

White Paper

# Driving Telehealth Success With Mainstream Health IT Integration

Tackling Telehealth Integration Challenges

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Overview:

# The Evolution of Modern Telehealth

Thirty years ago, telemedicine was a narrow and niche practice, which nonetheless delivered a highly valuable service for patients in rural areas lacking nearby access to specialized care. Small clinics could transfer electrocardiograms, X-rays and other images to hospitals in urban areas for consultation. Over time, video links connecting patients directly to physicians became possible, although with limited application given the high cost of the video-conferencing equipment.

Today, telemedicine and the broader field of telehealth are showing the potential to change the way that care is delivered on a grander scale, from primary care to treating chronic diseases such as arthritis and hypertension. Smartphones are in some cases replacing the office visit. William Thornbury, a physician from rural Kentucky founded an application called meVisit, which allows patients to schedule an e-visit with their physician for routine medical issues.

Such “visits” are conducted through a phone call and/or electronic exchange of information between the patient and the physician or medical office. A year-long study of the service conducted with the University of Kentucky found numerous benefits: an affordable \$32-per-visit rate, an average response time of three minutes, and only 5 percent of e-visits requiring an in-person visit to complete the care.<sup>1</sup> A remarkable 97 percent of patients who participated in the study were satisfied with the service; meanwhile, e-visits helped Thornbury increase his practice’s capacity by nearly 15 percent while reducing per-capita costs by roughly the same percentage.

Telehealth solutions encompass a wide range of technologies including mobile apps, kiosks, video chat, wearables and other remote-monitoring devices. Benefits include preventing costly and unnecessary visits to the ER or urgent care facilities, reducing readmissions, assisting with patient adherence to treatment plans, and providing more convenient access to care for non-urgent conditions.

A recent study by Towers Watson found that telehealth could save as much as \$6 billion annually in U.S. healthcare costs.<sup>2</sup> Of 420 midsize to large companies surveyed by the research firm, 37 percent said they plan to offer employees telehealth services as a low-cost alternative to face-to-face visits for non-emergency health issues. Another survey found that 90 percent of healthcare providers are expanding their telehealth services.<sup>3</sup>



# Six Trends Driving Telehealth Now

*Advances in mobile and wireless technologies have made way for an explosion in consumer health IT: mobile apps, websites and wearables are helping people get educated, track their own health and in some cases connect to caregivers more efficiently. With the need for healthcare transformation at a tipping point, these technological advances supporting a more affordable future for telehealth couldn't come at a better time. Here's what's behind the growth in telehealth:*



## 1. Healthcare Reform and Cost Containment

Along with other health IT applications, telehealth will be an important component in lowering the cost of care while improving quality and patient engagement. Changes in reimbursement practices to performance-based and value-based pay are beginning to spread across the country, instigated by the Centers for Medicare & Medicaid Services (CMS). Healthcare providers will increasingly be forced to show higher quality outcomes for the consumer dollar, which means collecting more data on patients to inform decisions and reduce waste. A recent Accenture report projected that \$10 billion a year in primary care costs could be saved through telemedicine.<sup>4</sup>

The cost of readmissions is a particularly troublesome trend: In 2011, hospitals spent \$41.3 billion to treat patients readmitted within 30 days of discharge.<sup>5</sup> Telehealth can help by providing a means for frequent and low-cost follow-up care to patients post-admission.

A few supporting statistics on the economic benefits from telehealth from a Commonwealth Fund study<sup>6</sup> include:

- Partners HealthCare's Connected Cardiac Care Program has seen a 51 percent reduction in heart failure-related readmission rates for enrolled patients since its remote monitoring and telemedicine pilot launched in 2006. The savings from 1,265 patients enrolled in the program totaled more than \$10.3 million.
- The VA saw a 56 percent reduction in hospital services for depression and a 40 percent drop in hospitalizations for other mental health issues through telehealth.
- Centura Health significantly reduced readmissions for congestive heart failure and COPD in its two participating facilities, and even brought its diabetes readmission rates from 12 percent down to zero.

Medicare has added seven new codes for telehealth services across psychotherapy, wellness visits and more. With reimbursement critical to widespread adoption, Medicare's growing support for telehealth is a positive development.



## 2. Chronic Disease Management

Chronic disease is responsible for 7 of 10 deaths each year and accounts for 86 percent of healthcare spending in the United States. Patients with conditions such as hypertension, heart disease, depression, arthritis, diabetes and COPD need continual care and monitoring to manage the diseases, control symptoms and prevent complications requiring urgent or acute care. Telehealth solutions may help caregivers track patients' overall health status with regular updates, receive alerts from wearables or other devices when patients' vitals are abnormal, and can ensure medication adherence—all without requiring an in-office visit. Video-based nurse visits can reduce costs for home health providers, provide the convenience of scheduling visits during "off" hours, enable nurses to see more patients, and even reduce anxiety in patients who may not wish to receive an in-person home visit.



## 3. Wellness and Population Health Management

Education is fundamental for disease prevention and management. Using video and audio technology to deliver remote instruction by caregivers has been proven to help patients recovering from surgery stay out of the hospital. Remote caregiver sessions can also deliver timely, guided help with self-care for less acute conditions, such as wound treatment. Individuals on a weight-loss program may appreciate simple ways to share their daily diet and exercise statistics with a counselor who can provide encouragement and advice if they are getting off track. Mobile apps can give daily tips to at-risk patients on how to stay healthy, along with reminders for preventive health visits.

## Six Trends Driving Telehealth Now *(Continued)*



### 4. Non-Acute Care Diagnosis/ER Prevention

A troubling contributor to healthcare waste is the overuse or misuse of ER services. Across the United States, 136.3 million visits are made every year to the emergency room, according to the Centers for Disease Control and Prevention,<sup>7</sup> with some estimates suggesting that up to 76 percent of these visits could have been prevented or treated in a primary care setting.<sup>8</sup>

Using telehealth solutions to give a preliminary diagnosis for patients before bringing them into high-cost care facilities is one idea that's now being tested. In Houston, Project Ethan allows firefighters responding to 911 calls for medical reasons to set up a video chat on a tablet with a doctor who can see and talk to the patient and determine whether a visit to the ER is necessary.<sup>9</sup> When it's not, the firefighters have a process to get the patient to a primary care or other non-urgent care facility.



### 5. Emergency Care Assistance

When a patient is being transported by ambulance or other emergency vehicle, such as flight for life, time is of the essence. Telehealth solutions may provide enormous value by allowing paramedics to immediately share real-time information with a physician about the patient's status and even begin administering treatment prior to arriving at the hospital. Telehealth as an emergency rescue capability, through live-monitoring systems and apps, has the potential to prevent morbidity and improve the outcomes of a serious injury.



### 6. Replacement for Regular Office Visits

Half of the 1,000 physicians, physician assistants and nurse practitioners surveyed by the Health Research Institute at Price Waterhouse Coopers said that 10 percent of office visits could be replaced by e-visits.<sup>10</sup> Walgreens launched a virtual doctor visit feature on its mobile app in 2014 that is now available in 25 states, giving consumers with non-emergency health conditions such as upper respiratory tract infections, earaches, and rashes a way to get diagnosed and treated quickly. The drugstore chain is working with telehealth provider MDLive to connect customers with certified doctors through video chat on a smartphone, tablet or desktop computer. At \$49, the fee is comparable to copays and more affordable for patients with high-deductible plans. It's also faster for patients, with most visits taking place in 15 minutes—no commute required.

# Understanding Barriers to Adoption

*While telemedicine solutions have been around for decades, this newer version of mobile and consumer telehealth that spans the spectrum of healthcare delivery is still an enigma. Will patients and providers accept it, and will its use further the goals and needs of healthcare reform?*

## Reimbursement

The first hurdle, as always, is cost. Even though the technology for delivering and receiving telehealth consultations is getting cheaper all the time, reimbursement for services is a different issue. Currently, Medicare covers telehealth only for patients in a rural health professional shortage area (HPSA) and only for services delivered at medical facilities such as clinics, hospitals and mental health facilities—not within the home. On the private payer side of things, 29 states plus Washington, D.C., have telehealth parity laws that require private insurance companies to reimburse providers for care delivered through telemedicine, and payers typically have fewer restrictions on patient location. Yet not all types of telemedicine are universally eligible for reimbursement: Live video interactions seem to be more accepted today than remote patient monitoring.

## Patient Acceptance

Seeing a physician through a device instead of in the flesh is not an easy shift, even for the digitally savvy consumer. Yet with consumers using mobile computing devices to meet an ever-increasing array of personal needs today—from navigation to shopping to communications and entertainment—those barriers may wind up being mitigated if the overall experience is better. Convenience and speed are highly important values for healthcare consumers. One-third of 1,700 Minute Clinic patients surveyed about telehealth say they preferred those electronic visits to traditional in-person visits.<sup>11</sup> In another survey conducted by the University of Missouri School of Medicine, 83 percent of 286 patients surveyed felt they received skilled care during their telehealth visit, and 86 percent of physicians surveyed were satisfied with the care they provided through telemedicine.<sup>12</sup> The greatest challenge for telehealth user adoption may relate to wearables. Patients may balk at continual streaming of their personal data to healthcare providers and may over time grow tired of the devices. One study showed that a third of U.S. consumers who owned a health tracking device stopped using it within six months.<sup>13</sup>

## Provider Adoption

As with other innovations in healthcare IT, physicians, nurses and other caregivers must change the way they work to integrate telehealth into their daily practice. This requires awareness, education and training on the technology, but also simplicity in the solutions. Most healthcare practitioners have limited time to spend answering emails or checking multiple apps systems to correlate patient information. Adding time to the process of managing patients is not viable given the pressures in the healthcare delivery system for efficiency and cost management.

## Lack of Integration

Unfortunately, most modern telehealth systems are not integrated with the core financial and clinical systems within healthcare organizations. Data remains within the telehealth application forever or requires manual entry later into the electronic health record (EHR) by the doctor, nurse or office worker. This process only adds to the complexity and frustration already rampant in health IT, when healthcare workers struggle to make sense of different systems and data sets are now required to treat patients and manage claims. It makes the old paper record look remarkably better at times. Telehealth can only be successful through seamless systems, device and data integration. This will avoid the addition of one more silo of data. Even better, integration will bring more value to the EHR and other clinical decision support systems.

# Tackling Integration Challenges in Telehealth

When large healthcare delivery systems need to integrate data from different systems, they are often forced to hire consultants and vendors for expensive, time-consuming, custom integration projects. Telehealth integration projects typically involve connecting systems, integrating data sets including cleansing and normalizing data, and integrating an increasing array of mobile devices.

The grand goal is to connect all of these incoming mobile data streams to the core clinical systems—most important, the EHR. In many cases, telehealth integration with the lab and radiology information systems will also be imperative for providers to view and share images and test results. These critical interfaces will enable a complete and single patient record, eliminating duplicative efforts and gaps in data. Integration with telehealth systems including consumer health apps also allows for real-time updates to caregivers for managing high-risk or otherwise disconnected populations. Telehealth visits, of course, must also be integrated with financial and claims management systems for reimbursement and accounting purposes. Finally, integration is critical to achieve the broader goal of regular reporting on costs and outcomes.

In the past, point-to-point integrations, custom-built by systems integrators, were the norm. Yet that approach is not scalable given the rapid expansion of applications and data sources for tracking and managing patient care. New approaches and considerations for telehealth integration include:

## Aggregator Software

Healthcare data integration technologies from companies such as Validic and PilotFish side-step the need for point-to-point integrations by using a hub-and-spoke architecture. The one-to-many connectivity software hosted in the cloud connects data from digital health applications, devices and wearables to core clinical and financial systems and minimizes or eliminates custom coding work. This is making it easier and more cost effective to integrate data sets from mobile devices and apps, including telehealth systems.

## Device Interoperability

To support remote patient monitoring and wellness programs incorporating data from personal health wearables or apps, healthcare CIOs will need to resolve device integration challenges—namely, the lack of standards around communications protocols in the medical device and consumer device marketplaces today. Devices must integrate smoothly with the provider’s EHR and the telehealth platform to complete the loop on patient monitoring and remote diagnosis.

There are five core requirements in making device integration successful.

- Interoperability—interfacing with medical devices that use different communication protocols
- Data acquisition, translation and standardization
- Custom interface support
- Seamless data exchange
- Data security and reliability



# Telehealth Integration Case Studies

## **AMC Health and Epic**

AMC Health, a leading provider of end-to-end telehealth solutions, had successfully completed a standardized integration with Epic. The bidirectional integration allows demographic data from the EHR to auto-populate AMC Health's telehealth platform, freeing up healthcare providers to focus on care and reducing the potential for human errors in data entry. In turn, clinical visit data from AMC Health's telehealth platform are automatically transferred to the EHR upon the completion of the user session. This integration will accelerate registration and other administrative processes for customers, while also improving clinical efficiency and access to data that is captured as a result of AMC Health's telehealth programs.

This standardized integration comes after the successful conclusion of a proof-of-concept test program. With this proven framework, complete integration and use of AMC Health's technology can be achieved in a significantly shorter time period for customers who are deploying an AMC Health telehealth program. As a result of this tested and approved integration, customers will be less prone to errors due to manual data entry for the data exchanged between systems.

## **American Well and Allscript**

Telehealth vendor American Well has also integrated its Online Care telehealth service within Allscripts' EHR platform. Allscripts had integrated the voice and video interactions of its Online Care platform side-by-side in its EHR platform with patient histories, doctors' notes and prescription information. By integrating telehealth and EHRs, providers will be better able to coordinate care.

# Summary

Telehealth has come of age. This decades-old practice, constrained by expensive equipment confined to rural areas, has been liberated through mobile technology. Today, one can use a smartphone to “visit” a doctor, while tablets are being used on emergency calls to pre-diagnose patients and often avoid a visit to the ER. Physicians and nurses have easy-to-use tools at their disposal to keep track of their most critical patients, or to more effectively deliver follow-up care after a visit or procedure.

Still, as with any emerging technology, hurdles remain. Payers will need to universally accept telehealth visits for reimbursement, and compensate physicians comparably with in-person visits. Healthcare organizations and technology partners will need to work on simplifying process and workflow issues required to gain position acceptance, as well as addressing any potential emotional barriers for patients in replacing face-to-face visits with digital visits.

Perhaps most vexing of all, is quickly and cost-effectively solving the integration challenge. Still today most remote-monitoring devices, mobile apps and diagnostic tools are not connected with core internal healthcare systems such as the EHR.

These integrations are critical to eliminate the creation of an additional healthcare data silo, make optimal use of telehealth-driven data streams, and to further the goals of healthcare reform.

It’s an exciting time for companies providing telehealth solutions and services: Healthcare consumers are responding positively to this new care delivery model, and clinicians are seeing the value of increasing their capacity to serve patients and manage diseases more effectively. Healthcare organizations interested in deploying telehealth solutions to their populations will need to consider reimbursement, organizational, cultural and technological barriers, and requirements before getting started.

The evidence so far is pointing to considerably more benefits than detriments from using telehealth at the point of care. Those organizations that can pioneer this practice effectively have the potential to not only increase consumer satisfaction and improve outcomes, but also grow brand recognition and revenues.

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