

# **The Telehealth Era Is Just Beginning**

by Robert Pearl and Brian Wayling

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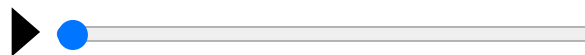
**Summary.** Contrary to what many people think, virtual health care, also known as telemedicine or telehealth, is much more than a cheap digital knockoff of in-person care. When used appropriately, it improves patient health, reduces costs, and makes care more equitable and accessible to anyone with a smartphone. Its use has soared during the Covid era—and the authors argue that providers around the world should aggressively strive to tap its full potential even after the pandemic abates.

Pearl and Wayling take readers inside Kaiser Permanente and Intermountain Healthcare, two of telehealth's earliest adopters and most effective users in the United States. They show how telehealth can reduce expensive and unnecessary trips to the ER, reduce America's chronic-disease crisis, address disparities in care, make specialty care faster and more efficient, and provide access to the best doctors. And they outline what's needed to spur adoption to a fully telehealth-driven system. Employers, who currently provide health insurance coverage to nearly half the U.S. population, could drive such a change by banding together and designing new reimbursement and care delivery approaches. The resulting savings could amount to tens of billions of dollars a year. [close](#)

**Contrary to what many people** think, virtual health care, also known as telemedicine or telehealth, is much more than a cheap digital knockoff of in-person care. When used appropriately, it improves patient health and reduces costs. It also makes care more equitable and accessible to the 89% of U.S. adults and 78% of adults globally who own a smartphone, including those in medically underserved communities.

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And yet telemedicine usage in the United States has plunged from its peak in April 2020, during the first surge of Covid-19 cases, when it accounted for 69% of doctor-patient visits. Similar patterns have been seen across Europe and Asia over the past two years, prompting some governments to take actions in support of telehealth. The European Parliament and the European Council recently announced the EU4Health program to spur the sharing of digital health records, e-prescriptions, and telehealth in general. And Saudi Arabia is implementing a strategy that

includes smartphone applications and a network to connect specialized facilities with primary care centers and hospitals in remote areas.

But in many countries, barriers in the form of regulations, payment regimes, and patient acceptance remain. Any nation seeking to raise health care quality, increase access, and lower costs should be expanding, not contracting, the use of virtual care.

In this article we take an inside look at two of telemedicine's earliest adopters and most effective users: Kaiser Permanente, where one of us (Robert) was CEO; and Intermountain Healthcare, where the other (Brian) is an executive director of telehealth services. For more than a decade these integrated health systems have used virtual care platforms to improve preventive medicine, care coordination, chronic disease management, and affordability for more than 13 million patients.

Having analyzed health outcomes data from the independent National Committee for Quality Assurance, health plan member satisfaction surveys from J.D. Power, and internal data from our own organizations, we are confident that full implementation of five opportunities would improve clinical quality nationwide by 20%, increase access to care by 20%, and reduce health care spending by 15% to 20%.

### **Opportunity 1: Reduce Expensive and Unnecessary Trips to the ER**

“If this is a medical emergency, please hang up and dial 911 or go to the nearest emergency room.” Many Americans have heard this recorded after-hours script. Too often it leaves sick callers and worried parents with a difficult decision: *Do I drive to the ER and lose a night of sleep or chance it and wait until morning to call my doctor’s office?*

Those who drive to the ER will endure a two-hour wait, on average, along with duplicative testing and wildly inflated prices. ER services are 12 times as expensive as visiting a physician’s office and waste more than \$32 billion each year, according to a 2019 analysis by UnitedHealth Group.

Those patients face heightened medical risks as well. Emergency physicians often can’t access patients’ electronic health records, owing to a lack of interoperability between systems, and they don’t offer follow-up care. Both facts can cause discontinuity in treatment and avoidable errors. Unless one is experiencing symptoms of a severe medical crisis—crushing chest pain or half-body weakness, say—the emergency room isn’t the safest place to be, especially when ERs are crowded with Covid-19 patients. Yet many who go to the ER after hours require no emergency services. They simply have no other place to go.

Kaiser Permanente members in Virginia, Maryland, and Washington, DC, have a better option: They can access a 24/7 video health center that connects them with a doctor who can quickly assess the problem and offer guidance. If the doctor determines that the problem is life-threatening, she tells the patient to go immediately to the ER, sending the relevant medical

information ahead to reduce the risk of complications. But telehealth physicians can solve the problem some 60% of the time. And when a patient needs follow-up care, they can schedule an appointment with his personal physician and communicate relevant details ahead of the visit. This application of virtual care not only addresses medical problems immediately and around the clock; it also prevents unnecessary ER visits that can lead to inappropriate hospital admissions and thousands of dollars in unnecessary expenses per patient.

During the pandemic Utah-based Intermountain Healthcare devised a remote patient-monitoring Covid program that combines telemedicine and home monitoring to unclog emergency rooms and free up hospital beds. Following evaluation by a physician, patients who test positive for (or are suspected of having) Covid-19 and have non-life-threatening symptoms are given a Bluetooth pulse oximeter. They pair the device with their smartphone and use it to measure their blood oxygen levels daily for two weeks, sending the data to a centrally located nurse care team. If the level is low, the center contacts the patient and conducts a clinical evaluation via phone or video. Patients deemed to remain at low risk for severe illness continue with home monitoring. Those whose condition is severe or deteriorating are instructed to go to the ER.

**Kaiser Permanente members in some areas have a better option than going to the ER: They have 24/7 access to**

# **telehealth physicians, who can solve the problem 60% of the time.**

In its first 14 months the program handled just over 10,000 patients and allowed Intermountain to avoid more than 1,800 hospital admissions and save almost 4,800 hospital bed-days, freeing up beds for critically ill patients. If all providers in the United States had been using such a program, hundreds of thousands of hospitalizations could have been safely avoided, tens of thousands of lives might have been saved, and significant cost savings would have been realized.

If telemedicine programs like the two we've just described were replicated nationally and eliminated even half of avoidable ER visits, billions of dollars a year could be saved.

## **Opportunity 2: Reverse America's Chronic-Disease Crisis**

Chronic diseases are the leading cause of death and disability in the United States, accounting for seven in 10 deaths. Many patients hospitalized with or killed by Covid-19 had conditions such as obesity, chronic obstructive pulmonary disease, hypertension, diabetes, cardiovascular disease, and chronic kidney disease. Even before the pandemic the United States spent \$214 billion a year on medical interventions for preventable complications from events such as heart attacks and strokes and lost \$138 billion in worker productivity.

A leading cause of stroke, and a major contributor to heart disease and kidney failure, is hypertension, or high blood pressure. This chronic condition is poorly controlled 50% of the time in the United States. That means half of all people with hypertension remain at an elevated risk of severe complications.

For members of large multispecialty medical groups such as Kaiser Permanente, high blood pressure is a much more manageable problem. KP consistently achieves a control rate above 90%. It's not that it has better doctors or medications than other providers do; the biggest difference is frequency of disease measurement and timeliness of treatment—factors facilitated by virtual care.

The traditional approach to managing chronic disease is intermittent and episodic. Once a doctor makes a diagnosis, he schedules follow-up office visits on a routine basis, usually every four to six months. Most Americans are used to this cadence, but it makes no sense. Some patients with well-controlled chronic diseases might not need to see their doctor for a year, while others would benefit from monthly evaluations. But traveling to the doctor's office once a month, often for nothing more than a blood-pressure check, is time-consuming, inconvenient, and for many people expensive.

Virtual visits can be scheduled more frequently, and they're less time-consuming for both patients and physicians. Blood pressure can be checked at home with a device digitally connected to the electronic health record system. The combination of telemedicine

and wearable devices allows for more-frequent medication adjustments, resulting in faster and better disease control and fewer complications at a lower total cost.

With the combination of telemedicine and an increased emphasis on primary care and prevention, Kaiser Permanente members in California and the mid-Atlantic region are 14% less likely to die from stroke and 43% less likely to die from heart disease than are people in the United States as a whole.

Superior clinical outcomes don't just save lives; they save money, too. Each year 805,000 Americans suffer a heart attack. The estimated cost of care afterward was \$21,500 as of 2012, the most recent year for which nationwide data is available; it is undoubtedly higher today. If 40% of attacks could be avoided through telemedicine and consistent screening protocols, nationwide saving would total at least \$6.9 billion annually.

### **Opportunity 3: Address Disparities in Health Care**

Telemedicine's ability to address inequities in access has been demonstrated during the pandemic. The ubiquitous smartphone, capable of video interactions, can be a lifeline for underserved populations. In rural areas with few mental health professionals, for example, Intermountain's ability to offer virtual visits gives patients prompt access to both emergency and routine care.

When the pandemic forced the closure of in-person clinics and offices, psychologists and psychiatrists across the United States quickly instituted virtual visits. Intermountain delivered 85% of its mental- and behavioral-health visits virtually, including those



for drug- and alcohol-related programs. Telemedicine visits remained popular even after restrictions eased. Intermountain patients receiving their care virtually reported high satisfaction and were less likely to cancel appointments than were patients who had scheduled in-person visits.

Kaiser Permanente uses video to address disparities in urban areas. In 2006 it began rolling out a program across 21 medical centers for pregnant women battling addiction. Those who were dependent on buses for transportation or who lacked reliable childcare struggled to attend group counseling programs that met three times a week; fewer than 30% of participants were consistently able to attend. But even women without internet access could join virtual sessions with a smartphone, as long as they had at least a 3G connection. Perfect attendance rates soared above 80%, dramatically reducing the need for neonatal ICU admissions postdelivery, which can cost \$100,000 or more per child.

#### **Opportunity 4: Make Specialty Care Faster and More Efficient**

When treating patients who require specialty referrals, primary care doctors have a common complaint: They have 95% of the expertise needed to accurately diagnose and treat but no easy way to obtain the other 5%. Sometimes all they seek is assurance that their diagnosis or plan is appropriate. But without that missing 5%, their only option is to make a referral for an in-person specialty consultation, leading to treatment delays and higher costs.

Waiting lists for specialist appointments can be long. For example, even before the pandemic, patients in the United States often had to wait weeks to see a dermatologist. At Kaiser Permanente, primary care physicians routinely use telemedicine to consult dermatologists—while the patient is in the exam room. Patients leave with a confirmed diagnosis, treatment plan, and prescription. Some 70% of KP patients who visit their primary care doctor with a difficult-to-diagnose rash have the problem resolved in less than 10 minutes via telemedicine.

Across the most common medical and surgical specialties, KP's remote-specialist model resolves patients' problems 40% of the time, with no specialist visits needed. Patient satisfaction is 10% higher than for in-person consultations. When a patient does need to visit a specialist for a procedure, the appointment is scheduled after the virtual consultation; no in-person consult is required. If 30% to 40% of in-person specialist visits in the United States were replaced with this type of telehealth consult, patients would miss fewer workdays and receive faster and more-effective care, and tens of billions of dollars annually would be saved.

### **Opportunity 5: Provide Access to the Best Doctors**

Patients with obscure or complex medical problems often find themselves living a two-pronged nightmare. There's the pain and fear of having a rare disease and the frustration of trying to find the right specialist. Patients may bounce from one local physician to the next, wasting weeks or months sitting through useless appointments and enduring sleepless nights.

Telemedicine offers a far better solution. Virtual technology can connect patients with the most experienced and knowledgeable doctors regardless of where they practice. This scenario is already playing out in Kaiser Permanente's Northern California region. A nationally renowned expert in kidney cancer is located in a remote corner of Marin County, nearly 200 miles from some KP members. Newly diagnosed patients can meet with him virtually. During video consultations he educates them about their condition, using visual aids on a shared screen. He walks them through the relevant clinical information, their radiological scans, and treatment options. He shares videos of the anatomy and the anticipated surgical procedure. Given the rapport thus established, nearly all patients choose to have him perform their surgery, despite the distance many must travel; the day of the operation is often the first time both parties are in the same room. The doctor's patient-satisfaction scores are universally excellent.

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Intermountain uses telemedicine to connect patients who have complex (and often very costly) neurological conditions with specialists. Its Neuro Fast Access Clinical Team virtual platform enables them to receive treatment for migraines, low back pain, and neck pain from an expert at a low cost, in the process freeing

up valuable clinical time for patients who require in-person treatment, such as Botox injections for nerve and muscle diseases.

By eliminating the barriers of time and distance, telemedicine can help address two serious problems for patients with difficult diagnoses and rare diseases. The first is misdiagnosis. The second is long waits for a proper diagnosis and effective treatment plan.

Doctors must often attempt an impossible balancing act with respect to quality, access, and cost. When they increase access to care, costs rise. When they cut costs, quality suffers. The rise of telemedicine during the pandemic spotlights a way to provide rapid access to affordable, high-quality care. Increasing both the frequency and the scope of virtual care nationwide would transform American health, improving the lives of patients who get sick during nights and weekends, those with chronic and mental health issues, and anyone who could benefit from virtual specialty care. It could save tens of thousands of lives and hundreds of billions of dollars each year.

### **How to Spur Adoption**

Two changes would accelerate the implementation of telehealth and make care more cost-efficient and effective.

**Integration.** The health care organizations ranked highest on quality in national surveys are large multispecialty medical groups such as Kaiser Permanente, Intermountain Healthcare, Mayo Clinic, and Geisinger Health. All are built around teams of

doctors who are linked through modern information technologies and work together in a coordinated fashion. According to the American Medical Association, more and more doctors are choosing to become employees rather than work for themselves. In fact, the share of U.S. doctors in private practice dropped below 50% in 2021. This movement toward employment and integration enables doctors to share electronic health records, communicate across specialties, and leverage virtual care to help patients in ways that physicians in solo practice can't.

**Capitation.** Most providers in the United States work on a fee-for-service basis: They are paid for each test, procedure, and treatment they provide. The model incentivizes them to offer services whether or not patients need them. Logically, doctors whose income rides on the quantity of services they provide will resist any model that reduces ER visits, specialty referrals, hospital admissions, or surgeries.

An alternative to fee-for-service is a prepaid, value-based approach known as capitation. Widely supported by policy experts, it pays a risk-adjusted fixed annual amount per patient for all services provided. Although fee-for-service still accounts for most U.S. health care expenditures, capitation is gaining steam. For example, 42% of Medicare beneficiaries in 2021 were enrolled in Medicare Advantage programs, which use capitated reimbursement—up from just 13% in 2005.

# **Telemedicine can help address two problems for patients with difficult-to-diagnose and rare diseases: misdiagnosis and long waits for effective treatment.**

More than 90% of Intermountain members belong to one of the organization's SelectHealth capitated insurance plans, while 95% of KP's 12.5 million members are in a capitated plan. The combination of an integrated system that uses telemedicine to provide superior care and a capitated pay structure explains why physicians in integrated prepaid medical groups embrace telemedicine solutions more enthusiastically than do community-based doctors.

## **The Destination: A Tele-Driven Health System**

The ideal model for the future of U.S. medicine—one to replace or at least significantly augment today's fragmented fee-for-service approach—is *tele-driven health*: an integrated, prepaid, tech-enabled system in which teams of primary care and specialty physicians work together to deliver exceptional care. All the system's physicians have the same financial incentives to keep people healthy. They aim to provide convenient, expanded access via telemedicine. They are rewarded on the basis of the quality of care delivered to defined patient populations and the cost savings achieved.

The most logical candidates to drive the creation of such a system are employers, who currently provide health insurance coverage to 155 million Americans—nearly half the country’s population. They bear the financial brunt of health care inefficiencies and have the most to gain from boosting quality and affordability.

Creating a tele-driven system won’t be easy, but it’s more possible now than ever before. Physicians are increasingly dissatisfied with the current system and open to alternatives. Before Covid-19 forced the issue, they were generally apprehensive about virtual care. But their positive experiences with it over the past two years have made them more receptive to expanding its use post-pandemic.

Businesses and doctors can take several steps to create tele-driven health systems.

**Develop partnerships.** Businesses will need to band together to achieve economies of scale and identify the right leadership in the surrounding medical community. Large national organizations such as the Purchaser Business Group on Health could lead the way. PBGH represents nationwide goliaths including Walmart, Costco, Microsoft, and Intel. It has already formed a division focused on reducing the costs of care; a tele-driven system would align with its current direction.

Alternatively, local businesses could form consortia like the NorthStar Network in Rochester, New York, which aims to lower health care costs for all area employers.



KP and Intermountain's experiences suggest that 30,000 to 50,000 enrollees are needed to support the requisite hiring of primary care and specialty physicians. Few businesses have that many employees in a given geography or the financial ability to make the necessary changes themselves. But 15 or 20 companies together could achieve critical mass.

Businesses might wonder whether creating a new health system merits the time and energy that would be required. They should consider that rapidly rising medical costs will significantly affect their bottom lines. Even before Covid-19 struck, sparking supply chain challenges and exacerbating the shortage of health care professionals, experts predicted that health care spending would increase by 5.5% annually. Businesses can expect extremely high medical-cost inflation if nothing is done. The time to act is now.

**Designate leaders.** During the first wave of Covid-19, doctors replaced office visits with virtual ones seemingly overnight. They could do so because using video technology to deliver patient care is the easy part. The hard part is flipping health care's current delivery and reimbursement model on its head. And that can't happen without excellent leadership.

**If 30% to 40% of in-person specialist visits in the U.S. were replaced by telehealth consults, tens of billions of dollars annually would be saved.**

Having formed a partnership, whether through national or local associations, an umbrella organization must make two key hires. It needs a skilled financial leader from the payer side and an effective physician leader from the care delivery side. Together the two must figure out an appropriate employer contribution, how quality and access will be measured, and the breadth of services that will be delivered. They'll need to negotiate contracts with local hospitals, deploy IT systems, and purchase reinsurance to protect against the unexpected costs that a single patient with a massive injury or in need of a transplant can generate.

**Design reimbursement and care delivery systems.** When creating a new model of health care, the hard work is in the details, and because a tele-driven system will affect every aspect of care delivery, developing one entails thousands of decisions. Medical and financial leaders will need to design, shape, and implement the processes by which care will be delivered and paid for. The specifics of how best to do this are beyond the scope of this article, but here are two major considerations.

*Reimbursement.* A tele-driven system functions best when most if not all physicians and advanced practice providers (nurse practitioners and physician assistants) are salaried employees. With the majority of doctors and APPs in the United States now working for health care organizations (hospitals, medical groups, or insurance companies) rather than for private practices, this is now possible. But effective implementation will require a shift in how those organizations pay practitioners. Instead of rewarding them individually for the number of patient visits, tests, and

procedures they perform, as in fee-for-service models, organizations should incentivize overall group performance. Telemedicine offers a big advantage here: Groups don't need to be colocated.

*Care delivery requisites.* A tele-driven system typically needs at least 20 primary care physicians and APPs on staff to facilitate 24/7 virtual coverage. It also requires a broad range of specialists, with at least one from each specialty available each day to give primary care doctors that missing 5% of information they may need to quickly resolve patient problems.

Physician staffing will need to radically change. Some 65% of U.S. clinicians today are specialists; only 35% provide primary care. A tele-driven system would reverse that ratio over time. Medical students' preferences for residency training would likewise shift.



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When telemedicine is at the heart of care delivery, patients require fewer specialist visits; as noted, KP's experience suggests that primary care physicians can resolve 40% of problems with the help of telehealth-based specialists. What's more, collaboration among doctors and the improved overall health of

patients mean fewer medical complications and surgical interventions. Finally, the availability of experts for rare and complex diseases facilitates correct diagnosis and treatment at the outset.

Kaiser Permanente and Intermountain Healthcare have adopted many of these elements, including a significant degree of capitation, sophisticated technology, and right-sized staffing ratios. But barriers remain for both, limiting their ability to achieve full-fledged tele-driven systems. KP still draws heavily on brick-and-mortar facilities, which require large capital investments. Intermountain depends on doctors, particularly in rural areas, who are paid on a fee-for-service basis and care for people insured through a variety of plans. Still, both organizations could move rapidly toward full-fledged tele-delivered systems if the businesses buying health insurance demanded it.

Lowering medical costs while maximizing the health of employees is the best way for American businesses to stay profitable and maintain a loyal workforce. The pandemic has highlighted the opportunities that exist and the problems that will worsen if nothing changes. Done well, the transition to a tele-driven health system could be accomplished in a few years. If left to chance, it could take decades—if it happens at all.

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# BW

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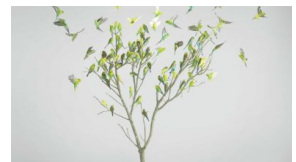
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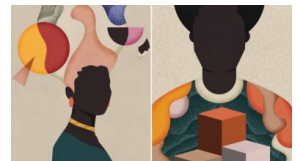
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