- And just 29 percent had used text messaging to communicate with a provider.
- In addition, 66 percent of healthcare consumers expressed concerns about the security of their health information when electronically exchanged.

In fact, it was a struggle for providers to get even 5 percent of their patients to access their EHR patient portals, causing the Centers for Medicare and Medicaid Services to eliminate this EHR meaningful use threshold requirement for patients to log in to their provider's EHR portal. Instead, providers were only required to offer patients EHR portal access.

There are a number of reasons this vision failed, but one of the key barriers is the burden on consumers to maintain a number of various password-protected EHR accounts for every provider. Regional health information exchanges (HIE) have helped by providing a single patient portal connecting a patient to multiple providers, but this requires that each patient's providers connect and share their entire EHR.

## New Mobile Opportunity

The 21<sup>st</sup> Century Cures Act in 2016 heralded a new approach to connect patients to their EHR using mobile apps (via smart phones or tablets) or web portals. Before the end of 2019, all EHR vendors are required to provide a way for developers to design patient EHR apps that securely connect to the provider's EHR

system, and the EHR vendor must be certified by the ONC to ensure compliance.

In February the ONC and CMS published new proposed rules to support and encourage the industry to leverage mobile technology for greater patient engagement. According to ONC Coordinator Don Rucker, MD, these rules will encourage the marketplace to develop interoperable apps using open API, or application programming interface.

The ONC's API approach creates the potential for one mobile EHR app vendor to offer an app that connects with multiple provider EHRs, giving the patient an easy way to access their information stored in multiple provider EHRs via a personal smart device. Once the API proposed rule becomes final, app vendors will have rules that should reduce their investment risk and encourage them to develop EHR apps.

## Addressing Consumer Security Concerns

As the ONC data revealed, consumers are wary of the security of health information stored and transmitted electronically. And risks do indeed increase when multiple technology vendors are involved in security controls. Provisioning patient access will be one of the challenges to ensure that only the patient can access the EHR record. While the security risk associated with giving patients access to an open API connection is a new challenge, lessons learned in the EHR patient portal experience provide a foundation.

Other enhanced security features also may be leveraged, such as fingerprint or facial reconciliation. These types of mobile multi-factor authentication have worked well for securing mobile banking and investment apps. Technical options, like the ability to remotely delete EHR information in the event a smart device is lost or stolen, may provide additional risk reduction for healthcare consumers.

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