

A Virtual Revolution

How the COVID-19 pandemic will transform care delivery

Who can doubt that a decade from now, healthcare historians will look back to the COVID-19 global pandemic and mark 2020 as the year telehealth emerged from obscurity – a minor piece of the healthcare network – to take its rightful place as a critical component of care delivery? It's part of an inspiring story about the American healthcare system's resilience, ready to bounce back to normalcy as soon as it neutralized the coronavirus' threat.

But if that's *all* of the story, then providers and payers will have missed a once-in-a-lifespan opportunity to re-think and re-engineer population health, care coordination, the patient journey and almost every clinical pathway from the ground up.

That's because the unique healthcare experience of 2020 shouldn't represent a mere deviation from the norm so much as an unparalleled opportunity for digital transformation. We are indeed at an inflection point: After the pandemic, healthcare can return to its fragmentary and institutionally centered care model – or it can choose to leverage proven and highly scalable technology to design and implement a new patient-centered paradigm of care.

In fact, unless today's healthcare leaders commit to creating a new normal – one built on the innovations introduced out of necessity and forged in crisis – tomorrow's healthcare leaders may consider the 2020s a tragic decade of missed opportunities.

“People now recognize the extraordinary breadth of opportunities that virtual care presents,” said Lee Schwamm, MD, who serves as the Executive Vice Chair of Neurology, Director of Center for Telehealth and Vice President for Virtual Care and Digital Health at Mass General Brigham in Boston. “There is, in my mind, no question that the winners of the next decade will be the healthcare systems that figure out how to embrace this kind of technology and modernize their delivery systems in a way that engages patients and puts them at the center.”

“The pandemic constitutes a global tragedy,” said Ron Emerson, Global Healthcare Lead, Zoom Video Communications. “But if it results in simply replacing one fee-for-service patient encounter offering with another, we're like generals fighting the last war instead of preparing for the next.”

This white paper leans into the pandemic's lessons for virtual care. It incorporates HIMSS Market Intelligence research, investigating the attitudes of executive, senior and middle managers at healthcare provider organizations of all sizes.

It also draws on the insights of virtual care experts from Zoom, who have spent the past year providing frontline healthcare staff with critical tools to combat the deadly virus and are now consulting with clinicians, executives and digital strategists to realize healthcare's new normal.

Overnight adoption

A clinic outside of Seattle documented the first case of COVID-19 in the U.S. on Jan. 21, 2020.¹ Just two weeks later, the Centers for Disease Control and Prevention (CDC) and the Centers for Medicare & Medicaid Services (CMS) issued operational guidance for healthcare facilities, *including specific recommendations to adopt telehealth alternatives to traditional in-person encounters.*

“Changes in the way that healthcare is delivered during this pandemic are needed to reduce staff exposure to ill persons, preserve personal protective equipment (PPE), and minimize the impact of patient surges on facilities,” the guidance noted. “Healthcare systems have had to adjust the way they triage, evaluate, and care for patients using methods that do not rely on in-person services. Telehealth services help provide necessary care to patients while minimizing the transmission risk of SARS-CoV-2, the virus that causes COVID-19, to healthcare personnel (HCP) and patients.”²

The memo went on to note that although “telehealth technology and its use are not new, widespread adoption among HCP and patients beyond simple telephone correspondence has been relatively slow.”

Overnight, thousands of providers scaled up their telehealth programs or launched new ones. Like their counterparts in almost every other industry, they also launched virtual desktops that relied heavily on video conferencing tools such as Zoom, Microsoft Teams and Webex to enable nonclinical employees to continue working from wherever they were.

“Simply put, clinics, hospitals and networks were forced into it,” observed George Lillig, Zoom’s Head of Healthcare, U.S., and a former executive with telehealth giants such as Polycam and Tandberg. “For example, we’d get a call from an institution that previously might have had 800 physicians working with virtual care, and they needed to spin it up to 8,000 doctors immediately. We’d never encountered that before. Independent physicians, who couldn’t get into their offices, asked themselves, ‘How will I survive?’ Their only option was to jump into video.”

Data from leading industry analysts bear out Lillig’s perceptions:

- McKinsey & Company estimated that following the pandemic’s U.S. arrival, providers saw 50 to 175 times more patients via telehealth than before. Only about 1 in 10 patients reported using telehealth in 2019. Soon after the crisis took hold, more than three in four said they were likely to use telehealth (especially since upwards of 70% of nonurgent appointments were canceled).³
- Forrester predicted that virtual care visits would hit 1 billion in 2020, including 900 million visits related to COVID-19. Despite planned vaccine distribution, the company’s analysts still expect nearly 500 million virtual visits in the U.S. in 2021, with a third of those accessing mental and behavioral health services.⁴
- Amid the second spike in September 2020, an article in *Health Affairs* pegged the percentage of virtual visits at 90% of all patient encounters then taking place.⁵

“Here’s the thing,” Lillig said. “When people saw those numbers on the news, they thought telehealth must be relatively new to the scene. But the truth is that we’ve been doing successful telemedicine programs in rural areas like Alaska and Montana – places where you just couldn’t access healthcare – for 25 years or more. It wasn’t totally nascent. The use cases were well-established long before COVID-19 arrived.”

Scale and simplicity made it possible

So, why did virtual care appear as a revelation when the pandemic struck? The usual explanation for pre-pandemic low adoption rates included regulatory prohibitions on endpoints and interstate treatment; reimbursement disparities for telehealth visits; and consumer preferences for hands-on, in-person encounters. When the federal government relaxed these restrictions and paid for virtual visits, and patients had no other treatment options, telehealth exploded.

Emerson and Lillig both suggested the conventional narrative misses two crucial points. First: Barriers count less than incentives when it comes to adoption. The prevailing fee-for-service payment model incentivized a system in which the physician’s office was the hospital’s front door. The more patients went into the office, and the more their journeys took them deeper into hospitals and clinics, the more revenue for the system. Telehealth’s advantages for care delivery could only flourish, Emerson argued, when necessity disrupted the revenue model.

The second point is that the virtual care boom was enabled by innovative technologies that scaled – pervasive general-purpose video applications that also could be integrated into electronic health record (EHR) systems, the proliferation of wearables and other home sensors, consumer-grade broadband and cloud-based infrastructure. These newer technologies represent a different approach than traditional telehealth solutions that required expensive hardware, virtual private networks, extensive bandwidth and legacy infrastructure.

“In traditional telehealth, the ‘how’ part wasn’t easy for both parties,” Lillig said. “It wasn’t simple enough for a long-term shift to telemedicine and remote care. If COVID had struck before the widespread adoption of cloud technologies and consumer broadband ... well, we can all thank God the cloud’s there instead of having to deal with onsite hardware, like the old days. This would never have worked.”

In other words, the virtual care models that emerged during the pandemic shouldn’t be confused with telemedicine from 20 years ago. Rather than use-case specific solutions, virtual care offers broad-ranged applications for a variety of disciplines and specialties. Instead of standalone solutions that require separate workflows, virtual care integrates tightly into existing EHRs and workflows.

“Before [COVID-19], we needed dedicated, sophisticated computers and private networks to ensure that there was high bandwidth,” said Schwamm. “The current suite of video conferencing tools available has made a virtual visit almost as simple as making a phone call with the kind of reliability we expect from phone circuits. Millions of people are now seeing their doctor over a personal device from the safety and privacy of their own home. ... That’s what enabled Mass General Brigham to go from conducting thousands of telehealth encounters a year to 1.38 million visits between March 15 and the end of September 2020, which is when the pandemic was really hitting Boston at its hardest.”



“The current suite of video conferencing tools available has made a virtual visit almost as simple as making a phone call. ... Millions of people are now seeing their doctor over a personal device from the safety and privacy of their own home. ... That’s what enabled Mass General Brigham to go from conducting thousands of telehealth encounters a year to 1.38 million visits between March 15 and the end of September 2020.”

Lee Schwamm, MD | Executive Vice Chair of Neurology, Director of Center for Telehealth and Vice President for Virtual Care and Digital Health | Mass General Brigham



“One possibility – from the perspective of our healthcare clients – is that virtual care and video visits will remain an ongoing option. They’ll do this because it will be necessary to attract and retain patients who will come to expect it.”

Ron Emerson | Global Healthcare Lead | Zoom Video Communications

A critical choice for providers

Hope for an end to the pandemic arrived in the form of expedited U.S. Food and Drug Administration approvals for several vaccines, with initial rollouts coinciding with the start of 2021. Vaccinating every American is expected to take the better part of the year, but clinics and hospitals are already planning for their post-COVID-19 future. Part of that calculus must include if and how to deploy virtual care as part of their healthcare delivery strategy.

“One possibility – from the perspective of our healthcare clients – is that virtual care and video visits will remain an ongoing option,” Emerson said. “They’ll do this because it will be necessary to attract and retain patients who will come to expect it.”

Heidi West, Zoom’s Head of Healthcare, U.S., agreed.

“The ship has sailed,” she said. “Doctors have leveraged virtual visits and know that they’re delivering high-quality care. Patients feel like doctors are more engaged, since they’re looking at them instead of at their keyboards. And, in many cases, people feel a higher degree of connection with their doctor – video visits have flipped the narrative quite a bit on what quality care looks like.”

The experience at Mass General Brigham certainly lends support to that view. Having ramped up video visits as well as asynchronous clinical communication tools, Schwamm is confident there will be no return to pre-pandemic utilization.

“I think our patients will very much be unhappy if all of this type of care goes away now,” he said. “They have come to realize the value of the approach. Before, they might have to take a day off from work and drive four hours round-trip to see their doctor for a 30-minute appointment. Now, they spend 90% of their total time with the doctor, not in traffic or waiting rooms. When they want a visit with their doctor, they feel that a virtual visit is best.”

Virtual care will power digital transformation

Emerson, West and Schwamm also agreed on a second point – that virtual visits represent just the tip of the iceberg. The real “new normal” in healthcare ought to look very different from the pre-pandemic normal.

“Certainly, the level of acceptance and digital facility with video conferencing is so high that it removed the major barrier to virtual visits,” Schwamm said. “But now it has created the need to re-engineer and adapt workflows across the healthcare

system spectrum – an effort not without significant financial and cognitive expense – to recognize the extraordinary breadth of opportunities that virtual care presents.”

At Mass General Brigham, in addition to virtual visits, remote patient monitoring, online second opinions and virtual urgent care, the roster of new, digitally enabled workflows and pathways include:

- E-visits, which are asynchronous, structured communications between doctor and patient, such as secure chat or other ways of organizing information, that involve more than just sending an email back and forth. “We have found that patients value the convenience of asynchronous communication with their doctor. They like submitting a refill request and getting their drugs refilled without having to talk to someone,” said Schwamm.
- E-consults, which are structured communications between physicians. As Schwamm described it, “Instead of sending you to the dermatologist for an in-person consult, I just send an e-consult request to the dermatologist, maybe with a picture of a skin lesion and a question, like, ‘Do I have to send this to you for a biopsy or is it benign?’”
- Virtual consults, or doctor-to-doctor meetings, using real-time video. These are often deployed for hospitalized patients or patients in the emergency department presenting with signs of a stroke or other concerning symptoms.

Schwamm also described a program in which the system put bedside tablets with video conferencing tools in every patient room: “That allowed us to beam into the room of any patient

“I think our patients will very much be unhappy if all of this type of care goes away now. They have come to realize the value of the approach. Before, they might have to take a day off from work and drive four hours round-trip to see their doctor for a 30-minute appointment. Now, they spend 90% of their total time with the doctor, not in traffic or waiting rooms. When they want a visit with their doctor, they feel that a virtual visit is best.”

Lee Schwamm, MD

“[Bedside tablets with video conferencing tools] allowed us to beam into the room of any patient in the hospital and provide face-to-face care without a mask, goggles, a face shield, gown, gloves. It was a much more humane experience and also allowed us to bring in medical interpreters, family members and other individuals to discuss important issues about the patient’s prognosis without having to spend time in the room unnecessarily, which could increase the risk of exposure to staff.”

Lee Schwamm, MD

in the hospital and provide face-to-face care without a mask, goggles, a face shield, gown, gloves. It was a much more humane experience and also allowed us to bring in medical interpreters, family members and other individuals to discuss important issues about the patient’s prognosis without having to spend time in the room unnecessarily, which could increase the risk of exposure to staff.”

“The danger is that everyone has developed tunnel vision for virtual visits,” West said. “This is about so much more than a telemedicine visit. We need to take a step back and re-evaluate how virtual communications technology can provide new and improved solutions to long-standing problems in healthcare. We’re just scratching the surface of what’s possible.”

Emerson said that Zoom clients – both within and outside of healthcare – are developing new, video-enabled solutions “every day” to improve care, reduce costs and enhance clinician and patient satisfaction. “It’s because video in healthcare is a broad-spectrum solution,” he said. “You can take this horizontal communications platform, and then as you ‘verticalize’ it, you can integrate it into workflows and deploy it for other specific use cases throughout the enterprise.”

For example, video- and virtually enhanced meetings can improve internal and external communications for billing, reimbursements and vendor meetings. “Private healthcare systems have business drivers too, just like other businesses,” Emerson said. “In addition to delivering care, they have to attend to all the other daily business functions to drive revenue, grow business and stay competitive.”

Similarly, he said, clients now deliver video- and virtually enhanced continuing education and training programs for staff. And the same platforms have been extended to provide education to patients in their homes, whether it’s discharge instructions, wellness and prevention activities, or even offering healthy recipes and cooking classes.

But the most significant opportunities may ultimately occur in quality-based care and population healthcare models.

“Virtual care is an enabler of the goals healthcare has been pursuing for years now, but with little success,” Emerson said. “We’ve been slowly moving toward capitated rates. We’re moving toward value-based care. ... We hear these terms used all the time, but progress has been incremental. Zoom has this unique ability to reach across the whole care continuum – the

patient’s home, the primary care doctor’s office, a small clinic, or an academic medical center. We can reach across the virtual care continuum to help patients in all of these different settings develop new forms of interactions and create new relationships. It’s not just about the doctor seeing the patient. ... It’s about the entire care team being able to connect the patients, regardless of where anyone is located.”

Redesigning care around video

As easy as it is to find rich data detailing the quantum leap forward in adoption, it’s hard to find definitive predictions on how virtual care will roll out over the next decade. That’s a feature, not a bug, according to industry experts.

West believes we can expect a burst of innovation and creativity to arise as health systems and payers experiment with the “broad spectrum” video platforms that were introduced as a necessity at the height of the pandemic, but which now offer opportunities to improve touchpoints throughout every patient’s unique health journey.

“Don’t underestimate the consumer,” West said. “That’s my advice. They want this, so we’re at an exciting crossroads to make better decisions about the right vehicles to engage them.”

“It’s tough to take out a crystal ball on this,” Schwamm agreed. “Likely, healthcare will move toward a hybrid delivery system. It may be that the most cost-effective strategy is to screen most conditions virtually and then follow up in person with those who require it. Some things you know you can deal with virtually, some things you know you can’t deal with virtually, and then there’ll be a bunch of conditions in the middle. Patient-specific and doctor-specific factors will determine whether a virtual visit is appropriate.”

“We can reach across the virtual care continuum to help patients in ... different settings develop new forms of interactions and create new relationships. It’s not just about the doctor seeing the patient. ... It’s about the entire care team being able to connect the patients, regardless of where anyone is located.”

Ron Emerson

Healthcare leaders may not know the exact shape of virtual care in the coming years, but they do have clear ideas on what a video platform must offer. The top four features listed by survey respondents were:

- HIPAA compliance
- Ease of use for providers and patients
- Privacy and security tools
- Easy integration into current workflows and interfaces⁶

Schwamm agreed that these features provide a baseline in the post-COVID-19 era because, moving forward, we will stop calling it “virtual care.” It will just be healthcare.

“We’ve learned that video is an incredibly important part of the resilience of society, and the healthcare system must incorporate virtual care,” he said. “It’s no longer an option not to have it. It’s too scalable, cost-effective and efficient for most of what we need to do to let it go again. There’s a fundamental change in how we think about projecting expertise in the delivery of care.”

But there is more work to do, Schwamm added. Comparing virtual care to the birth of the World Wide Web, he sees the need for a robust taxonomy for patient-generated health data. This data will provide new insights that will enable researchers and clinicians “to understand the influence of many other factors that help determine the outcome of patients in the course of their diseases.”

Providers should look to proactively position themselves to serve patients in the new normal, Emerson advised.

“We are moving toward value-based care, and if you are going to do that well, you need increased touchpoints,” he said. “You need to be able to reach people where they’re located. And, that’s not just for fixing them when they’re sick, but it’s also about education, nutrition, wellness and prevention. It’s about better discharge planning and care coordination. This is the advantage that virtual care provides in the coming decade.”

To learn more about how Zoom fits into your evolving virtual care landscape, visit zoom.us/healthcare.

References

1. Centers for Disease Control and Prevention (CDC). 2020. First travel-related case of 2019 novel coronavirus detected in United States [press release]. Jan. 21. <https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html>.
2. CDC. February 2020. Using telehealth to expand access to essential health services during the COVID-19 pandemic. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/telehealth.html>.
3. McKinsey & Co. 2020. Telehealth: A quarter-trillion-dollar post-COVID-19 reality? May 29. <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality/>.
4. Forrester. 2020. Predictions 2021: Digital goes mainstream as the new normal sets in for healthcare.” Oct. 20. <https://go.forrester.com/blogs/healthcare-predictions-2021/>.
5. Gupta, A., Nguyen, A.M., Chang, J.E., Lai, A.Y., Berry, C., and Shelley, D.R. September 2020. Five ways – beyond current policy – to truly integrate telehealth into primary care practices. *Health Affairs*. <https://www.healthaffairs.org/doi/10.1377/hblog20200903.597561/full/>.
6. HIMSS Market Intelligence. 2020. Patient access video conferencing platforms. Chicago: Author.



About Zoom

Zoom helps businesses and healthcare organizations bring their teams together in a frictionless environment to get more done. Our easy, HIPAA compliant reliable cloud platform for video, voice, content sharing, and chat runs across mobile devices, desktops, telephones, and room systems for a variety of applications in the healthcare space such as virtual health, medical education, healthcare administration and population based health. Zoom is publicly traded on Nasdaq (ZM) and headquartered in San Jose, California.