How COVID-19 is Shaping Trends and Technologies in Healthcare

The healthcare technology industry continues to expand at a rapid pace as our society adjusts to new ways of living, working, and taking care of itself. As the industry adapts to these changes through innovation, new technologies and trends are pushed to the forefront. These advancements will shape what is to come in the future, as well as what patients and physicians alike will see as the new standard of healthcare.

Facing unforeseen burdens and shifting demands, the industry has turned toward emerging technologies to answer the call for patient care. From telehealth services to at-home hospital care models and in-home smart devices, we are trending toward new face of health care. Changes to healthcare policies and regulations are making widespread access and adoption of these technologies possible.

The Telehealth Boom Finally Arrives

Despite the range of tools and technologies available before the pandemic, telehealth usage was rising at a somewhat sluggish pace. According to a 2019 J.D. Power survey, just **9.6%** of Americans said they had used telehealth services, and **74.3%** said they did not have access to telehealth or were unaware of their options. Other common issues with widespread telehealth adoption included inflexible healthcare policies, solution development, and implementation costs, and security concerns.

With adoption up **50%** in March alone, 2020 has created a telehealth boom. Telehealth visits for general medical care are set to reach **200 million** this year, a significant increase from the original predictions of just **36 million**, made by Forrester in November of 2019.

This increase in demand for telehealth services is largely in response to efforts to contain and curtail the spread of COVID-19. Easing of regulations for telehealth visits and increased insurance coverage under Medicare and Medicaid — as well as private insurance policies — have made widespread adoption possible. Telehealth reimbursement models are now on par with in-person visits under many insurance policies.

Telehealth appointments don't just make visits easier on the pocketbooks of patients. They also help medical practices maintain financial stability. With fewer patient visits across the country, telehealth allows providers to continue to care for patients and produce cash inflows at a safe distance.

The rise of telehealth also represents a paradigm shift, helping to change how providers think about the quality of patient care available through telehealth.

This is especially true for visits with mental healthcare providers. With symptoms of anxiety and depression spiking in the United States, more and more patients are looking for ways to care for their mental health at a safe distance. Virtual services can also be attractive to patients who fear the social stigma of receiving mental health treatment or who live in more remote locations.

Telehealth will remain an integral part of healthcare services in the United States. Patients in rural areas will likely find the service to be a convenient way to receive non-urgent care. Experts predict that the impact of the pandemic will result in some level of social distancing even after the spread subsides. While putting tactics in place to scale back up quickly, providers must think through ways to incorporate telehealth into their practices for the long haul.

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Hospital-at-Home Care Finally Comes to the U.S.

The hospital-at-home care model has seen success in countries such as England, Canada, and Germany. Patients receive hospital-level care in the comfort of their homes, reducing costs and risks of complications, as well as additional illnesses and infections acquired in the hospital, such as COVID-19 or MRSA. Adoption of a similar model in the United States presents several challenges including concern over the quality of care, potential legal risks, and the reluctance of both government and private insurance providers to offer reimbursements.

However, that's not to say it can't be done. The John Hopkins Healthcare System in Baltimore developed its hospital-at-home program in 1994. The program was developed as a means of providing care to elderly patients who would not go to the hospital or were at a significant risk of infection. The program resulted in **32%** lower costs than traditional hospital care.

A similar program was piloted in Brigham and Women's Hospital in Boston with 91 patients in 2019. Despite the small sample size, the results were impressive. Their healthcare costs were **38%** lower on average. The patients were less likely to return to the hospital within 30 days of discharge when compared to similar patients who received traditional hospital care. Similar programs may be suitable for recovering, low-risk COVID-19 patients who have been monitored in traditional care. It is also an option for reducing the risk of acquiring COVID-19 in a hospital setting for patients who require long-term care.

Payment remains the largest hurdle. Some experts have called on Medicare to expand its telehealth benefit "to provide more intensive care at home" and "allow home-based SNFs (skilled nursing facilities) to use remote technologies for institution-level monitoring and treatment of patients." As for private insurance, others have suggested that the insurance company applies "an adjustment for the transfer fee" and the hospital or a subcontractor would provide the at-home services. While the logistics still impede significant, widespread adoption as we've experienced with telehealth, providers can expect to see at-home hospital care become more commonplace in the United States.

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In-Home Smart Devices Provide Greater Access to Health Information

From Siri to Alexa and Google Assistant, the options for in-home smart devices have multiplied in recent years. These digital assistants can do everything from playing music to answering trivia questions to adjusting your thermostat on the drive home.

Shipments for voice control devices are predicted to grow globally by nearly **30%** percent compared to 2019. Today, voice search (whether it be through a standalone device or a smartphone) serves as not only a means to receive information quickly, but also a way to avoid touching surfaces unnecessarily. Voice-activated thermostats, light switches, doorbells, and appliances make it easy to keep things running smoothly in a touch-averse world.

While these devices are now mainstays in many homes (and offices), the adoption of voice search is relatively new. The search method only came to be in 2011, introduced by Google on desktop computers. In just eight years, voice search rose to the second most popular search method for users, just behind mobile browsers. The most popular application as of 2019 was for directions while driving.

The makers of these smart devices have adapted them to serve as a health resource during the pandemic, answering questions about COVID-19 symptoms, local cases, and changing regulations. Providers can expect to see more and more patients using these devices as a means of screening symptoms before making an appointment. Much like telehealth, voice search adoption increased in response to the pandemic but is currently securing its place in American society for years to come. The Smart Audio Report by NPR and Edison Research reveals that smart device owners are now using voice commands at least once a day for the first time ever.

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Health Devices and Remote Care: Transmitting and Tracking Vitals

Remote patient monitoring (RPM) has been on the rise over the past few years with the dawn of connected health devices. While RPM has been used to monitor patients with significant health risks, providers are now using the tools to track the vitals of those with a high risk of contracting COVID-19 or those with mild cases of COVID-19 recovering at home.

RPM technologies are often used for patients in recovery after hospitalization or those with chronic illnesses. In 2015, the number of remotely monitored patients across the globe came in at nearly **5 million**, a **51%** increase from 2014.

Some patients are also monitoring their own health with the use of devices such as the Fitbit, Apple Watch, and Garmin's Fitness Tracker, which provide data on heart rate, activity levels, sleep quality. This information can be transmitted to providers. The FDA recently expanded the use of noninvasive remote patient monitoring technologies including the electrocardiogram app for the Apple Watch.

Berg Insights estimated the number of remotely monitored patients would increase to **36.1 million** by 2020. That was before the pandemic; today, remote monitoring is a critical part of healthcare's strategy to free up hospital beds. Blood pressure monitors and pulse oximeters are used to monitor patients with mild cases of the virus. Real-time notification alert providers to changes in patient health.

With RPM, providers have access to a patient's vitals from afar at any time. Combined with telehealth, providers can continue to care for patients while reducing the spread of the virus and preserving space in hospitals for urgent cases.

By no means will wearable devices and remote patient monitoring technologies replace healthcare providers. Instead, they should be considered tools to help patients and providers alike make more informed decisions regarding healthcare and lifestyle choices from anywhere.

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Artificial Intelligence Allows Healthcare Industry to Mine Data and Detect Patterns

Artificial Intelligence (AI) has been credited with identifying the seriousness of the COVID-19 pandemic in late December 2019. The Boston Children's Hospital's tool, HealthMap, uncovered an outbreak of a new type of pneumonia in Wuhan, China. HealthMap uses AI to mine news articles, social media posts, and internet searches to pinpoint potential disease outbreaks.

AI serves as an important tool for public health monitoring by tracking the spread of disease and predicting future epicenters. It's also being used to detect early signs of sepsis in hospitalized COVID-19 patients. AI helps to alleviate the burden on healthcare resources by supporting the development of potential vaccines and treatments. John Hopkins Medicine is currently exploring the use of chest imaging to diagnose and treat COVID-19 patients at a large scale through AI.

While AI has yet to beat COVID-19, it is reshaping the healthcare industry. Its ability to sort through massive amounts of data, rapidly analyze health records, and model predictions make it a powerful ally for overcoming global health challenges. Other applications of AI include increasing diagnostic accuracy, earlier detection of cancers, and analysis of medical imaging results.

For these technologies to become a central part of healthcare, however, measures must be taken to integrate them fully into the system. Doing so requires new regulations, cooperation from insurance providers of all types, and collaboration across the industry. Updates to HIPAA and the Interoperability and Patient Access final rule are two significant steps in that direction.

Making Telehealth Work Under HIPAA

The Coronavirus Assistance, Relief, and Economic Security (CARES) Act and Section 1135 of the Social Security Act have expanded the availability of telehealth services to Medicare beneficiaries. Medicare and Medicaid are currently reimbursing telehealth visits to the same extent as in-person visits to maintain access to healthcare during the pandemic.

Private insurance companies have followed similar measures, offering co-pays at the same rate or close to in-person visits. Measures around the devices approved to use for telehealth services have been relaxed as well. The Centers for Medicare & Medicaid Services expanded coverage and access to telehealth services in March. That same month, the Office of Civil Rights announced that they will not impose penalties for non-compliance with HIPAA "against covered health care providers in connection with the good faith provision of telehealth during the COVID-19 nationwide public health emergency." Providers are still encouraged to use non-public facing platforms for patient communication.

Improving Interoperability at a National Level

With so many different systems to manage remote patient care, telehealth services, and health records, the need to securely access and share data is paramount to healthcare in 2020 and beyond. Interoperability is key to sharing information about COVID-19 testing, tracing, and outbreaks. Increased interoperability will lead to better outcomes as providers have access to comprehensive patient data.

The pandemic has exposed the lack of interoperability in the United States healthcare system. Never before have hospitals, clinics, practices, labs, and pharmacies had to work across so many systems at once. This is true at both the local and national level. The most recent phase of the 21st Century Cures Act focuses on interoperability and patient information blocking. This final rule seeks to increase patient access to personal healthcare information and encourage patient-driven care coordination.

The Interoperability and Patient Access final rule has also made strides to address this issue. The rule mandates the following:

- Patient access to medical records and claims data via the app and device of their choosing
- Adoption of computing standards and APIs by EHR companies and insurance providers
- Standardization of data exchanged by Health IT systems

This mandate is critical to better understanding COVID-19 and treating patients quickly and at scale. Even beyond the implications of this devastating pandemic, enhanced data exchange will be used to triage patient care and make more informed decisions based on patient data.

New technologies will continue to emerge as the healthcare industry works to adapt to new patient needs. One of the most effective ways to ensure the highest quality of care is to equip your practice with proven solutions.

Whether it's for telehealth, patient engagement, or complete practice management, RXNT's solutions will keep you one step ahead of the ever-changing healthcare industry. Founded in 1999, RXNT was founded to revolutionize prescription management. Innovation remains at the core of everything we do. That's why we continue to adapt and evolve alongside the healthcare industry, bringing solutions internal medicine providers like you can count on.