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TELEMEDICINE, CARE MODELS FOR THE 21ST CENTURY

EXPERTISE & SERVICES: Healthcare Technology, Providers, Health Plans

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ABSTRACT

The use of telemedicine is growing, and it is being adopted through four primary channels: providers, payers, employers, and consumers. There are several distinct ways telemedicine is being used, including home visits, virtual visits, tele-ICU, acute care robots, and expert second opinions. Inconsistent state legislation and requirements will slow adoption if not modified.

Telemedicine is slowly reaching critical mass and is transforming how healthcare is delivered. It promises to take cost out of the system and provide the convenient, 24/7 access to care that patients have long-desired with the potential to even improve the quality of care. There are four key questions to be answered to properly understand this developing transformation:

1. Who are the players in the telemedicine market?

2. What are the unique use-cases of telemedicine?

3. Why is telemedicine poised for growth?

4. What are hurdles for further adoption?

Before proceeding further, it is worth pointing out that telemedicine is a sub-component of telehealth. Telemedicine refers specifically to clinical services offered through electronic and telecommunications technologies, whereas telehealth encompasses broader services, including provider training, administrative meetings, and continuing medical education.[1]

1. WHO ARE THE PLAYERS IN THE TELEMEDICINE MARKET?

The chart below lists a number of key competitors and overview of services offered by each:

COMPANY	SERVICE OFFERING
AmericanWell	• See a doctor via web or mobile app with secure streaming video. • Available 24/7 from home or on the go.
Teladoc	• 24/7 access to Board-certified physicians and pediatricians. • Phone or video chat over web. • Patients complete their medical history, and it becomes an EHR that Teladoc physicians can update or share with other providers.
MD Live	• Access care through video, telephone, or secure mobile app. • Integrates with EMRs and HIEs.
Doctor on Demand	• Access to Board-certified physicians and pediatricians. • Access to other clinicians, such as psychologists and lactation consultants. • Video consultations via mobile device or computer.
Vidyo	• Integrated telehealth platform with video, including tele-ICU, reaching rural areas for patients needing tele-stroke, tele-neuro, and/or tele-psych care.
InTouch Health	• Telehealth solutions for acute care facilities, including robots with video capabilities.
Pager	• Chat with a nurse, talk to doctor or nurse, or visit in person wherever you are – home, hotel, or office.
Heal	• On-demand licensed primary care physicians offering in-person visits wherever you are – home, hotel, or office.
HealthTap	• Talk to a doctor through video, voice, or text via a mobile app.
Cleveland Clinic MyConsult	• Access to Cleveland Clinic experts for a second opinion from anywhere in the world. • Available via phone, mail, or online. • Other nutrition and pre-adoption services available.

2. WHAT ARE THE UNIQUE USE-CASES FOR TELEMEDICINE?

HOUSE-CALLS AND VIRTUAL VISITS

Whether the payer is the insurer, the employer, or the patient, having access to medical care 24/7 is a welcome improvement to a traditional primary care model.

The old days required scheduling appointments with a physician during normal office hours, and it could take days or even weeks to be seen. Now, it is easy to receive primary care within minutes through a secure mobile app or computer, or even a house-call with a nurse or physician within a couple hours.

The house-call models, such as Heal, aim to be the "Uber" of healthcare, allowing patients to order a doctor to their home or hotel using mobile apps with geolocation capabilities to show the nearest provider. House-call models typically cater toward higher-income customers who can pay out-of-pocket for the convenience. Imagine a scenario of a parent with three kids at home, and only one of the kids is sick. Is it worth it to drag all of the kids kicking and screaming to an urgent care facility or doctor's office only to sit in the germ-filled waiting room? Or is it worth paying $150 for the convenience of a doctor to come to the home? The house call companies are betting patients will pay for convenience of a doctor coming to them.

While some of the house call companies utilize independent physicians to consult patients, others such as Medicast provide a platform for existing physician practices or health systems to extend their business into the house-call market. It will be interesting to see if older physician practices and hospitals choose to adopt this new model or if they reject it like the immune system rejects a pathogen.

While the Uber-like house-call models are bringing back the bygone era of home visits, virtual visits can be a cost-effective solution that most appeals to employers and health plans.

Virtual visits include voice and video chats with physicians and nurses, which are facilitated through a secure app or website. Employer-sponsored health plans are now including services like Doctor on Demand as part of its care model. A promotion by Teladoc states "Teladoc prevents unnecessary ER or urgent care visits by giving patients access to more cost-effective modes of care" and claims to save payers an average of $700 each time a patient uses the platform.[2]

While these cost savings may seem exaggerated, self-insured employers may find these services advantageous in reducing the number of employees' sick days.

TELE-ICU (INTENSIVE CARE UNIT)

According to The New York Times, tele-ICU capabilities have been installed in approximately 10% of ICUs nationwide with mixed results, attributed to poor implementations, reluctance by on-premises physicians to give up some of their authority to remote physicians, and models that lack proper integration of ICU nurses.[3] ICUs demand a high level of patient monitoring, which can be difficult for resource-constrained hospitals. Tele-ICU is intended to help meet the challenges associated with an aging population, lack of critical care specialists, and increasing cost pressures.[4] Among the scenarios for tele-ICU, The American Academy of Critical Care Nurses cites:[5]

- Additional clinical support of nurses in remote hospitals tending to urgent and unique critical care needs;
- Support during natural disasters or inability to transfer patients due to inclement weather;
- Coverage with lab results and communication with physicians while a bedside nurse attends to immediate interventions;
- Monitoring patients when a staff nurse is not in a patient's room.

With approximately 5.7 million patients admitted to an ICU in the U.S. each year and an average length of ICU stay at 3.8 days, tele-ICU may play an increasingly important role, making it all the more important to find the right way to implement it.[6]

ACUTE CARE ROBOTS

In an acute care setting, robots that move from room to room can provide a face-to-face video chat with a physician. The InTouch Vita by iRobot provides a mobile format that allows a remote doctor to steer the robot into position to have a conversation with a patient or on-the-ground medical staff. This means patients being treated in a community hospital with unique care needs may not need to be transferred to a tertiary center; instead, they can be treated by a specialist remotely.

EXPERT SECOND OPINIONS

For serious illnesses that are difficult to diagnose or treat, such as cancer or rare diseases, Cleveland Clinic offers MyConsult, a way for patients to talk with world-class experts and enable the expert review the patient's case to make the most informed decision about the path of care. Costs range from $565 for a consultation to $745 for a consultation with a pathology review.

3. WHY IS TELEMEDICINE POISED FOR GROWTH?

To understand why telemedicine is poised for significant growth in the years ahead, look no further than the "perfect storm" that has been hovering over the U.S. healthcare industry. Access to care, cost containment, quality of care, and meeting the increasing demands of the consumer are all issues that telemedicine is seeking to solve. It is also worth noting the significance of the Telehealth Enhancement Act of 2015, which removed barriers to the practice of telehealth related to Medicare. Previously, telemedicine services were not reimbursed or were reimbursed at rates significantly lower than in-office visits. The Telehealth Enhancement Act has further enabled the expansion of care across state borders.

ACCESS TO CARE

For years, telemedicine has helped bring care to patients in remote geographic areas. What we are seeing now is that millions of previously uninsured people are being added to the system following passage of the Affordable Care Act (ACA). This, coupled with the decline and shortage of primary care physicians, is putting even more stress in an industry where it already takes patients an average of 19.5 days to make an appointment at a family practice.[7] Also, the growing elderly population and patients with chronic diseases are deciding to stay at home rather than go to a facility to seek care. Technological innovations now allow anyone with a telephone, computer, or smartphone to immediately connect with a telemedicine provider from the comforts of their own home at a time that is convenient for them. Telemedicine has also opened up new markets for providers, giving them access to patients that they would never see in their brick-and-mortar office setting.

COST CONTAINMENT

It is not a secret that healthcare costs have been spiraling out of control for a while now. Telemedicine aims to reduce the costs associated with having patients come in for a regular office visit. There are more than 900 million physician visits each year in the U.S., with just about half of them being for low-acuity medical conditions.[8] Healthcare systems and payers have also been trying to reduce both the increasing number of hospital and/or ER visits and the length of stay once the patient is admitted. Telemedicine can help providers monitor patients while at home, cutting down the need for unnecessary hospital visits or readmissions.

QUALITY OF CARE

Today's telemedicine providers are increasingly delivering high-quality care while maintaining patient safety for medically appropriate conditions. Telemedicine allows patients to receive care in a timely manner, which is critical to a patient obtaining the best care possible. It can also provide efficient care, maximizing the benefit to the patient while keeping costs at an absolute minimum. For chronic care patients especially, telemedicine can greatly improve treatment compliance through frequent monitoring and more proactive care outreach.[9]

CONSUMER DEMAND

Consumers seek convenient, on-demand solutions in all areas of their lives, and healthcare is not excluded from this. We no longer need to take time out of our day, and potentially away from work, to travel to a physician's office and sit in the waiting room to be told what is wrong with us. Telemedicine promises to bring the doctor's office to patients' fingertips, wherever that may be, 24 hours a day, 7 days a week, providing the convenience and availability of choices that consumers seek.

According to the market research firm IHS, the U.S. market for telehealth is expected to grow from the $240 million spent in 2013 to $1.9 billion by 2018, equating to an annual growth rate of 56%.[10] Many have deemed telemedicine as "the next big thing" in the healthcare industry. While there is certainly some data to back up those claims, several important hurdles to adoption remain before these prophecies are fulfilled.

4. WHAT ARE THE HURDLES FOR FURTHER ADOPTION?

Regulatory and reimbursement concerns, slower than expected provider and consumer buy-in and acceptance, and challenges with implementation have all acted to slow growth.

INCONSISTENT STATE LAWS

One of the main challenges to full adoption of telemedicine is the varying state laws and regulations around its use. State laws are inconsistent at best when it comes to telemedicine regulations. In Arkansas, for example, a patient must be physically located in a physician's office or other health care facility and connect in real-time audio or video with a provider at a another site to receive care. The home is only permitted when the patient is receiving treatment for end-stage renal disease.[11] In Texas, the patient must first have a face-to-face visit with the physician or provider group to establish a provider/patient relationship before any virtual care may be provided by that specific provider alone. States also require that the physician providing telemedicine care be licensed in the state that the patient is physically in at the time of requesting care.[12] Laws that allow for reciprocity, or recognizing a physician's license in multiple states, would alleviate complexity a great deal.

REIMBURSEMENT CHALLENGES

On the reimbursement side, Medicare policy limits the coverage of telemedicine services to specific sites and geographic areas. These limits may be lifted with the recently introduced CONNECT for Health Act, a bipartisan bill that will look to remove Medicare barriers to telemedicine use. In the private payers/health plan space, not all types of telemedicine are eligible for reimbursement (e.g., live video are reimbursed while telephone consultations are not).

Providers are hesitant to offer telemedicine services, fearing that they will not be reimbursed for the services provided.[13] They also seem somewhat hesitant to fully adopt the new technology, as it could be viewed as something else that they need to integrate into their daily practice workflow. Less tech-savvy patients are also hesitant to virtually see a doctor on a hand-held device or computer, either fearing that it may not be a private/secure connection or simply preferring to be seen in person because the experience is more personal. Telemedicine vendors are going to great lengths to make sure that their network of providers are trained in "webside manner" to combat this latter concern.

TECHNOLOGY RISK AVERSION AND EVIDENCE OF VALUE

Regarding implementation, health systems and payers alike are casting a cautious eye toward the "shiny new object" of telemedicine and the benefits it promises. For as much data as exists regarding how telemedicine can help stem the rise in costs and improve the quality of care, there are also studies that show that it can lead to unnecessary costs and undesirable health outcomes.

A recent study showed that virtual doctors got the diagnosis wrong in 1 out of 4 patients and only followed standard protocols for diagnosing and treating conditions such as sore throat, sinus infection, low back pain, and urinary tract infection 54% of the time.

To put it bluntly, health systems and payers are looking for more evidence that their patients are benefitting from its use before it is fully adopted. They wonder if telemedicine will be a disruptive force towards achieving value-based care.

A final barrier is that most telemedicine vendors do not offer solutions that integrate with health system or payer applications, such as EMR systems, which can add to the complexity within the healthcare IT ecosystem and office practices.

As with most areas of healthcare, access, cost, quality, and the changing consumerism are the driving forces behind telemedicine. Perhaps the biggest wave of change in telemedicine will take place as consumers begin to take advantage of the telemedicine offerings included in their health plans. However, without fundamental political fixes, it will be challenging to improve adoption of telemedicine as a means toward cost reduction. Reciprocity for state licensure of clinicians and eliminating unnecessary restrictions should be agreed upon. Telemedicine, like technology, is not a panacea, but if done right it, can be a game-changer.

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