White Paper

Telehealth Opportunities and Challenges

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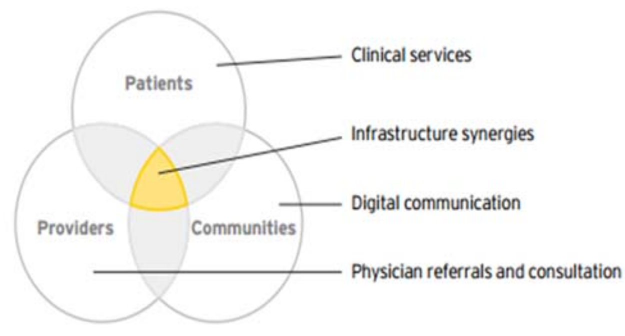
Telehealth is a new form of providing healthcare services by utilizing electronic information and telecommunications technologies to support long-distance clinical healthcare, patient and professional health-related education, public health, and health administration. Technologies that are used include but not limit to: videoconferencing, the internet, store-and-forward imaging, streaming media, and wireless communications.



Source: EY, 2014.

Telehealth Service Modes

- *Store-and-forward*
  In store-and-forward telehealth, digital information such as images, video, audio, observations of daily living (ODLs), and clinical data are captured and saved on the patient's computer or mobile devices. The digital healthcare information will be transmitted securely to relevant healthcare providers to be analyzed. Subsequently, the healthcare providers will use the same channel to communicate their opinions to the patients. Depends on the specific circumstance of each patient, one round of communication could take between 1 minutes to 48 hours. This method is most commonly used in radiology, pathology, dermatology, and ophthalmology. Notably, this service is not always reimbursable by private insurers, and Medicaid policies on this issue vary from state to state. A few studies in 2014 have shown that this method was able to help to lift patient satisfaction and efficiency for the care process.

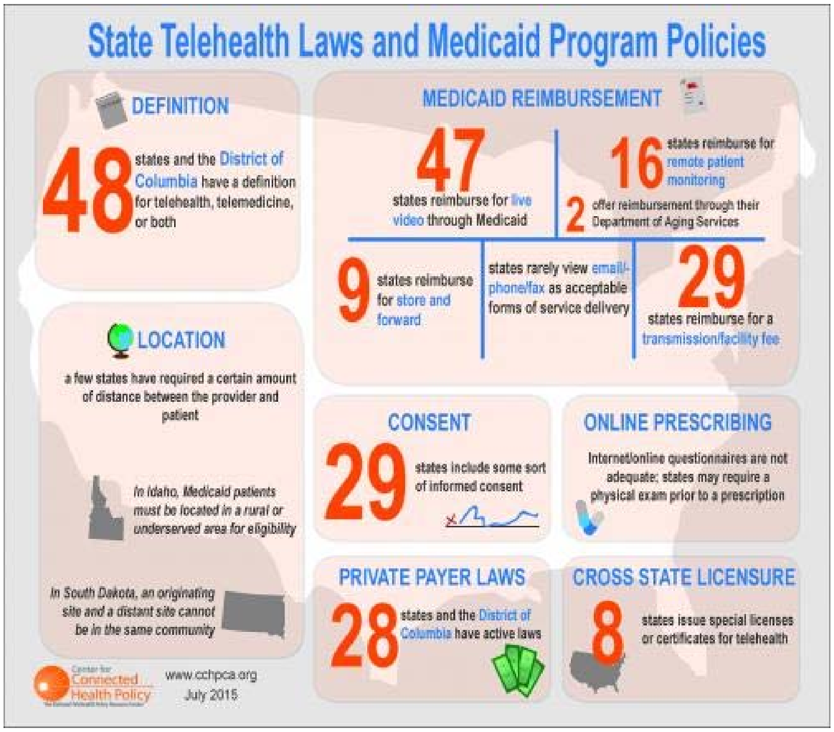
- *Real time*
  Under this category, the patients and providers can instantaneously interact with each other through a telecommunications link. Videoconferencing equipment is one of the most common forms of real time telehealth. With the availability of cheaper and more efficient communication channels, the real-time telehealth could lead to significant reduction in healthcare cost. Examples of real time clinical telehealth include: Teleneurology, Teleaudiology, and Teleradiology.

- *Remote patient monitoring*
  In remote monitoring, a patient's health status is constantly recorded by sensors and monitoring equipment which can be external and implantable devices. This could be done in either real time or the data could be stored and then forwarded. According to a study, patient monitoring devices market could reach $22.2 billion by 2018.

- *Remote training*
  Healthcare professionals can also receive training remotely through telehealth. In the United States, the Extension for Community Healthcare Outcomes (ECHO) project uses a telehealth platform to help urban medical center specialists train primary care doctors in rural settings.

Telehealth Reimbursement Environment

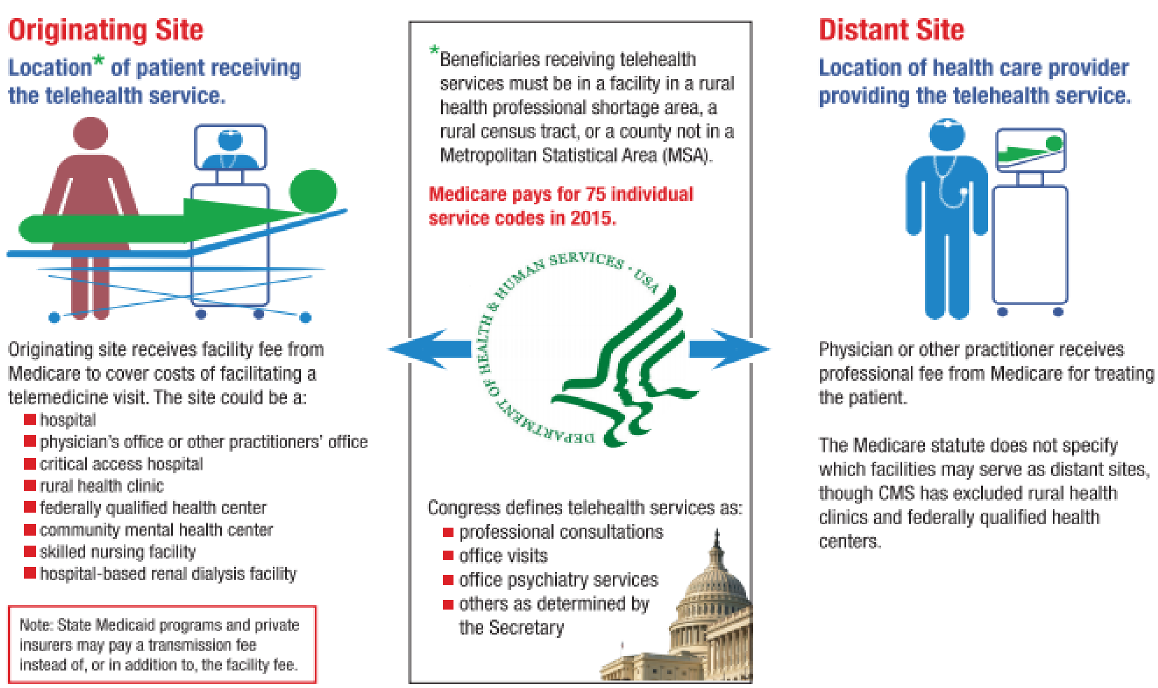
Though telehealth is still a developing sector, many leading private insurers already started to cover telehealth services. In general, these coverage policies provide reimbursement for telehealth services when they involve the use of real-time interactive audio, video, or other electronic media for diagnosis and consultation. So far, more than half of states and the District of Columbia have passed telehealth parity statues which require health insurers to provide coverage for services provided via telehealth if those services would be covered if provided in-person.



In contrast, Medicare has been falling behind in reimbursing for telehealth services. The Center for Telehealth and eHealth Law reports that Medicare only reimbursed about $14 million under its Part B telehealth benefit in the year of 2014, representing less than one third of one percent of total Medicare spending in the period. The original intention for Medicare telehealth benefit is to allow rural patients to have access to healthcare services through digital communication. Thus, the definition of "telehealth" under Medicare is limited to only real-time audio visual communication between providers and patients. So far, fewer than 100 codes are reimbursable under the Part B telehealth benefit. Further, there are other restrictions about the type of facility where a patient may present and what kind of provider may deliver services.

Relative to Medicare, Medicaid is a little ahead in term of reimbursement scope. Currently, Medicaid offers coverage to approximately 70 million low-income adults, children, pregnant women, and others. Medicaid program is solely administered by states, who are required to cover certain mandatory services, but is funded jointly by the state and the federal government. States do have the authority to decide whether to reimburse other services beyond the mandatory services, resulting in different coverage policies for telehealth services. According to the latest report by the Center for Connected Health Policy, 47 states and District of Columbia provide some coverage for telehealth (Iowa, Massachusetts, and Rhode Island are excluded). Similar to Medicare program, many Medicaid programs have very narrow definition of "telemedicine" and "telehealth", which only include the services that take place in real time. Hence, not surprisingly, live video is the most widely reimbursed form of telehealth with almost all of states that cover telehealth offering some type of live video reimbursement while other forms of services such as e-mail and fax are seldom covered in the Medicaid programs unless they are used along with other forms of care delivery. The majority of the states do not cover store-and-forward services. Even in the states that do cover store-and-forward, the coverage will be very limited. For example, in California, Medicaid only covers store-and-forward service related to teledermatology, teleophthalmology, and teledentistry. In regards to patient monitoring, only 16 states provide coverage with many restrictions. For example, some states will only reimburse the service that is provided by home health agencies.

To summarize, Medicaid reimbursement environment for telehealth is gradually improved over time, but the difference between the reimbursement policies will create more complexities for the companies in the telehealth sector. Stakeholders should follow the rapid change of reimbursement environment closely in each state and be able to adapt promptly to the new policies.



Source: Adapted from Center for Connected Health Policy, State Laws and Reimbursement Policies

Case Study – Teladoc, Inc. (NASDAQ: TDOC)

Overview

Teladoc, Inc. is the nation's first and largest telehealth platform, delivering on-demand healthcare services via mobile devices, the internet, video and phone. The company has a network of more 1,100 certified physicians and behavioral health professionals, who treat a wide variety of conditions and cases from acute diagnoses such as upper respiratory infection, urinary tract infection and sinusitis to dermatological conditions, anxiety and smoking cessation. Thus far, Teladoc has over 11 million unique members, who can be benefit from access to the company's network continuously at a cost of $40 per visit. According to their public filing, its solution is delivered with a median response time of less than ten minutes from the time a member requests a telehealth visit to the time he/she gets in contact with a provider.

Market Opportunities

Based on a report by Centers for Disease Control and Prevention ("CDC"), there are approximately 1.25 billion ambulatory care visits in the U.S. per year, including those at primary care offices, hospital emergency rooms, outpatient clinics, and other settings. Teladoc estimated about 417 million, or 33%, of those visits could be treated through telehealth. This could significantly reduce the healthcare cost that is burdened by individuals and the government. In the meantime, the demand for lower cost telehealth services creates an annual market opportunity amounts to more than $17 billion.

The U.S. healthcare system is facing serious challenges in healthcare access, cost and quality of care due to inefficiencies and barriers between participants. According to the National Association of Community Health Center ("NACHC"), about 62 million individuals in the U.S. currently have no or inadequate access to healthcare services as a result of physician shortages and their geographic locations. In addition, a report by Department of Health and Human Services indicated that the Patient Protection and Affordable Care Act ("PPACA") has already expanded coverage to 16.4 million of the 47 million previously uninsured Americans. This number is expected to increase further over the next several years due to individual and employer mandates, premium subsidies, state health insurance exchanges and ban on withholding coverage due to pre-existing medical conditions. As the PPACA is fully implemented, the already troubled healthcare system will encounter an even bigger gap between the supply and demand of the healthcare services. Consequently, individuals will most likely either not seek care at or visit emergency rooms or urgent care facilities, the most expensive and often highly inefficient settings for their care needs. A report by CDC asserts that 79.7% of emergency room visits not resulting in a hospital admission were due to lack of access to an alternative provider, and a recent study published in the Journal of American Medical Association estimated that roughly $734 billion, or 27% of all healthcare spending in 2011 was wasted due to factors such as the provision of unnecessary services, inefficient delivery of care, and inflated prices.

Business Model

In the first half of the 2015, Teladoc has completed approximately 274,000 telehealth visit. On an annualized basis, this number is much higher than the 300,000 telehealth visits in 2014. Within the past six years, the overall member satisfaction rate is over 95%. The company currently serves over 4,000 employers, health plans, health systems, and other entities. Teladoc believes that recruiting members through employers would be the most efficient method to expand its portfolio. A 2014 Towers Watson study suggests as many as 71% of employers with more than 1,000 employees are expected to offer telehealth by the year of 2017.

Teladoc generates revenue through two main channels. The first channel is on a contractually recurring, per-member-per-month, subscription access fee basis and the second channel is a flat fee charged per-telehealth visit. Subscription access fees are paid by the employers on behalf of their employees and other beneficiaries, while visit fees are paid by either employers or beneficiaries. In 2014, subscription access fees and visit fees constitute 85% and 15% of the company's total revenue, respectively.

Teladoc recently commissioned Veracity Healthcare Analytics, an independent healthcare data analytics company, to perform a study of the nation's largest home-improvement retailer, who contributes more than 150,000 members to the portfolio. The study found that this client was able to save $1,157 annually on average per employee when they received care through Teladoc instead of receiving care in other settings for the same diagnosis. Additionally, during 2014 the client achieved very attractive ROI of $9.1 for every $1.0 spent per member. Finally, the study showed that 92% of the client's employee who used Teladoc resolved their issue completely and did not require a follow up visit at a provider.

Risk Factors for Telehealth Providers

The ability of the telehealth providers to conduct business in each state is dependent upon the state's treatment of telehealth under such state's laws, rules and policies governing the practice of medicine, which are subject to changing political, regulatory and other influences. Some state medical boards have established new rules or interpreted existing rules in a manner that limits or restricts the providers' ability to provide full range of their services in certain states.

For instance, some of these actions have resulted in litigation and the suspension of Teladoc's operation in certain states. The Texas Medical Board ("TMB") asserted that the company's provider did not form the required relationships with the members in the course of telehealth visits that would support the prescription of medications. On April 10, 2015, the TMB adopted revisions to the rules governing medical practice that would require, in most instances, in-person examinations prior to prescribing medications. Teladoc's business model does not include in-person examinations of its members before prescribing medications. As a result of the actions by

TMB, Teladoc initiated two lawsuits against the TMB to challenge these rule amendments, both of which are still pending in Texas state courts.

Business in the State of Texas accounted for approximately $6.3 million, or 18%, of Teladoc's revenue during six months ended June 30, 2015. If the TMB's rule revisions go into effect as written and the company is unable to adapt its business model in compliance with the TMB rule, its ability to operate in the State of Texas could be materially adversely affected.

In addition, the company has similar issues with the prescription of medication in the States of Arkansas and Idaho, forcing them voluntarily suspended its business operation in these two states. It is possible that the laws and rules governing the practice of medicine in one or more states may change in a manner analogous to what occurred in Texas and Arkansas. If these were to happen, and Teladoc was unable to adapt its business model accordingly, its operations in such states would be severely disrupted.

Selected Competitors

Companies	What They Do	Cost	Remarks
MDLIVE	• Access to doctors & therapist 24/7/365 • Video or phone consultations • 11 minutes response time	$45 per consultation or by monthly plan	Second place in market share
Google Helpouts	• Video consultation	Set by providers	Shut down in 2015 due to low activity
Health Tap	• 24/7 live phone, video, chat consultation • Priority answers to health questions	$99/month	Best known for online database of health questions answered by doctors
LiveHealth	• 24/7 live phone, video, chat consultations • Available in 44 states	$49 per visit or co-pay	Powered by AmericanWell/Vidyo and picked up by insurer WellPoint/Anthem
Ringadoc	• Phone triage answering service for doctors	$69 per month per provider	Backed by A-list investors such as Founder's Fund and PracticeFusion's CEO
MeMD	• Video consultations • 7am-10pm, 7 days per week • Wait time 30 mins or less	$49.95 per consult	A virtual care portal and patient recruitment service.
Second Opinions	• 24/7/365 access to doctors • Email, phone, and video consultations • 1 to 24 hour turnaround time	$49 per consult	Second opinion consultations in all areas of medicine

The second risk factor is the company's dependence on its relationship with affiliated healthcare providers, which it does not own, to provide telehealth services. There is a risk that certain state authorities in some jurisdictions may find that the company's contractual relationships with the providers violate laws prohibiting the corporate practice of medicine. These laws generally prohibit the practice of medicine by lay persons or entities and are intended to prevent unlicensed persons or entities from interfering with or inappropriately influencing the physician's professional judgment. The extent to which each state considers particular actions or contractual relationships to constitute improper influence of professional judgment varies across the states and is subject to change and to evolving interpretations by state boards of medicine and state attorneys general, among others. As such, the company must constantly monitoring its compliance with laws in every jurisdiction in which they operate and the subsequent interpretation of the corporate practice of medicine laws and regulations could possibly affect its business operations. Further, state corporate practice of medicine doctrines also impose penalties on physicians themselves for aiding the corporate practice of medicine, which could discourage physicians from participating in our network of providers. This risk factor will affect the other telehealth providers with similar business model.

Privacy issues and the security of the confidential healthcare information could be another main risk factor for telehealth providers. Many healthcare organizations such as insurance companies and hospitals have been targeted by cyber attackers, causing serious concerns over the safety of the sensitive patient information. Healthcare providers participating in telehealth services have the same obligation for protecting the privacy and security of patient information as those providing face-to-face services, and they must comply with the rules of HIPAA and the HITECH Act. Thus, telehealth providers have to ensure the safety of its communication platforms and be prepared of potential liabilities from cyberattacks.

Another risk factor is the uncertainty of the regulatory climate in the levels of federal, state, and local governments. The telehealth providers' operations can be subject to direct and indirect adoption, expansion or reinterpretation of various laws and regulations. Compliance with these future laws and regulations may require the company to change its practices at an undeterminable and possibly significant initial monetary and annual expense. Teladoc has identified what it believes are the areas of government regulation that, if changed, would be very costly. These include but not limit to: rules governing the practice of medicine by physicians; licensure standards for doctors and behavioral health professionals; laws limiting the corporate practice of medicine; cybersecurity and privacy laws; laws and rules relating to the distinction between independent contractors and employees; and tax and other laws encouraging employer-sponsored health insurance. This situation can be applied to other telehealth players as well.

Additionally, the introduction of new services may require the telehealth providers to comply with additional, yet undetermined, laws and regulations. Compliance may require obtaining appropriate state medical board licenses or other certificates, increasing the providers' security measures and expending additional resources to monitor developments in applicable rules and ensure compliance. The failure to adequately comply with these unpredictable laws and regulations may delay or possibly prevent some of its products or services from being offered, which could have a material adverse effect on the business, financial condition, and results of operations.

Lastly, the telehealth market is still relatively new and unproven, and it is uncertain whether it will achieve and sustain high levels of demand, consumer acceptance and market adoption. The success of telehealth platform will heavily depend on the willingness of the members to use, and to increase the frequency and extent of their utilization of the service, as well as providers' ability to demonstrate the value of telehealth to the clients. Negative publicity of the industry as a whole could limit market acceptance of telehealth solutions. Additionally, individual and healthcare industry concerns or negative publicity regarding patient confidentiality and privacy in the context of telehealth could also limit market acceptance of this immature industry.

Conclusion

In short, telehealth is still a very young industry with a lot of opportunities and uncertainties. Telehealth companies should follow closely with reimbursement policies and regulations in the federal, state, and local governments. As you can see, Teladoc is the pioneer and top brand name in the industry, yet it is still struggling financially and facing a lot of legislative challenges. Given the increasingly troublesome healthcare environment in the U.S., telehealth will gradually emerge as an important way to resolve the issues. However, the government and related regulatory agencies would have to pass more accommodative regulations and policies to simplify and reduce the compliance burdens and reimbursement uncertainties of the telehealth industry.

***Lawrence, Evans & Co., LLC** provides investment banking, finance, and consulting services to small and middle market healthcare providers and service companies. We are well known for our innovative client solutions to complex mergers and acquisitions as well as special situations. The firms professionals have over 100 years of combined complex transaction, capital raising, financial advisory, management, turnaround, revenue cycle, expert witness and direct lending experience. Through our related investment funds we have the flexibility to provide bridge capital up to get your deal done.*

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Citation

Teladoc. S-1, 29 May 2015. Web. Oct. 2015
Teladoc. 10-Q, 12 Aug. 2015. Web. Oct. 2015
"Telehealth: The Medicaid Reimbursement Landscape." TechHealth Perspectives. Web. 7 Oct. 2015.