



Telehealth and the Development of Hybrid Patient Care

Introduction

Throughout much of human history, the physical interaction between healthcare professionals and their patients has been the foundational model of providing care. Lack of adequate technological and communications resources meant that physical interactions were the only viable means by which healthcare providers could assess and treat their patients.

Today, significant developments in examination and communication devices and techniques have expanded options available to providers when consulting with patients.

Real-time communication with patients through video-conferencing and email, remote monitoring of patients with chronic conditions, the utilization of off-site specialists to review imaging and provide diagnoses, and even real-time translation capability are some of the many ways healthcare providers are expanding breadth of coverage to their patients through telehealth.

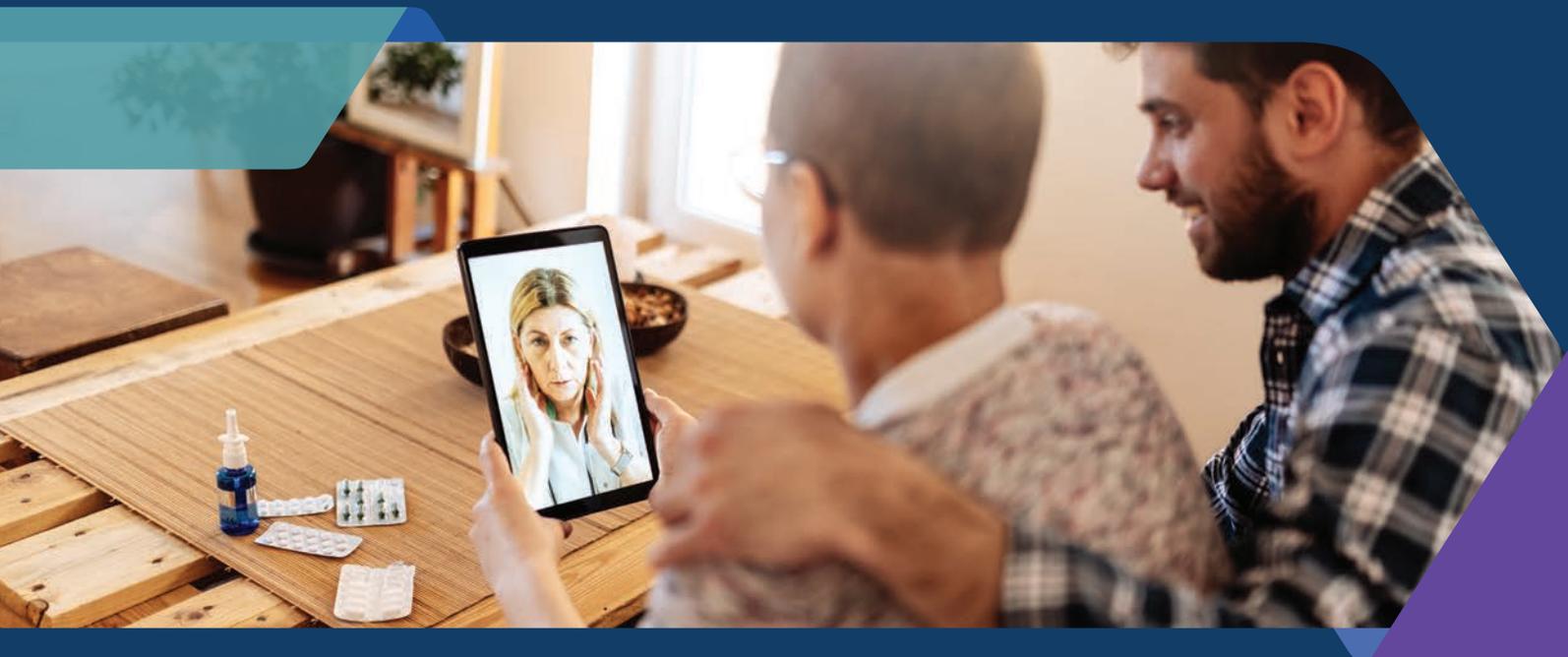
The adoption of telehealth was greatly accelerated by the COVID-19 pandemic, which severely restricted in-person patient/provider contact. The healthcare ecosystem was challenged to develop new models of care to accommodate evolving patient preferences, a prevailing shortage of healthcare professionals, and continued advancements in technology.

One of these emerging models is known as hybrid patient care. In this white paper, AMN Healthcare examines the origins and development of this emerging model and how it is being implemented.

About AMN Healthcare

AMN Healthcare is the nation's leading provider of healthcare workforce solutions, offering physician, nurse, allied professional and leadership talent acquisition, as well as a full range of enabling technological and analytical resources. Through its Center for Research, AMN Healthcare generates a wide range of surveys, white papers, speaking presentations and other thought leadership resources providing insight into current healthcare staffing trends and delivery models.

In April, 2021, AMN Healthcare acquired virtual care provider Synzi Holdings and its remote patient monitoring and virtual care tools, which facilitate provider/patient interaction in home health, rural access, outpatient and other settings. AMN Healthcare's capabilities now include platforms for providing virtual care and the ability to staff both virtual and in-person healthcare services.



The Evolution of Telehealth

The American Telemedicine Association (ATA) defines telehealth as “the use of medical information exchanged from one site to another via electronic communications to improve a patient’s health status” (*What is Telemedicine? American Telemedicine Association*). The means of delivery for this health information varies based on the technology used, but ultimately includes one key component: the separation of providers and patients via distance.

Consequently, the evolution of telehealth follows closely the advent and rapid advancement of telecommunication devices and methods such as Morse Code, the telephone and the development of radio signals. Breakthroughs in communication technology as applied to healthcare include:

- 1948:** Transmission of radiologic images via telephone from Westchester, PA to Philadelphia, PA, a distance of 24 miles.
- 1959:** University of Nebraska physicians use two-way interactive television to transmit neurological examinations/information across campus.
- 1965:** The medical journal *Anesthesiology* reports ship-to-shore transmission of x-rays and electrocardiograms.

Source: Evolution and Current Applications of Telemedicine, Telemedicine, NCBI Bookshelf

These initial developments were expanded upon to create a suite of telehealth services and benefits outlined below.

Current Telehealth Services and Benefits

As technology available to healthcare organizations has progressed, the array of services provided via telehealth has expanded significantly. The ATA identifies services provided by telehealth to include:

- **Remote patient diagnosis and treatment.** Telehealth services may include consultation provided by a physician or other clinical professional to render a diagnosis off-site. This may include interactive two-way video between provider, patient and assisting medical staff; reviews of medical imaging (x-rays, CT scans, MRI tests, etc.) to provide diagnosis; or interacting with patients via email or other devices for consultation services. These interactions should be secure/encrypted to protect personal health information. First applied via teleradiology, remote patient diagnosis and treatment now extends to primary care, behavioral health, chronic care management, and , increasingly, to post-acute care.
- **Remote patient monitoring.** Remote patient monitoring is particularly important for patients who suffer from multiple chronic, debilitating conditions, particularly when inadequate patient coverage can result in life threatening complications and hospital admissions. Through the use of remote devices, patient data such as vital signs can be collected and monitored at a remote facility by clinicians who may initiate healthcare interventions when appropriate.
- **Predictive Analytics.** Predictive analytics use data from wearable and home sensors, health assessments and health risk assessments to monitor and forecast patient problems and needs. The connective devices may include blood pressure cuffs, pulse oximeter devices and activity trackers. If there is a concern, a nurse receives an alert and immediately reaches out to the patient and authorized family members via phone call, video chat or secure text – often before the patient realizes there is a problem.
- **On-line health information.** This includes the use of web-based health resources, including interactive discussion groups, educational websites for patients and other means for individual patient health education.
- **Continuing medical education.** For medical professionals in remote locations, the use of online services to complete continuing medical education (CME) requirements is a valuable resource, particularly to off-set difficulty and cost of travel to locations where educational opportunities are provided.

- **Real-time translation services.** Advanced software and conferencing techniques allow providers to communicate with patients in real-time through remote translation services.

Source: American Telemedicine Association (ATA); "What is Telemedicine?"

Telehealth also allows for expanded market coverage by helping to alleviate provider shortages, the improvement of patient outcomes, reduction of preventable hospital readmissions, expanded clinical productivity, and the provision of coordinated services outside a facility setting.

Role of COVID-19

Prior to the COVID-19 pandemic, telehealth utilization was relatively modest and largely concentrated in teleradiology, which allows radiologists located out of a patient's state or even out of the country to read x-rays and other images. Among traditional Medicare beneficiaries, only 0.3% used telehealth for Part B services in 2016. However, between 2019 and 2020, the number of telehealth visits in traditional Medicare increased 63-fold. During the first year of the pandemic, more than 28 million Medicare beneficiaries used telehealth services (*Telehealth Was Critical for Providing Services to Medicare Beneficiaries During the First Year of the COVID-19 Pandemic. U.S. Department of Health and Human Services, Office of the Inspector General. March 15, 2022*).

Private pay patients also embraced telehealth during the pandemic. Today, telehealth represents 5% of all private medical claims, according to The Chartis Group. Telehealth use is particularly prevalent in behavioral healthcare. Approximately 60% of telehealth services currently are directed to behavioral care, according to claims data.

The numbers in the chart on this page further indicate the degree to which telehealth has achieved patient acceptance.

Telehealth has emerged as a key component of a larger transformational movement in which healthcare delivery is evolving toward the convenient care model. A growing number of urgent care centers, retail clinics, outpatient clinics and telehealth options are meeting patient preferences for easily accessible care. As care delivery moves toward the convenient model, the "front door" to the healthcare system is less likely to be a physician's office and more likely to be digital.

Digital solutions also are proliferating in the arena of home health. According to McKinsey & Company, over \$265 billion of Medicare fee-for-service and Medicare Advantage care is projected to move to home health in next 3 years, while 242 hospitals in 36 states have been approved by CMS to provide acute care in the home (*From Facility to Home: How Healthcare Could Shift by 2025. McKinsey & Company, February 1, 2022*).

McKinsey's research further indicates that approximately 20% of all emergency room visits could potentially be avoided via virtual urgent care offerings. Accessing emergency services often is extremely inconvenient for patients, while the cost of providing care in emergency rooms is high. Virtual care has the potential to address both these problems.

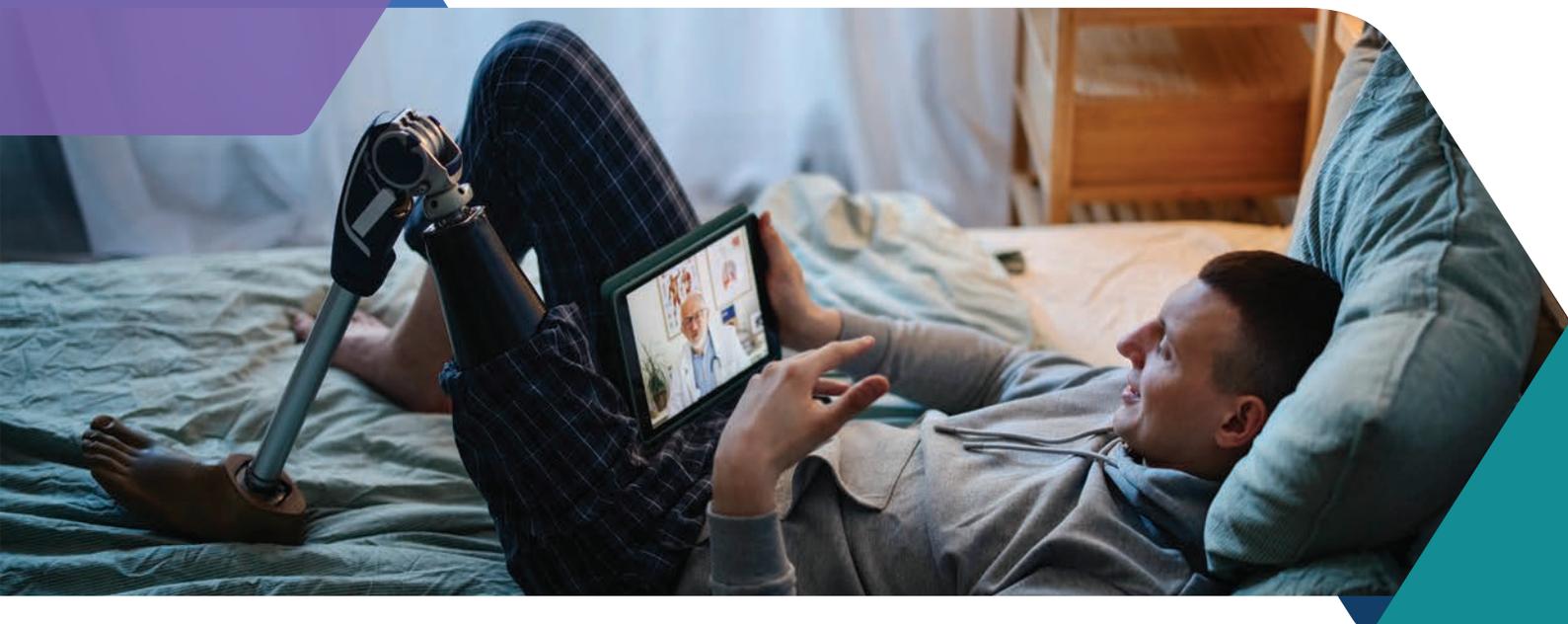
Pre-Pandemic 2019



Post-Pandemic 2022



Source: The Chartis Group



Emergence of the Hybrid Patient Care Model

During the height of the pandemic, telehealth became the default healthcare delivery model in many instances by necessity if not always by choice. Now that the pandemic is receding -- or being more effectively managed -- a new equilibrium is being reached in which the use of telehealth is being balanced with the use of on-site services.

As the pandemic subsides, some patients may wish to resume seeing physicians and other providers in person, while other patients may prefer the telehealth option. The challenge facing many hospitals, medical groups, federally qualified health centers and other facilities today is to combine the most advantageous aspects of remote care with the best aspects of traditional on-site care to create a hybrid model that promotes quality, reduces costs and provides patients with the convenience they increasingly seek.

How the Model Works

Hybrid care begins with an assessment of a healthcare facility's current in-person and telehealth services and capabilities. The goal is to identify best practices in each area and combine them to create a new model capable of delivering more care, at less cost and with improved quality. The model depends on robust technology for video conferencing, patient monitoring, appointment scheduling and treatment follow-up. Ideally, it is not applied indiscriminately in a "one size fits all approach." Instead, it is applied to best fit the clinical workflow, needs and preferences of individual patients. For some patients, remote care may be indicated exclusively, while in-person care may be indicated for others. However, for many patients, in-person and remote care can be effectively combined.

The hybrid model centers care around the individual patient who no longer may be obliged to travel to provider offices, wait their turn to be seen, or schedule appointments based on provider availability. In the hybrid approach, patients may receive care in a number of ways, including:

Traditional on-site visits. A single, in-person patient/provider encounter in a medical office that has been scheduled in advance.

Telehealth visits. A single patient/provider encounter conducted via video conference or phone call, usually scheduled in advance.

E-visits. Typically initiated by the patient, these are on-line visits or check-ins centered on a particular symptom or condition conducted through a patient portal. Not scheduled, they usually occur when a patient submits questions or requests to a provider and the provider responds through email, text, phone call or video. These virtual “on-demand” visits preclude the patient having to go to an urgent care center or the ER.

Remote monitoring. Remote monitoring typically is ongoing and depends on the patient relaying through various devices data that is received by providers who respond as appropriate.

This type of approach, which puts more control in the hands of the patient, has been utilized in other industries for years, notably in banking where customers no longer have to enter their branch to conduct business. Even grocery stores have moved to models that do not require shoppers to enter a physical space. Increasingly, this is the type of service customers expect and which many patients adopted during the pandemic.

Mitigating Staffing Shortages

In addition to enhancing the patient’s role in their own healthcare, the hybrid model can mitigate a widespread shortage of physicians and other clinicians. By facilitating rapid access to care through telehealth, patient acuity can be reduced, which in turn reduces the number of FTEs required to deliver care. The hybrid model can further reduce required FTEs by distributing work more efficiently; in effect, bringing the patient to the provider.

Patient Acceptance and Current Examples of Hybrid Care

There is evidence that patients already are embracing the hybrid care model.

In a Mayo Clinic survey, researchers polled patients who received care through Mayo’s Hybrid Care Hotel, which was implemented in July 2020. Following the hybrid model, the “hotel’s” purpose was to provide virtual care to patients following an in-person procedure. Satisfaction rates were high, falling between 87% and 94%. (*Mayo Clinic Hybrid Care Model Appears to Boost Patient Satisfaction. xTelligenthealthcaremedia. February 3, 2022*).

Other prominent healthcare systems also have implemented hybrid care models, including Mass General Brigham Health Plan (formerly known as Always Health Partners). The system’s iHeart Champion is a personalized heart disease management program that delivers remote patient monitoring and in-person or virtual care options in coordination with primary care physicians and pharmacies. The program is geared toward helping patients reduce cholesterol levels, blood pressure and the risk of heart attacks.

A large, national home health and hospice care provider with which AMN Healthcare partners demonstrated positive results using the hybrid care model compared to traditional care during the COVID-19 pandemic. The provider was able to reduce hospital readmissions within 30 to 60 days of admission. Hospital admissions within 30 days ran at 6.5% using the hybrid care model vs. 10% for the traditional care model. Hospital admissions within 60 days ran 9.2% using the hybrid model versus 13.3% using the traditional care model. The anticipated result is better patient care at lower costs.

Other home healthcare providers also have demonstrated positive results using the hybrid model, particularly in wound care. Providing wound care services presents challenges given a nationwide shortage of wound care specialists and the need for frequent monitoring of home health patients. In order to address these challenges, home health providers have used virtual care options to connect field staff and patients with wound care nurses via video. Secure pictures of wounds can be transmitted directly to wound care nurses, increasing patient satisfaction by providing more timely access to care and more frequent touchpoints with the care team.

It is not just large systems and national organizations that can implement hybrid care, however. The model also can work at the individual physician office level. For example, a dermatology practice that temporarily closed during the COVID-19 pandemic may wish to keep those patients who became used to remote care and prefer it. The practice could offer patients both in-person as well as remote options for those patients with acne, psoriasis or other conditions that can be treated appropriately through telehealth. Those who require surgery or biopsies would need in-person visits, but the overall patient experience could improve because fewer patients in the office would reduce wait times while freeing up clinicians to see more patients.

Challenges to Implementing Hybrid Care

The hybrid patient care model holds the potential to decrease healthcare costs, help address provider shortages, improve outcomes and increase patient satisfaction. It is not intended to replace in-person care, which, in many cases, will remain the standard, but it can move the needle in a favorable direction.

However, implementing the model does entail certain challenges. Some of these are operational, including patient scheduling. Virtual appointments may be one of many communication points health facilities have with patients which must be coordinated with in-person appointments to ensure efficient workflows. Ideally, the EMR should be able to serve as the central scheduling system for both in-person and virtual visits.

Patient registration is another challenge. It is particularly important that patients be able to check in online in virtual care since no one at the front desk will be available to input data. Online registration allows for the input of patient data central to both treatment and reimbursement. Forms should be user friendly and have a common interface among all platforms.

Automated appointment reminders using voice mail, texts and email may be necessary to keep an accurate schedule and to reduce no-shows. Patients should be able to conveniently respond to these reminders, cancelling or rescheduling where possible. The benefit here extends to all types of appointments, as no-shows are a problem regardless of the encounter type.

Consumers today are managing their affairs through mobile devices, and to implement hybrid care it is important that patients and their providers be able to connect on a one-to-one basis through text messages. This allows patients to work their way through questions and treatment plans without the frustration of leaving phone messages or following convoluted voice instructions. When virtual care is used, patients and providers need a convenient way to follow-up, since there may be no in-person follow-up appointment.

The varying degrees of technical competence among patients is another challenge in implementing the hybrid care model. Patients may lack the skills to schedule appointments or to communicate with providers once care has been initiated. Office staff will need to be available and capable of educating patients who are not tech-savvy.

Reimbursement and Access Concerns

Reimbursement and financial concerns also can present challenges to hybrid care implementation, mostly because the future of reimbursement for virtual care is still uncertain. Over two years into the pandemic, many states have legislative mandates in place that require reimbursement for telehealth services. Nevertheless, it is unclear whether the broad expansion of telehealth reimbursement that has taken place during the pandemic will continue once the public healthcare emergency is deemed to be over.

Currently, there are a variety of bills circulating in Congress that would extend broad telehealth reimbursement into the future. One of these that has received bipartisan support is the CONNECT for Health Act, which would permanently remove all geographic restrictions on telehealth services, allowing patients to receive remote services in their homes and other sites.

To fully implement the hybrid model also will entail expanding digital technology to places and populations that do not have full access to it now. Many older adults, particularly low-income seniors and people in rural areas, often experience difficulties in accessing telehealth services. A 2020 study found that more than 41% of Medicare beneficiaries lacked access to a computer with high-speed internet at home, while over 40% did not have a smartphone with a wireless plan. (*Assessment of Disparities in Digital Access Among Medicare Beneficiaries and Impact on Telehealth. JAMA Internal Medicine. October, 2020*). However, many seniors do have smart phones, and with technology-savvy baby boomers aging into Medicare, the challenge of connecting to seniors through digital technology will likely abate.

Since the inception of the pandemic the federal government has earmarked millions of dollars in grants to address the “digital divide” and expand rural access to telehealth, but additional efforts will be required to provide equal access to all.

Cultural and Clinical Factors

An additional potential barrier to implementing the hybrid model is the prevailing culture of hospitals, medical groups and other healthcare facilities. Decision makers and providers may be more open to the hybrid model at some facilities than others. It therefore may be necessary to adopt the hybrid model incrementally, focusing on particular services to test technological capabilities, clinical effectiveness and patient acceptance before expanding the model as appropriate.

Clinicians at each facility will need to determine which services can most appropriately be delivered virtually without compromising quality and which services require in-person treatment.

Telehealth Platforms

One key to implementing the hybrid patient care model is selecting a telehealth platform that fits the needs of a given organization. Features of telehealth platforms may include some or all of the following:



Virtual Visits Using Video. Virtual video engagement allows clinicians and family members to interact with patients from afar. The added touch of seeing the patient can go a long way in delivering the right care and making the patient feel more comfortable. Common video engagements include remote check-ins, pre-op and post-op observations, afterhours triage, wound care guidance in high definition, multi-party care team huddles, and remote family member inclusion.



Secure Messaging. Secure messaging platforms allow for HIPAA compliant transmission of text-style messages and photos (wounds, faulty DME, consent forms, etc.). Secure, bi-directional messaging is essential to ensuring that the patient's voice is heard. Quick access features such as 'click-to-chat' can significantly reduce the barrier to entry for elderly patients. Secure messaging solutions also enhance colleague-to-colleague communication so that gaps in care are avoided.



Remote Patient Monitoring. Remote patient monitoring provides real-time feedback into the patient's current state. The most sophisticated telehealth solutions enable streamlined vital signs transmission with real-time alerts and feedback. Monitoring and trending this data over days, weeks, and months provides great insights into the patient's state and can reduce the likelihood of re-admission simply by noting positive and negative trends in the patient's core vitals.



Tailored Messaging. Targeted messaging can drive awareness and keep patients more engaged with their care. Common outreach includes medication reminders, tuck-in programs, upcoming appointment and general health screening reminders, and disaster preparedness alerts.



Condition Management and Risk Surveying Tools. Telehealth platforms allow providers to passively engage patients even when not directly in front of them. Reminders such as nutrition and exercise advice, references to discharge instructions, and links to educational videos can enhance patient compliance and outcomes. Simple surveying tools also can be utilized to monitor the patient's state, mood, and overall condition in real-time.



Language Interpretation and Translation. Conversing with a patient in their native language and in a culturally sensitive manner has proven to enhance both outcomes and patient satisfaction. Readily delivering messages and communicating in the patient's native language can put patients at ease and make them feel more connected to their care. Live video interpreters and medically certified message translation is likely to be a key component of hybrid care as society continues to diversify.

A Recruiting Advantage

Once a hybrid model has been implemented through the appropriate platform, hospitals, medical groups and other facilities may enjoy an advantage in today's highly competitive recruiting market. Many physicians and other providers are experiencing professional burnout that has been accelerated by the COVID-19 pandemic. Many are reconsidering their career choices and are seeking opportunities that can enhance their professional satisfaction. The opportunity to work remotely from home can be a key differentiator separating one opportunity from others.

This is particularly true in psychiatry, where the great majority of candidates today are insisting on the virtual option, but it also extends to many other specialties. As is true of the workforce in general, the standard work model in healthcare is changing with more professionals embracing the ability to work remotely.

Hybrid Patient Care and the Future

Physical care delivery will remain a necessary component of healthcare indefinitely as many procedures such as surgeries require in-person care. However, the role of virtual care is rapidly expanding. Once mostly limited to teleradiology, virtual care now extends to many types of consultative care, including primary care, mental health, dermatology, surgery pre-and-post op, intensive care, and a wide range of chronic care management applications. Virtual care also is fast shifting into traditional post-acute home health, as well as "hospital at home" care and skilled nurse facility (SNF) home care models.

Additional applications will be implemented as technology advances. In primary care, for example, the entire patient experience could be digitized through wearables, health coaching and artificial intelligence. The future also could include care provided through augmented reality with providers in various countries collaborating through the use of mixed reality smart glasses.

We are at the beginning of a transformational process that holds the promise of providing more convenient, more cost effective and better quality care.

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