



WHITE PAPER

Aim Higher with Telehealth: Advancing from Triple to Quadruple Aim

“Whether you choose to work on the Triple Aim or Quadruple Aim, understand that you can’t ignore joy in work or equity and expect to secure Triple Aim outcomes.”

Derek Feeley, President and CEO, Institute for Healthcare Improvement (IHI)ⁱ

Since the Institute for Healthcare Improvement (IHI) introduced the Triple Aim, it has served as a guiding principle for the path to healthcare transformation. Healthcare organizations have made impressive progress toward the Triple Aim goals for improving the patient experience, improving the health of populations and reducing the cost of care, and now there is momentum to add a fourth aim oriented to improving workforce satisfaction and preventing burnout.

The progress made toward the Triple Aim so far has been aided and enabled by new processes and technologies, including telehealth. Continued progress and the realization of the fourth aim will require continued innovation. Published in 2018, this white paper summarizes how telehealth can help provider organizations achieve the emerging Quadruple Aim.

Telehealth programs are expanding significantly because they help hospitals and health systems with each component of the Quadruple Aim. There is growing evidence that documents telehealth’s value in supporting the emerging Quadruple Aim, for example:

- **Improving the patient experience (including quality and satisfaction)**

Between 94% and 99% of telehealth patients reported being satisfied with their telehealth services, and a third preferred the experience to a traditional in-person visit, a 2016 studyⁱⁱ found. Consumer acceptance is increasing rapidly. Almost half of American patients are now willing or prefer to use non-hospital options for routine care; surprisingly, middle-aged Americans are more willing than millennials to try emerging care-delivery options.ⁱⁱⁱ

- **Improving the health of populations**

Telehealth is being recognized as an effective way to meet the needs of many patient populations. The CMS approved payments for 40 telehealth services in 2017. Hospitals and health systems are using telehealth to successfully serve diabetes, hypertension, COPD, congestive heart failure, veterans, nursing home residents and other patient populations. In addition, 90% of large companies expected to offer telehealth-based services (where allowed) to employees in 2017.^{iv}

- **Reducing the per capita cost of healthcare**

Ninety-three percent of telemedicine users reported the service reduced their costs.^v The average cost of a telehealth doctor’s appointment is \$39, which is approximately one-third of the average cost for a visit to an urgent care clinic (\$121) or primary care provider (\$120).^{vi}

- **Improving healthcare workforce satisfaction**

Multiple studies have found physicians and other providers are generally satisfied with their telehealth experiences. When advocating for telemedicine in 2016, the American Medical Association noted “Telemedicine can strengthen the patient-physician relationship and improve access for patients with chronic conditions and limited access to quality care.”^{vii} Telehealth also can give providers more workplace and scheduling flexibility, enable new patient care workflows, and facilitate more frequent contact with patients.

Well-designed telehealth programs do not require providers to make tradeoffs between improving quality, reducing cost or burdening their staffs. Thoughtful programs that are built around provider needs (rather than an ad-hoc approach or a preference for a specific technology) address the Quadruple Aim and the leading market pressures facing health systems today. These needs include raising market share, reaching new patient populations, increasing access to care, leveraging specialists and other resources that are in short supply, and improving care coordination.

For telehealth to produce the types of benefits described throughout this paper, the program must be tailored to meet the provider's specific goals, resources and constraints. Solutions must be flexible and scalable, with options and capabilities to meet the provider's specific requirements.

The evolution of telehealth

The Institute for Healthcare Improvement (IHI) launched the Triple Aim in 2007 to address critical cost and quality issues in U.S. healthcare. Since its launch, other initiatives fueled by health reform — for instance, interoperability, value-based care, reducing care fragmentation, increased emphasis on population health and the growing consumer influence on healthcare—have all further underscored the Triple Aim's importance and motivated the rise of the Quadruple Aim.

As hospitals and health systems strive to achieve the Quadruple Aim and other demands of this ever-evolving healthcare landscape, they are seeking new solutions that will meet their needs and the needs of their patients. The IHI recognizes that change is needed, stating “new designs must be developed to simultaneously pursue the three dimensions of Triple Aim.”^{viii} Meanwhile, telehealth has been evolving and is now a viable, proven option for advancing toward Triple or Quadruple Aim goals. In December 2016, the U.S. Congress passed the 21st Century Cures Act,^{ix} which directs the CMS to identify services where telehealth could be expanded.

“Burnout thus imperils the Triple Aim. . . . This article recommends that the Triple Aim be expanded to the Quadruple Aim, adding the goal of improving the work life of healthcare providers.”

Thomas Bodenheimer, MD, and Christine Sinsky, MD
Annals of Family Medicine, Nov/Dec 2014

Since telemedicine's inception in the 1980s, it has broadened to telehealth, which spans diagnosis, treatment, care management and wellness. Fueled by advanced technology, telehealth has gained popularity and acceptance due to patients' positive experiences. In particular, videoconferencing has evolved from cumbersome, hardware-based products to an intuitive software solution that easily replicates a face-to-face visit. Remote monitoring tools enable physicians to stay abreast of patient indicators such as vital signs, weight and glucose. The proliferation of mobile apps creates an anywhere, anytime care environment.

The best implementation of telehealth can produce an outstanding patient experience by providing numerous benefits such as expanded physician access (especially for specialists), greatly reduced wait times, a more convenient setting compared to visiting a hospital, better interoperability and more one-on-one time with physicians. Facilitating more physician-patient interaction is a way to improve physician satisfaction and thus address the fourth component of the Quadruple Aim.

Well-designed telehealth programs are also highly scalable. Scalability helps providers effectively meet changing demand without having to add or reduce staff and increases the value of telehealth when patient populations and interactions increase. These many benefits position telehealth as a viable solution to help providers reach the Quadruple Aim.

Telehealth can play a significant role in furthering the four components of the Quadruple Aim because it provides nearly ubiquitous access to the right physicians at the right time. IHI asserts that achieving the Triple Aim will require a range of healthcare and community resources to make sure patients have a more “seamless journey through the system of care.”^x Meanwhile, the competitive climate practically requires many hospitals and health systems to increase market share, which can be accomplished by expanding the scope of services offered. Because telehealth can promote high-quality, lower-cost care across the continuum—and because it is supported by electronic data—it is positioned to address each of the Quadruple Aim's prongs and market competitive realities.

Improving the patient experience

Telehealth improves the patient experience by solving the resource challenges inherent in many practice areas. Emergency departments (EDs) are often overcrowded, which results in lengthy wait times that, in turn, reduce patient satisfaction. Long waits aren't exclusive to emergency departments. Primary care providers and many specialists also are frequently overburdened. At the start of 2017, there were 16,746 designated primary care Health Professional Shortage Areas according to U.S. Department of Health and Human Services data.^{xi}

In recent years, there has been a surge in walk-in clinics being opened to help address urgent care and primary care demands. These clinics improve access and reduce costs but are often staffed with non-physician practitioners. While these clinics meet a need, they may not meet the aim of improving quality because they cannot provide the depth and expertise often required in urgent care situations or for more complex care. For example, because clinicians at walk-in facilities don't always have access to medical records, they are more likely to order repetitive tests. They also may not send records of patient visits to primary care physicians (PCPs). This fragmentation can detract from patient satisfaction, cost effectiveness and care quality. In addition, these clinics often expand their capabilities and subsequently remove the associated cost benefit.

Patients who visit EDs for urgent rather than emergency care may also experience dissatisfaction. Patients must describe their symptoms to multiple clinicians, yet generally see the ED physician for only a brief time. They may also undergo numerous tests that aren't necessary in a non-emergency situation. Resources can be stretched thin in the chaotic ED environment. At walk-in clinics, clinicians usually don't have data regarding the patients' personal or medical histories, and sometimes privacy is lacking.

Telehealth provides a high-quality alternative for urgent care when patients can't see their PCPs. The patient chooses the environment and can be treated at home or another private location. Because the patient has choice, he or she is more likely to be satisfied with the engagement. Telehealth can facilitate a closer doctor-patient connection than patients usually find in EDs or walk-in clinics.

“The future is not about eliminating physicians, it's about leveraging physicians. That means leveraging physicians by providing digital and other tools that work like they do in virtually all other industries.”

James L. Madara, MD, CEO, American Medical Association, Comments to the House of Delegates, June 2016

Overall, factors such as faster and more direct physician access in a more conducive environment enable a positive patient experience with better outcomes. Patients have better, more cost-effective access to physicians; physicians can practice in a more relaxed atmosphere; and hospitals, health systems and other providers have more comprehensive data at their fingertips. The quality of care and patient experience are heightened as a result.

Improving the health of populations

Telehealth has many applications and therefore it can be customized to meet varied population health goals. The Agency for Healthcare Research and Quality (AHRQ) studied telehealth effectiveness and concluded: “The most consistent benefit has been reported when telehealth is used for communication and counseling or remote monitoring in chronic conditions such as cardiovascular and respiratory disease, with improvements in outcomes such as mortality, quality of life and reductions in hospital admissions.”^{xii}

Many patient populations meet AHRQ's principles for being viable telehealth candidates because they have chronic conditions that require remote monitoring and/or counseling. Telehealth has traditionally and successfully been used to serve several chronic condition populations, including diabetes, hypertension, COPD and others. The Veterans Health Administration (VHA) is a longtime telehealth user that credits the technology for reducing hospitalizations by between 20% and 30% for its congestive heart failure, hypertension, COPD and diabetes populations.^{xiii} Telehealth is proving to be a clinically effective and cost-effective treatment

option for a growing range of populations. For example, the VHA expanded its telehealth program to serve its mental health patients and achieved a 40% reduction in hospitalizations for that patient population.^{xiv}

Even more types of patient populations are being effectively served as telehealth matures and remote monitoring technology improves. As noted, Congress directed the CMS to pursue greater use of telehealth to help meet Medicare and Medicaid responsibilities. The American Hospital Association (AHA) is also a telehealth advocate. Expanding access to telehealth was one of the top recommendations the AHA made to the U.S. Congress in 2016 testimony on how to improve care for chronic patients. The AHA's testimony included this statement: "A growing body of evidence indicates that telehealth, in particular, increases quality, improves patient satisfaction and reduces cost."^{xv}

"Applications of telehealth technologies are filling the need for critical healthcare services in a variety of specialty areas and across diverse patient populations."

American Hospital Association Trendwatch

Reducing the per capita cost of healthcare

In all applications, telehealth replaces a more expensive brick-and-mortar physician appointment with one that is lower cost. A patient with an urgent care need, for instance, has five options for receiving care. The most expensive option is an ED visit, with estimated costs averaging \$499 to \$1,233.^{xvi} The costs of an urgent care clinic or a primary care provider

Six ways telehealth is addressing the Quadruple Aim

1. Provides better access

Through telehealth, patients have access to the right physician at the right time—regardless of scheduling, geographic or transportation barriers. Telehealth is especially effective in making specialists accessible to larger patient populations.

2. Improves the patient experience

Factors such as reduced wait time, more one-on-one time with physicians, consistent follow up and improved care coordination all add to a better patient experience.

3. Reduces healthcare costs

For many types of services, telehealth is the most cost-effective care option for providers and patients alike. Telehealth is also an efficient way to provide follow-up care and monitoring, which can help prevent re-admissions and the associated costs.

4. Supports population health initiatives

Telehealth is an ideal solution to manage various patient populations—especially those with chronic conditions and/or those that require regular monitoring.

5. Promotes interoperability and care coordination

Patients have better experiences when their care episodes are linked and all practitioners share the same data. Telehealth providers operate in a completely electronic environment; therefore, they are the most apt to follow the best practice of sending electronic records after a patient consultation. Electronic records also support improved care coordination.

6. Supports healthcare workforce satisfaction

Telehealth gives physicians and other care providers another option for serving patients. That creates flexibility to change and improve workflows, which can ease pressure on time-constrained staff members. Telehealth is also being used to innovate and improve training, which can contribute to higher morale.

are \$121 and \$120, respectively. Retail walk-in clinics, which often employ physician assistants or nurse practitioners rather than physicians, average \$76 per visit. The most inexpensive option is telehealth, which averages \$39 per doctor's appointment.^{xvii}

If 10 patients per month chose telehealth over ED visits, the cost savings would equal nearly \$100,000 per year (using the median figure for an ED visit, \$866, and telehealth's average cost of \$39 per visit). Employers can also offer telehealth to boost their workforce's health and productivity.

Telehealth facilitates an employer ROI by saving an average of three to four hours of productivity per visit. If the employee earns \$20 per hour, this translates to a \$60 savings for a single visit. It also reduces the need for employees to take paid time off, thus enabling additional savings, while providing a benefit that can keep employees healthier while increasing their satisfaction in the workplace.

Many studies and real-world programs assert that telehealth is cost-effective when applied appropriately. For example, one study found Medicare could save an average of \$151,000 per nursing home annually by expanding telehealth to more nursing home patients.^{xviii} The VHA calculated telehealth produced average annual per-patient savings of \$6,500 across all patient populations.

As risk-sharing models and value-based reimbursement become more prevalent, hospitals and health systems need to find ways to reduce costs without compromising quality. The majority of clinicians are already working at capacity; asking these clinicians to care for more patients in the same amount of time isn't sustainable. Therefore, a key factor in reducing costs is reducing non-value-added time and overhead while increasing efficiencies through technologies such as telehealth.

If applied correctly, telehealth can get patients to the right level of care rather than the most expensive, thus reducing costs while enhancing value. Telehealth can be an invaluable tool as payers and government programs require providers to prove value with metrics.



Improving healthcare workforce satisfaction

Telehealth is frequently used to encourage patients to find more appropriate channels for care than a visit to an emergency department, which supports having more predictable, less stressful workflows. Telehealth providers can spend more time with patients while also working in a calm rather than frenetic environment, especially when compared to emergency departments or urgent care clinics. Plus, while practitioners in brick-and-mortar facilities are constrained by linear workflows and the pace of scheduled appointments, telehealth providers can bring in additional practitioners to scale up or down as demand dictates.

Another way telehealth can improve workplace satisfaction is by improving and streamlining continuity of care. Telehealth solutions can integrate with other technology systems and have more detailed patient data and medical information to support care continuity.

Telehealth can create scheduling flexibility for providers, enabling them to see patients without having to be in the office or hospital, and to engage with more patients while in the facility. For example, physicians, nurses, different types of therapists and other care providers might briefly engage with patients through telehealth to check in or follow up when they ordinarily would not have scheduled an in-person visit. These brief engagements can be conducted when the provider has a few minutes between in-facility appointments, or can be more formally built into workflows. The flexibility for more onsite and offsite patient engagement can lead to improved work-life balance, which is a powerful element of workplace satisfaction.

Why invest in telehealth?

It's a critical component in access and seamless care delivery

Achieving the Quadruple Aim requires coordination among many entities, from providers on the front lines of care delivery to researchers developing new treatments. Telehealth is uniquely positioned to help break down healthcare's silos, enabling unprecedented care access while ensuring clinicians have the data they need. As more hospitals and health systems leverage telehealth, it will become more integrated into brick-and-mortar care delivery as a tool to maximize resources, reach more patients and offer more services to existing ones.

Because telehealth removes geographic barriers to care, it can improve the health of underserved locations and populations. It can provide access to specialists in fields such as oncology and cardiology, which are scarce in many regions. Through its integration with key healthcare information technology platforms, telehealth can enable interoperability for more connected care and better decision-making. These factors can promote value plus positive outcomes and patient experiences while reducing cost of care and the burden on caregivers.

Conclusion

Achieving the Quadruple Aim will require various programs and technologies. Telehealth is well positioned to help hospitals and health systems meet all four components of the Quadruple Aim while also positioning them to improve care coordination and increase market share. Telehealth contributes to a better patient experience by improving access to physicians, reducing delays and giving patients more choice in how their care will be provided. It is becoming a highly effective tool for serving different patient populations, including those that are underserved because of geography and specialists shortages. Telehealth produces these patient experience and population health benefits at a lower cost of care, and remains cost-effective as it scales. It can give physicians and other providers more flexibility and one-on-one time with patients, which contribute to higher satisfaction. These attributes make telehealth an appealing solution to all healthcare constituents—physicians, provider organizations, employers, payers and, most of all, patients.



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Health Forum is the strategic business enterprise of the American Hospital Association (AHA) dedicated to serving member hospitals by helping them identify the optimal solutions to their most pressing market challenges. Through educational programs featuring peers and industry experts, Health Forum supports the decision-making process for hospitals looking for partners to help with clinical integration, information technology, talent management, cultural transformation, financial sustainability, the patient flow and other key challenges.

AHA products and services include AHA Data, drawn from the American Hospital Association Annual Survey profiling over 6,400 U.S. hospitals nationwide; industry-leading conferences (AHA Center for Health Innovation Leadership Summit, Rural Health Care Leadership Conference); educational webinars, podcasts and more.

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