The Affordable Care Act and Digital Health Applications

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Telehealth, the delivery of health-related services and information via digital communication technologies, is a rapidly emerging, innovative, cost-effective and efficient way to deliver healthcare. There are three main types of telehealth: store and forward; remote monitoring; and real-time interactive services. Smartphone applications, or apps, that connect a provider with a patient, known as "connective health apps," fall under this umbrella of telehealth and can function in all three of the categories. As the Affordable Care Act legislates to improve quality, lower costs, and expand coverage, connective health apps are an important aspect of the Act. This article addresses to what extent the Affordable Care Act and private insurers cover and promote connective health apps and discusses the potential limitations and benefits of these apps and the best ways to integrate them in the future.

KEY WORDS: Healthcare apps; Affordable Care Act and healthcare apps; connective health apps; utilization of healthcare apps; telehealth; telemedicine; digital health applications.

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WHAT ARE CONNECTIVE HEALTH APPS AND THEIR BENEFITS?

Connective health apps have recently gained popularity because of their low cost to both consumers and providers and the many benefits associated with them. Developing evidence suggests that healthcare is more efficient and effective when patients are actively engaged in their own treatment.[1] Connective health apps provide varying services, including chronic disease management, virtual access for patients to both doctors and insurance companies, and access to test results. These apps can be connected with a medical device, such as a wearable thermometer, glucose monitor, or cardiac pacemaker, allowing a clinical provider to monitor a patient remotely and be alerted to healthcare problems or emergencies.

Additionally, these apps can help providers promote care to patients in rural areas or even allow a patient to consult a doctor or their insurance provider without leaving their home.[2] Widespread use of these apps would lead to a decrease in travel time to doctors' appointments, lost work productivity, school absenteeism for children, and energy usage and traffic.[2] The benefits to society on an individual and macro level are endless, and the costs and downsides are few. A study compared traditional office visits to e-visits for two conditions: sinusitis and urinary tract infections (UTIs).[3] The researchers found equivalent rates of followup care, including failed treatment or misdiagnosis. The study also found that antibiotic prescribing rates were higher at e-visits, which the researchers attributed to the notion that when doctors cannot directly examine a patient they take a more "conservative" approach. Patients will still need to go to the doctor for annual checkups, but for daily monitoring of chronically ill patients, acute ailments such as a person seeking help with a winter cold, or a patient inquiring about a test result, these apps have unlimited potential.

THE AFFORDABLE CARE ACT AND CONNECTIVE HEALTH APPS

The Affordable Care Act (ACA) does not directly address connective care apps, but does discuss telehealth as a mechanism to support greater access for patients (42 USC § 256i(d)(E); 42 USC §1395jjj(b)(2)(G)). This willingness to address innovation to provide access for hard-to-reach patients, or patients with multiple comorbidities, within the Act itself signals openness toward connective care apps.

These apps align with the Act's Triple Aims: improving quality, reducing costs, and expanding coverage.

With the passage of the ACA in 2012, Congress created a new Center for Medicare and Medicaid Innovation, which is likely where connective health apps within the Act will first be studied (42 USC §1315(a)(1)). The Innovation Center's purpose is to "test innovative payment and service delivery models to reduce program expenditures . . . while preserving or enhancing the quality of care furnished to individuals." Connective health apps fall squarely within these goals, but the Innovation Center has not yet directly studied or commented on them.

The Innovation Center has seven categories of innovation models.[4] The sixth one, *Initiatives to Accelerate the Development and Testing of New Payment and Delivery Models,*[4] is most likely where the Center would create a model to study the benefits and limitations of connective health apps. Currently, one model is studying the effects of telemedicine in rural locations[5] and a few models are funding "competitive grants compelling new ideas that deliver health care at lower costs to people enrolled in Medicare, Medicaid, and CHIP."[6] Although these models do not relate directly to connective health apps, they signal a willingness on the part of the Innovation Center, as established in the ACA, to address the many benefits and concerns of these apps. Although the ACA has not directly opined on connective care apps, there is clearly a means to provide low-cost access to patients in the future through connective health apps.

CONNECTIVE HEALTH APPS PROVIDED BY PRIVATE INSURERS AND INDEPENDENT CONNECTIVE HEALTH APPS

Because the ACA was designed to work within our market-driven health care system, its enactment prompted many private insurance companies and other entities such as Accountable Care Organizations (ACOs), to develop proprietary connective health apps. This section discusses insurer-provided connective health apps, an ACO-provided app, and independent connective health apps.

Both Aetna and Blue Cross Blue Shield developed free apps for their consumers to monitor exercise, doctor's appointments, prescriptions, and health records. Aetna's connective care app, CarePass, was launched in March 2013, but was ultimately shut down in late 2014, citing a lack of willing users.[7] The insurance company heavily invested in CarePass, but ultimately the app did not succeed because the app was not user friendly.[8] CarePass specifically allowed users, including both Aetna members and non-members, who download many health apps to consolidate data from those apps in a single app.[9] Although this concept makes sense from an efficiency standpoint, the app was not really working to connect patients to their insurer or provider; rather, it used the success of other apps to launch a new product that did not expand connectivity between parties. Aetna also owns another app called iTriage, which allows consumers to research their symptoms, determine an appropriate treatment path, and then find the closest medical provider.[10] iTriage is still successful, receiving 4.5 out of 5 stars in the Apple App Store,[11] but since iTriage is not closely associated with Aetna beyond its ownership, the app more closely resembles an independent connective health app. Blue Cross Blue Shield's app (names vary by plan and state) is similar to iTriage, in that it allows member and non-members to find doctors in the area.[12] It also enables users to refill prescriptions and file claims, and allows some plan members, depending on what plan they have, to chat with customer service.[12] These two insurer-provided apps, unlike many independent connective care apps, do not allow a patient to talk directly with a doctor.

There are many independent connective health apps that connect a patient with a doctor for a fee.

Hospital Sisters Health System (HSHS) Medical Group, a Midwestern-based ACO, is in the forefront of telemedicine and launched its first connective health app on January 1, 2016. Its Anytime Care app provides a secure chat between patient and provider to take care of minor emergencies such as UTIs or sinus infections. Dr. Andrew Bland, the Chief Medical Officer at HSHS, explained that typically an in-person emergency department appointment for a UTI costs $1200, but the cost for the patient is only $59 through the app, including antibiotics (personal communication, 2016). The ACO decided to create the app to increase patient convenience, while recognizing that there would be a loss of revenue for the providers. Recognizing this financial loss, Bland referred to this as the "value equation," balancing patient needs against provider costs. HSHS also has an app for chronic care patients so that they can check in virtually with a nurse on a daily basis. This app has reduced readmission rates to near zero, and HSHS is working on lowering the cost (from $110/month to $30/month) to become revenue neutral. Again, the goal is to balance patient needs and provider costs. HSHS is a prime example of how connective care apps function in a smaller, but not fully independent, setting.

Finally, there are many independent connective health apps that connect a patient with a doctor for a fee. These apps include Doctor on Demand and First Opinion. Both of these apps connect a patient directly with a doctor without requiring a specific insurance plan.[13] For example, First

Opinion allows a patient to read doctor reviews, contact a doctor via messaging, get a prescription, and follow up with the First Opinion team later to check in.[13] The price varies, depending on how long the patient is willing to wait.[14] One major issue with this app is that many of the doctors that patients are connected with do not practice in the United States.[14] Patients might be skeptical or less trusting of foreign doctors. Doctor on Demand is slightly more sophisticated in that it allows patients to video chat with a doctor or a mental health professional.[15] Doctor visits costs $40, and patients can enter their insurance information to learn the amount of their copay.[15] Doctors in this app can prescribe medications and tests. The app is promoted to new moms and patients for routine medical issues.[15] Although these two apps differ in their coverage and services, they embody the movement toward connective health apps and clearly demonstrate their strengths and limitations.

LIMITATIONS OF CONNECTIVE HEALTH APPS

Connective health apps, like all apps, are limited. They also have their own unique set of concerns, including security/privacy, narrow networks, cost, and quality of the care provided. The security/privacy issue is similar to that of apps that connect a consumer to his or her bank account. As time and technology progress, security can be handled in the same way that financial information is protected.

Connective health apps also must combat the issue of narrow networks. For instance, independent apps can be utilized with or without insurance, but patients with insurance will not want to pay more than their copay. For connective health apps to be successful, insurance companies need to partner with private apps or create functional and user-friendly connective apps of their own.

The biggest issue with connective health apps is the quality of the care provided.

The cost of these apps to the healthcare organization is also a concern. CarePass is a great example, because even with the financial backing of a major insurance company, Aetna, it failed because of lack of user interest. On a smaller scale, HSHS Medical Group is a prime example of the benefits of connective health apps, because even though the financial rewards are less, the ACO realizes the importance of balancing cost with patient needs. With studies and advertising, the high initial costs and long-term losses can be combatted by increased patient satisfaction. By assuming risk that insurance companies normally assume, ACOs are penalized by for hospital readmissions. So by reducing readmission rates to zero with an app, HSHS is actually profiting. When patients are satisfied, they will be more likely to use the app again and remain with their provider.

The biggest issue with connective health apps is the quality of the care provided. With decreased patient contact, doctors are not as likely to fully understand the patient's needs and history. This is also an issue with urgent care patients, but with apps this issue is more acute. Even though apps are limited in this capacity, they can be very successful in treating common medical issues and monitoring chronically ill patients. Apps allow patients to be more in charge of their healthcare. All of the limitations are fixable, but interim checks will be needed to make sure that the apps are functioning in their best capacity. Fortunately, apps of all kinds are frequently and easily updated.

BEST WAY TO INTEGRATE CONNECTIVE HEALTH APPS

The ideal groups to be involved in connective health apps are the physicians and other clinical entities that treat chronic care patients, and those patients. The sickest patients receive the majority of healthcare dollars. These apps allow clinicians to remotely monitor patients, preventing further complications and further expenditures of healthcare dollars. The role of the provider in this situation would be to set up the patients with this system, which saves both parties time and money, and also promotes better patient outcomes. For example, these apps can send blood sugar levels for patients with diabetes or blood pressure readings from a patient with heart disease directly to the provider.

Connective health apps are also extremely useful for the average healthy patient. Insurance companies and ACOs are best poised and have the resources to establish and monitor the apps. They save the patient's time and money, thereby increasing patient satisfaction while improving patient outcomes. A lawyer should participate in the creation of any connective health app to address limitations such as the various privacy and security issues involved. Legal involvement will limit the chances that security and privacy issues will arise, thus curbing future legal costs.

CONCLUSION

Connective care apps clearly align with the goals of the ACA, because they promote greater access to affordable care for individuals and encourage providers to expand the ways in which they can save money while still providing quality care. Because they are in the early stages, the true potential of connective care apps has not yet been realized. Even though ACA's language does not clearly address connective health apps, it does signals openness toward coverage in the future. Independent connective care apps are currently available to patients, but are limited by narrow networks. With a push by providers and patients,

connective care apps will be the next and most innovative form of popular telemedicine.

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