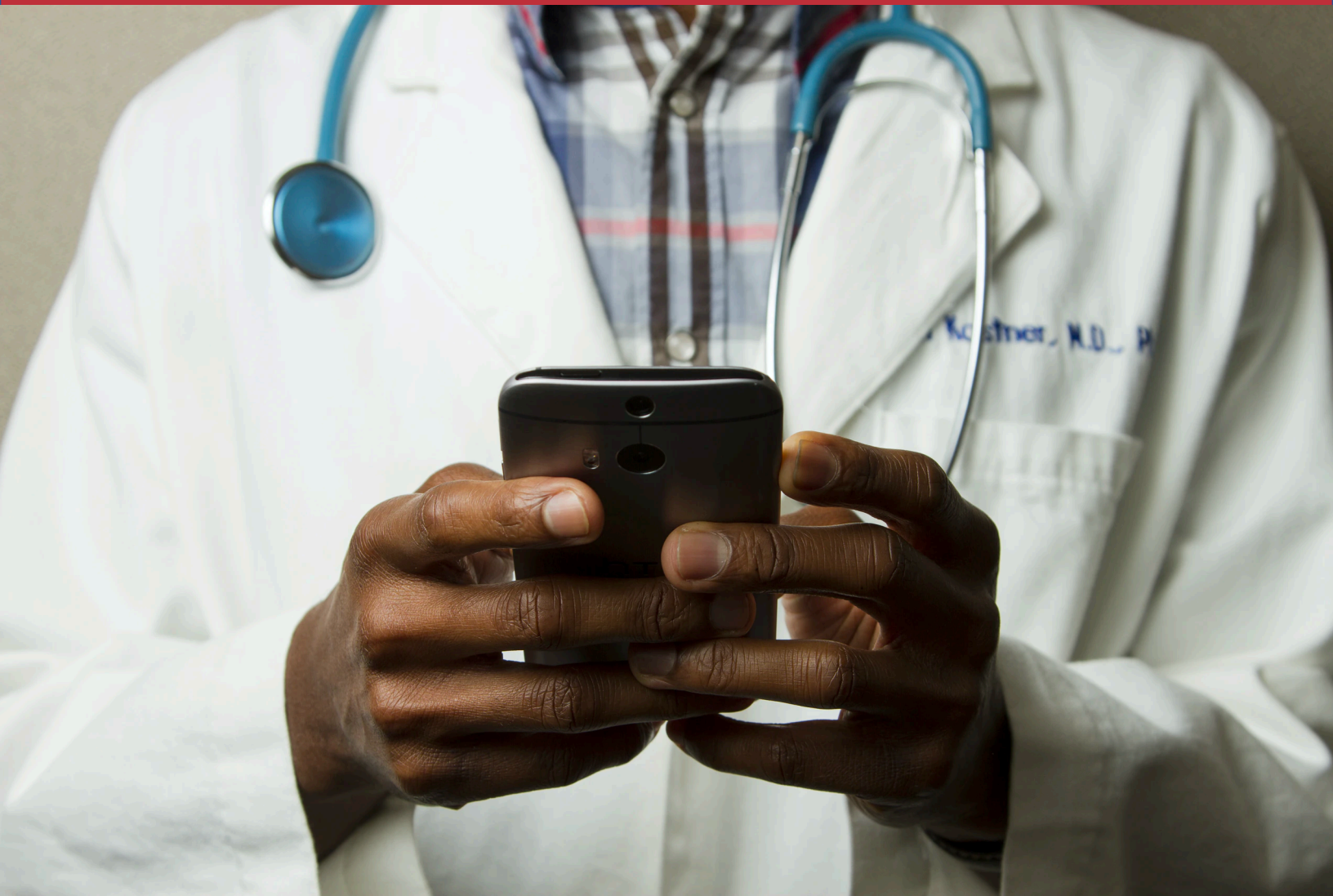




Healthcare in a Post COVID-19 World

Harvard College Consulting Group

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1. Executive Summary

The healthcare industry adapted quickly to COVID-19, notably through a dramatic increase in telehealth adoption and usage, policy responses, and a shift to home-based care. Future challenges include ensuring equitable access, data privacy, and the overall quality of remote healthcare.

POLICY

Radical healthcare policy overhauls like Medicare for All are unlikely to rapidly emerge due to COVID-19. Public opinion has not changed significantly on highly politicized issues. However, changes allowed within the existing policy infrastructure, such as expanding Medicaid under the ACA, have already shown some promise at the state level. In general, beneficial policy options within existing structures present a unique opportunity to maximize potential of public healthcare.

0%

Percentage change of people who supported single-payer healthcare in January 2020 vs May 2020, according to data from the KFF

TELEHEALTH

73%

Percentage of respondents to HCCG's July Healthcare Survey who agreed that data collection and use should be increased to monitor and model disease activity

Data privacy issues necessarily arise due to increased use of data, but patients and policy makers alike have been willing to put these issues aside to speed the response to COVID-19. Policy changes like allowing non-HIPAA compliant remote platforms for telemedicine and relaxation of standard timelines for pharmaceutical development have been effective in increasing access to care. However, as more data privacy issues come to light down the line, privacy initiatives like MyHealthEData will continue to increase in relevance and importance.

Patients, policy makers, and providers all play a key role in Telehealth adoption. Policy makers primarily serve as enablers - changes to reimbursement, HIPAA regulations, and state licensure can allow providers more flexibility in treatment options. Allowing greater freedom increases the viability of a longer-term telehealth solution, both in terms of provider innovation and, later, patient willingness to replace in-person visits with virtual visits, remote monitoring, and other forms of telehealth.

Ideal reimbursement is something that's value-based, where we get paid for quality and outcomes. We can use any care delivery model we want within that context; telehealth flourishes in those kinds of settings."

Dr. Joe Kvedar
American Telehealth Association

ACCESSIBILITY

5x

Age-adjusted **hospitalization rate** of non-Hispanic American Indian, Alaska Native, and Black individuals compared to white individuals

A greater prevalence of preexisting conditions and lower quality of and access to healthcare has increased the frequency and severity of COVID-19 infections among racial and ethnic minorities. Telehealth has the potential to increase accessibility for these communities, but it alone is not sufficient; healthcare providers should be aware that clinical guidance is often more difficult to follow for members of underprivileged communities, and policy makers should expect public health guidance to have a heterogeneous impact.

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3. Introduction

There are few industries that are as universal or as hotly debated as the healthcare industry, and for good reason – at some point in nearly all of our lives, we will have to directly interact with it, and the experience is often unsatisfying. With the COVID-19 pandemic, these issues have been further inserted into public discussion, and clearly there will be changes and fallout for the industry as a whole – but it’s certainly not immediately obvious what these changes will be, or what their impact will be. Throughout this paper, we discuss three main stakeholders that contribute to (and are impacted by) the healthcare system – providers, patients, and policy makers – and examine the impact of COVID-19 as well as interactions between each group.

3.1 Predicting the Future

Our main goal, as the title of this section suggests, is predicting the future – accurately describing what healthcare systems will look like in both short-term and long-term. To do so, we draw on three main forms of evidence: survey results, written literature (both academic and journalistic), and the collected opinions of experts who are currently working on future responses. Survey results used throughout this paper include large external surveys (widely cited throughout other work, see §3.2) and the HCCG July 2020 Healthcare Survey, which was designed to answer particular questions that came up consistently throughout our research and provide tailored, directed statistics for further analysis (see §7 for the survey results and analysis). Interviews cited throughout this paper include physicians, public policy experts, and industry leaders. Throughout all of this, however, it is important to note that responses to the virus are likely to be heterogeneous, and thus consequences will be highly nonuniform. There are two types of predictions we make throughout this paper: those on the state of the world, and those on how people can influence the outcomes. Predictions on the state in the future necessarily get less accurate the further out we project, since they only reflect our current knowledge of what has happened and what is planned. However, it is much easier (and therefore much more impactful) to be confident in predictions about direct consequences of changes made now – for example, new healthcare policy changes, or decisions made during the implementation of telehealth. Here we provide both types of analysis, in the hopes that the former will contribute to the broader discussion around the healthcare system’s responses to COVID-19, and the latter will provide actionable steps to improve the many impacted lives.

3.2 Related Work

Healthcare in a post COVID-19 world has been examined extensively throughout the past few months. In particular, digital healthcare increased in both adoption and academic scrutiny,¹ as has analysis of healthcare supply chains.² Additionally, policy reviews have taken place,

¹ For a comprehensive example, see Mosnaim et al., “The Adoption and Implementation of Digital Health Care in the Post-COVID-19 Era.”

² Mirchandani, “Health Care Supply Chains.”

notably through the U.S. Government Accountability Office³ and some have drilled into specific issues like the future of nursing homes, which we address in this paper.⁴ Finally, economic analyses have been done in both academia⁵ and industry, including industry reports from other consultancies.^{6 7} These resources comprise a nearly negligible minority of research published on the various impacts of COVID-19 on the healthcare system; this work intends to provide a more concise, actionable narrative in light of the overwhelming amount of information.

3.3 How To Read This Paper

This paper has three main sections intended for three different groups. In section 4, we discuss telehealth's impact from the point of view of healthcare providers, examine some regulatory consequences, and provide some strategies that practitioners can use to adapt to the changing landscape. In section 5, we discuss healthcare from the point of view of patients, highlighting disparity in access to healthcare, and discussing how to best make use of home-based care and telehealth. Finally, in section 6, we discuss the numerous challenges that policy makers have faced and will likely face in the coming months, analyze outcomes of decisions made earlier during the pandemic, and provide recommendations for future considerations. This structure likely means that providers will find section 4 most applicable, the general population section 5, and policy makers section 6, but it may be helpful to look through considerations that the other groups are facing when trying to form an opinion on the future. To that end, each section begins with a teal "Key Takeaway" which summarizes the principal insights from the section and highlights their relevance to the other two sections. We recommend that readers first read the section most relevant to them, and then skim the Key Takeaways for any other ideas they find interesting - but each larger section is intended to be self-contained.

³ United States Government Accountability Office, "COVID-19: Opportunities to Improve Federal Response and Recovery Efforts."

⁴ Werner, Hoffman, and Coe, "Long-Term Care Policy after Covid-19 – Solving the Nursing Home Crisis."

⁵ Gannotta, "How the Healthcare Industry Will Change Post-COVID-19."

⁶ McKinsey, "Coronavirus' Business Impact."

⁷ Boston Consulting Group, "COVID-19."









4. Providers

4.1 Telehealth Pros and Cons

KEY TAKEAWAY

Telehealth benefits providers by allowing them to treat patients while improving hospital efficiency, prioritizing care delivery, and mitigating chance of exposure to COVID-19. However, telemedicine is not appropriate for all situations that don't require in-person interaction; it requires patients to have access to and familiarity with the necessary technologies and may raise security concerns.

The most significant shift in healthcare delivery during the pandemic for many providers has been the adoption of telehealth services. "When you're able to do quality, convenience, and access and not leave your home, people like that. So, I think we're going to get a lot of 'Wait a minute, we did that by telehealth and I liked it, why can't we continue?'" says Dr. Joe Kvedar, president of the American Telemedicine Association and Vice President of Connected Health at Mass General Brigham.⁸ For providers, telehealth has many clear benefits. Firstly, using technology to deliver healthcare mediates the shortages and imbalances of physicians that have arisen during the pandemic by redistributing hospital resources to focus on the most

PROS	CONS
 Reduces hospital congestion	 Relies on patient reporting
 Prevents readmissions	 Applies only in certain cases
 Decreases exposure risk	 Requires tech access
 Creates new revenue stream	 Relies on data security/privacy

critical cases. For example, virtual visits can reduce waiting room congestion and free up hospital beds.⁹ Telehealth can improve patient outcomes by preventing readmissions and reducing emergency department visits. In particular, remote patient monitoring devices and software can decrease hospital readmissions by alerting doctors to specific concerning symptoms before the patient is aware.¹⁰ Secondly, virtual visits reduce the potential risk of exposure to any illnesses, which is

particularly crucial during COVID-19. Finally, telehealth technology creates a new opportunity for providers to generate a new revenue stream by reaching new patient markets with a new service.¹¹ Overall, telehealth can improve workflow efficiency by improving communication, allowing for prioritization of care delivery, and facilitating the use of patient data for better decision making.

⁸ Interview with Dr. Joe Kvedar, American Telemedicine Association

⁹ MedicalNewsToday, "Telemedicine Benefits: For Patients and Professionals."

¹⁰ Healthcare Information and Management Systems Society, "Remote Patient Monitoring: COVID:19 Applications and Policy Challenges."

¹¹ MedicalNewsToday, "Telemedicine Benefits: For Patients and Professionals."



There are things like breaking the news that you have cancer; I think that's probably better done in person. What's the emotional overhead involved with this medical translation? If it's low, and you don't need to touch the patient, then telehealth is perfect.



However, as with any disruptive innovation, telemedicine technologies also have drawbacks. During a virtual visit, providers must rely on patient self-reports when making treatment and diagnosis decisions rather than their own assessments. Dr. Kvedar notes that there are specific use cases that are not appropriate for telemedicine: "There are things like breaking the news that you have cancer; I think that's probably better done in person. What's the emotional overhead involved with this medical translation? If it's low, then you don't need to touch the patient, then telehealth is perfect."¹² Additionally, doctors may face difficulties with patient adoption. Patients without access to smartphones, computers, or internet connections will not be able to use telemedicine services; these issues are particularly relevant to rural and low-income populations. Patients with a lack of technological literacy, certain disabilities, or poor English proficiency may also face difficulties with virtual visits or other forms of telemedicine. Finally, some doctors may have concerns regarding data security and HIPAA compliance when implementing telemedicine for their practices.¹³ These adoption and access issues are discussed at length in this paper.

4.2 HIPAA Regulations

KEY TAKEAWAY

During the pandemic, HIPAA Rules were waived for telemedicine, allowing patients to access care using familiar platforms and increasing patient comfort with telemedicine - but blanket regulation overhauls are unlikely to endure in the long run.

Prior to the pandemic, patient and data privacy was a major concern for telehealth; however, during the pandemic, these concerns have been sidelined in order to prioritize the accessibility of healthcare. In turn, the Office of Civil Rights and the Department of Health and Human Services have waived penalties for violations of the HIPAA Privacy, Security, and Breach Notification Rules.¹⁴ This waiver allows providers to deliver telehealth care to patients using any non-public communication platform, such as Zoom or Facetime. However, experts like Dr.

¹² Interview with Dr. Joe Kvedar, American Telemedicine Association

¹³ Calton, Abedini, and Fratkin, "Telemedicine in the Time of Coronavirus."

¹⁴ U.S. Department of Health & Human Services, "Notification of Enforcement Discretion for Telehealth Remote Communications During the COVID-19 Nationwide Public Health Emergency."



Kvedar and Thomas (TJ) Ferrante, senior counsel and member of the Telemedicine and Digital Health Industry Team at Foley & Lardner LLP, think that these policy changes will be temporary and that the typical HIPAA Rules will be reinstated following the pandemic. "I'm sure that we will go back to some tight restrictions around what platforms we can use," says Dr. Kvedar. Generally, experts believe that it is important for platforms and providers to follow the established regulations for HIPAA and data security in order to protect patients and their privacy, and therefore expect a return to pre-pandemic measures.¹⁵ In turn, there are steps that providers can take to prepare for the reinstatement of these regulations in the future in addition to transitioning to a HIPAA compliant communication platform. Ferrante makes the following suggestions: "Doctors would want to make sure that the way they're collecting their patients' data meets security standards under the law and that they disclose what they're doing with patient data. They were forced to jump in the deep end of the pool because of COVID, but they should take a breath and try to reassess what they're actually operationalizing and make sure that they understand the rules and that they're compliant with them."¹⁶ In order to assess their compliance, doctors should make sure that any telemedicine services they implement during the pandemic can be adjusted to meet the traditional security measures and, where applicable, reevaluate the use of specific videoconferencing services. In the meantime, the alleviated restrictions on HIPAA rules allows patients to use familiar platforms for telehealth services, increasing their comfort and encouraging integration of telehealth into healthcare infrastructure.

4.3 Telehealth Infrastructure

KEY TAKEAWAY

Government agencies have increased funding for telemedicine during the pandemic, which will play a major role in expanding access to internet and technology for underserved patients.

With adoption accelerating throughout COVID-19, telehealth is expected to remain an everyday tool even after the pandemic. According to Neil Gomes, Executive Vice President for technology innovation at Thomas Jefferson University, telehealth usage increased from approximately 40 visits a day to over 4,000 visits a day at the Thomas Jefferson University Hospital.¹⁷ Apart from faster and more efficient care delivery, increased telehealth usage allows for improved data gathering and reporting capabilities as well as enhanced physician workflow management.¹⁸ Telehealth usage has also spurred innovation and adoption of new technologies. For instance, virtual telehealth visits are being integrated with electronic health

¹⁵ mHealth Intelligence, "Experts Weigh in on Post-COVID-19 Telehealth Rules and Policies."

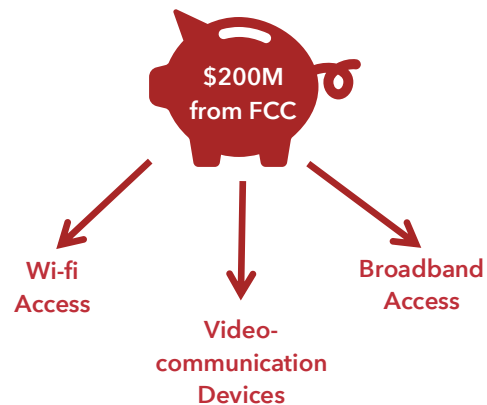
¹⁶ Interview with Thomas (TJ) Ferrante, Foley & Lardner LLP

¹⁷ Interview with Neil Gomes, Thomas Jefferson University

¹⁸ Laura Dyrda, "The Legacy of COVID-19: How Key Innovations Will Outlive the Pandemic. Uncertainty Breeds Innovation, and These Are among the Most Uncertain Times in Healthcare.," Becker's Hospital Review, 2020

record systems, which can reduce physicians' time and energy typically spent navigating between platforms.¹⁹ Similarly, chatbots are experiencing increased usage, according to Gomes. Chatbots are able to answer general patient questions as well as screen individuals with certain symptoms. Melissa Buckley, director of the CHCF Health Innovation Fund, predicts investments in such telehealth innovations will continue occurring given the current necessity of telehealth and its expected continued relevance.²⁰

In addition to the adjustments to the HIPAA rules, the Federal Communications Commission announced a \$200 million dollar program to support healthcare providers in purchasing telecommunications services and devices necessary for telemedicine.²¹ Ferrante notes that this program will be instrumental in helping healthcare providers implement the technological infrastructure needed for the widespread adoption of telehealth. In particular, this funding will be used to increase access to broadband and Wi-Fi for patients in their homes. "If people who live in rural America don't have access to that kind of infrastructure, they lose out on a lot of the access to some of these technologies that really do rely on internet service, whether that be connected to Ethernet or WiFi. What is going to need to happen is to have a national investment into broadband infrastructure," he says.²² As the healthcare industry shifts to incorporate greater use of telehealth services, it is likely that there will be further expansion of broadband access in order to make virtual care available for all Americans.



4.4 Healthcare Infrastructure

KEY TAKEAWAY

Patients are willing to pay for risk-mitigating healthcare technologies that address safety concerns. Such technologies, along with technologies that fill current gaps in infrastructure (e.g. tracking hospital bed availability) will experience increased adoption.

While healthtech has grown rapidly in recent years, the COVID-19 pandemic may accelerate adoption of healthcare technologies. Specifically, technologies that increase patient and population safety (as opposed to technology related to the payment and productivity of care)

¹⁹ Melissa Buckley, "Technology's Emerging Role in the COVID-19 Response," California Health Care Foundation

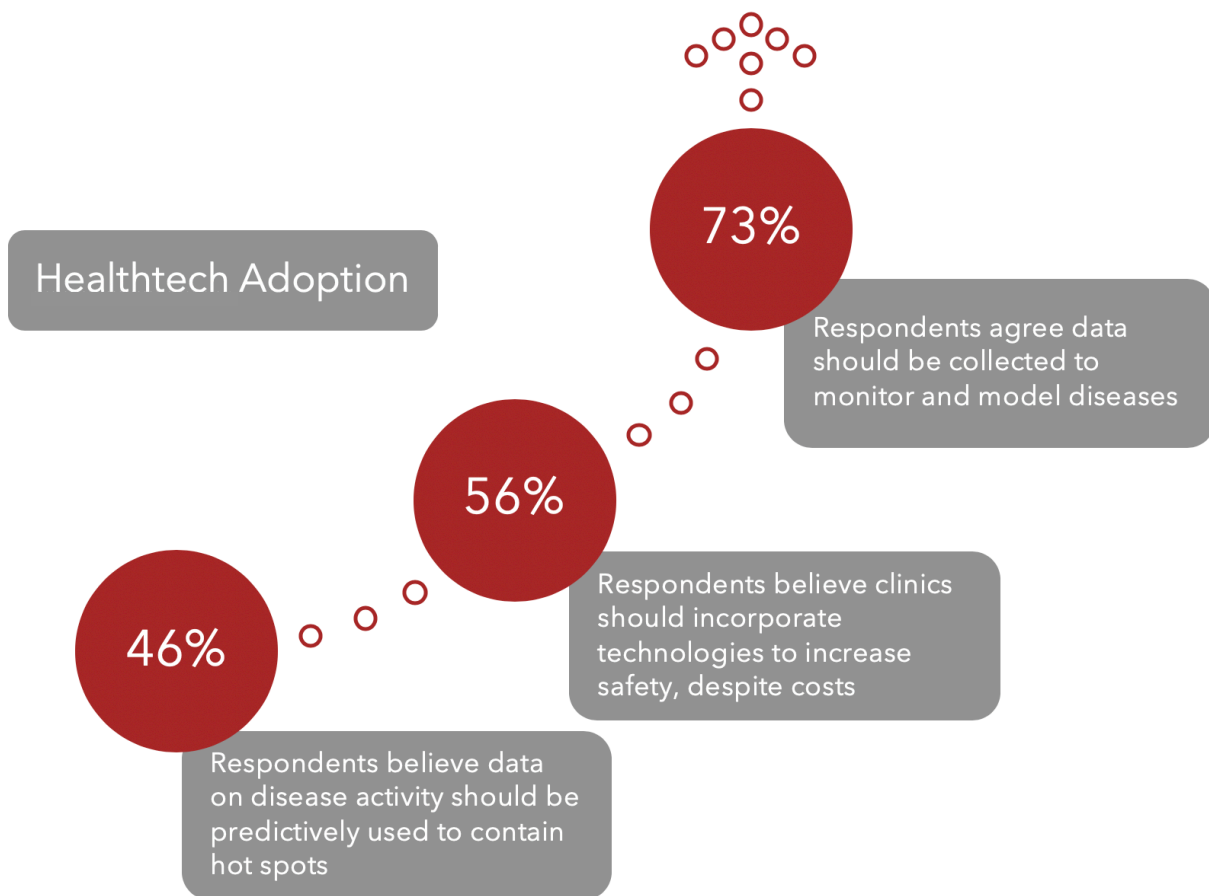
²⁰ Interview with Melissa Buckley, California Health Care Foundation

²¹ Federal Communications Commission, "COVID-19 Telehealth Program."

²² Interview with Thomas (TJ) Ferrante, Foley & Lardner LLP

are expected to play a larger role in the healthcare system. These can be grouped into two categories: risk-reducing and predictive technologies.

The public health emergency has influenced a number of patient behaviors, including risk perception. Patients are more aware of public health risks, making them more willing to pay for risk-mitigating technologies.²³ Over 56% of respondents in HCCG's July 2020 healthcare survey reported that healthcare clinics should incorporate technologies to address public health concerns despite increased costs.²⁴ In turn, providers have a greater incentive to develop and deploy technologies that satisfy newfound safety demands. For instance, according to Gomes, a number of hospitals are implementing hands-free temperature sensors and health questionnaires on smartphones to quickly screen for COVID-19.²⁵ However, in order to spur widespread adoption, upcoming healthcare technologies cannot simply satisfy new demands for safety; they must also fulfill a basic, unmet need. The pandemic has revealed massive gaps within general healthcare availability, such as tracking hospital bed availability. In the near future, it can be expected that central dashboards to better manage bed and doctor availability will be implemented. Similar systems are already running in German



²³ Hong Luo and Alberto Galassco, "The One Good Thing Caused by COVID-19: Innovation," HBS Working Knowledge, May 7, 2020

²⁴ Result from HCCG's July 2020 Healthcare Survey

²⁵ Interview with Neil Gomes, Thomas Jefferson University

hospitals and have not only demonstrated improved hospital bed utilization, but also decreased cramped conditions, improving patient safety.²⁶ Another technology that fulfills safety demands and offloads hospital staff are robots designed to collect trash, deliver meals, and administer medicine. Although such robots and drones are increasingly being used in China, this particular technology is not currently deemed essential enough to warrant huge investment and may require additional years before complete adoption.²⁷ Overall, healthcare is experiencing a shift towards increased automation, in hopes of increasing safety and efficacy in the system.

Meanwhile, predictive health driven by data and algorithms is increasingly being adopted to monitor disease spread within populations. In order to create such models, a number of technologies including Internet of Things (IoT), big data analytics, machine learning, and blockchain technology, must seamlessly interconnect.²⁸ Increased surveillance via IoT provides the data that can be used for predictive health. The large collected data sets are then processed and analyzed in order to model disease transmission, forecast spread, or predict preparedness of countries to fight an outbreak. Meanwhile, artificial intelligence and machine learning can be used as a screening tool to improve disease diagnosis and assist in therapeutic development. Finally, this entire process is enhanced by blockchain technologies to ensure security and traceability of data. All in all, predictive health can be used to understand and enhance the safety of larger population groups.²⁹ There is a general consensus among HCCG's survey respondents, with over 73% of responses indicating agreement towards increased collection and use of data to monitor and model disease activity.³⁰ Although such technologies require transparent communication regarding data access and processing to prevent overstepping personal data, we can expect to see more and more predictive health tools used in healthcare settings.

²⁶ Laura Dyrda, "The Legacy of COVID-19: How Key Innovations Will Outlive the Pandemic. Uncertainty Breeds Innovation, and These Are among the Most Uncertain Times in Healthcare.," Becker's Hospital Review, 2020

²⁷ Hong Luo and Alberto Galasso

²⁸ Muin Khoury, "Using Digital Technologies in Precision Public Health: COVID-19 and Beyond"

²⁹ Daniel Shu Wei Ting et al., "Digital Technology and COVID-19"

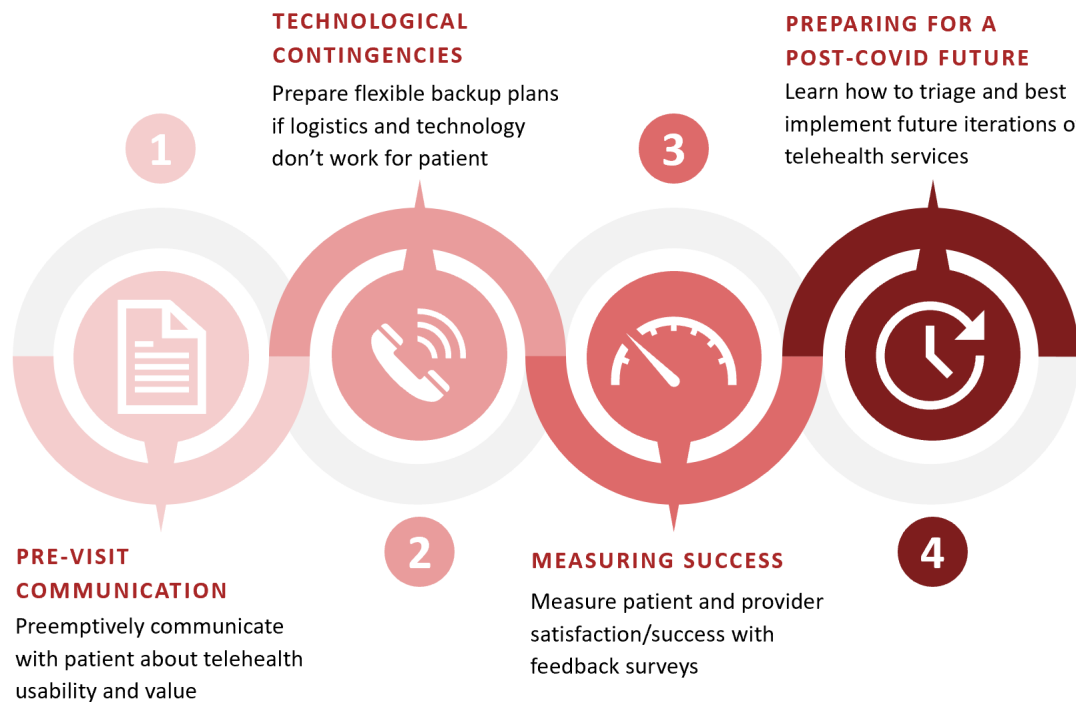
³⁰ Result from HCCG's July 2020 Healthcare Survey

4.5 Telehealth Implementation Strategies

KEY TAKEAWAY

Doctors can market telehealth directly to patients through education and coaching on the involved benefits and expectations. Additionally, providers can prepare for further integration of telehealth by organizing a triage system, focusing on target patient populations, and responding to patient feedback.

Telehealth is a two way street – both the doctor and patient must be comfortable with the technology for implementation to be successful. Ferrante substantiates this: “You have to make sure that patients are going to be on board with it and you have to make sure that the actual healthcare providers are on board with it. If either of those two segments aren't aligned then you won't have a product,” he says.³¹ In order to provide the greatest benefit for both patients and providers, doctors must take a number of steps when implementing telehealth technologies. First, providers can encourage patients to adopt virtual care services through in-depth patient preparation and education. Patients should be made aware of their telemedicine options and which are best suited for their specific conditions.³² “You probably need to do a little bit of marketing around it, that you're offering the services and what they are, and make sure there's coverage so that someone is available to take those calls when they come in,” Dr. Kvedar says.³³ Patients should be provided with step by step instructions on how



³¹ Interview with Thomas (TJ) Ferrante, Foley & Lardner LLP

³² Portnoy, Waller, and Elliot, “Telemedicine in the Era of COVID-19.”

³³ Interview with Dr. Joe Kvedar, American Telemedicine Association



You have to make sure that patients are going to be on board with it and you have to make sure that the actual healthcare providers are on board with it. If either of those two segments aren't aligned, then you won't have a product.



to use any necessary software or devices, with the value and benefits of telehealth being emphasized throughout. Before the visit, patients should be informed on guidelines for the visit, such as video communication etiquette. Doctors should have a contingency plan if the patient is late for a virtual visit or has problems with technology; for example, patients can connect using a phone call in the event of technological issues. Following each visit, it is crucial to measure both patient and provider satisfaction by offering a feedback survey.³⁴

After the pandemic, more patients will seek in-person visits, but doctors can still take advantage of telemedicine to reduce congestion and increase efficiency. Dr. Kvedar emphasizes the importance of triaging when implementing telehealth, including determining which patients are best suited for virtual care, reducing backlog, and communicating with office and nursing staff.³⁵ The future of telemedicine is likely to be determined by insurance coverage and patient demand. In order to capitalize upon the acceleration of telehealth that has occurred during the pandemic, doctors will need to take a number of steps. Providers can focus on implementing telemedicine for target patient populations such as elderly patients, patients with chronic conditions, and patients seeking therapy or behavioral counseling. Additionally, doctors can study outcomes during the pandemic using thorough evaluation and research to guide best practices in the future.³⁶ These insights can help inform patients and policymakers on the advantages of telemedicine and promote its continued use.

4.6 Nonphysician Providers

KEY TAKEAWAY

Despite policy changes in the short run, the use of nonphysician providers is unlikely to dramatically accelerate due to COVID-19. Instead their role can be expanded to confer the benefits of lower costs and more efficient care to areas where the need for adaptability is minimal.

Nonphysician providers, or NPPs, are increasingly becoming the primary point of contact for patients (the most common kind of NPPs are nurse practitioners or physicians' assistants, but other non-doctor providers fall into the category as well). Expanding the use of NPPs confers

³⁴ MedCityNews, "8 tips from a nurse to make telehealth take off at your organization."

³⁵ Interview with Dr. Joe Kvedar, American Telemedicine Association

³⁶ Calton, Abedini, and Fratkin, "Telemedicine in the Time of Coronavirus."



the benefits of more efficient patient interactions, lower costs, and as some studies have found, even higher patient satisfaction.³⁷ However, obstacles include pressure from physician groups, patient hesitation to accept NPPs in place of doctors, state scope-of-practice laws limiting the functions that NPPs can provide,³⁸ and logistical limitations presented by too broad a replacement of physicians with NPPs. The public health emergency has reduced some of those obstacles in the short run; for example, CMS is using its authority under Section 1135 of the Social Security Act to allow NPPs to enroll as Medicare providers.³⁹ But these changes are limited even in the short run, and unlikely to endure in the long run. During the pandemic, patients indicated general ambivalence towards receiving healthcare from NPPs, and indicated 12% less openness to receiving healthcare from NPPs after the pandemic. Furthermore, Douglas McCarthy, a research advisor at the Commonwealth Fund, warns that “if the expansion of NPPs goes overboard, there will be a policy backlash” in the form of stricter scope-of-practice laws and licensure requirements.⁴⁰ Rather than expecting the elimination of obstacles in the long-run, the expansion of NPPs is likely to see the most progress in areas where collaboration with physicians is maximized and the expectation that NPPs will be forced to handle complex, adaptable situations is minimized. For instance, NPPs would be better utilized delivering routine home healthcare to elderly patients with the ability to contact physicians in extreme circumstances rather than being expected to handle a wide variety of patients as a primary care provider. Furthermore, this balanced, careful approach reduces the possibility of policy backlash and an increase in restrictions. COVID-19 will not drastically accelerate the role of NPPs in healthcare, but the current crisis provides an opportunity for healthcare delivery to naturally realign the use of NPPs in even more effective ways.

4.7 Equitable Healthcare Guidance

KEY TAKEAWAY

Providers should continually work towards eliminating bias in quality of care and, in particular, be aware that medical and public health guidance is harder to comply with for disadvantaged communities.

The large majority of causes for racial health and healthcare inequities are beyond the scope of the provider-patient relationship, but there are still concrete steps that providers can take to do their part in working towards mitigating healthcare disparities. Foremost among these steps is in combating implicit racial bias in the medical field which leads to lower quality of care for minority groups. For example, African Americans are less likely to be tested for

³⁷ Healthcare Finance, “Non-physician Providers: An Unexpected Route to Revenue Increases.”

³⁸ Barton Associates, “Nurse Practitioner Scope of Practice Laws.”

³⁹ Healthcare Business Management Association, “CMS Will Provide Temporary Enrollment Flexibilities.”

⁴⁰ Interview with Douglas McCarthy, Commonwealth Fund

COVID-19 even when presenting the same symptoms as whites.⁴¹ In order to truly bridge the racial healthcare disparity, providers must first combat the latent and implicit biases that are present with the medical community. Techniques such as including implicit bias reduction strategies in medical education, or the adoption of strategies where the provider views interactions from the point of view of minority patients, or the implementation of broader healthcare reforms to reduce patient loads have all been shown to be successful in reducing provider implicit bias.⁴² Secondly, providers and policy makers must be aware of the broader inequality that many racial minorities face and how those inequities shape their guidance. Medical and public health guidance is harder to comply with for communities facing long-term chronic unemployment, food insecurity, housing instability, higher rates of incarceration and persecution, and subsequently higher rates of preexisting and underlying medical conditions. Mandatory mask laws and social distancing requirements are harder to comply with when long-term economic uncertainty is present and housing opportunities are crowded and poorly maintained by authorities.⁴³ Furthermore, residential racial segregation has forced many individuals to travel long distances using public transit for work and to reach healthcare facilities. Therefore, providers and policy makers must acknowledge and work to mitigate the additional obstacles that many Americans face by shaping their medical and public health guidance to better suit individual circumstances.

For policy makers, mitigating healthcare disparities goes beyond combating bias and acknowledging the inequities. Policy makers must create and shape public policy that works to undo generations of inequality across the spectrum. It is not possible to solve the racial healthcare disparity in a vacuum. There are many steps involved in combating and changing structural and institutional racism. In broad strokes, policy makers must acknowledge the need for sweeping change and a greater level of support for historically marginalized racial groups and in doing so work to address the long-term challenges facing individuals. Policy makers should increase the level of investment in the education, housing, healthcare, and opportunity for disinvested communities in order to combat the generations of structural racism.

⁴¹ Rubix Life Sciences, "Health Data in the COVID-19 Crisis"

⁴² Social Science & Medicine Vol, "A decade of studying implicit racial/ethnic bias in healthcare providers"

⁴³ KFF, "Communities of Color at Higher Risk for Health and Economic Challenges due to COVID-19"

5. Patients

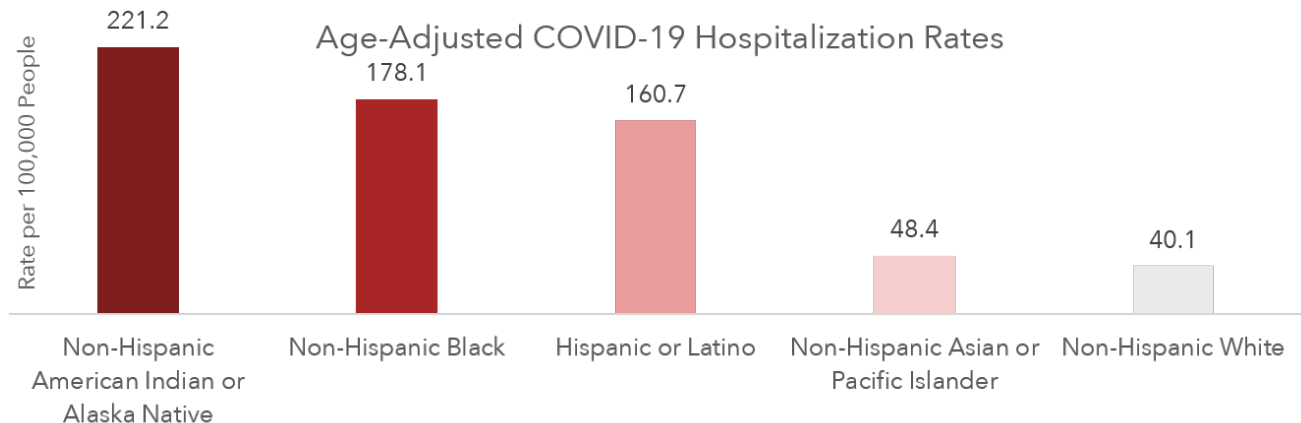
5.1 Inequalities Exacerbated by COVID-19

KEY TAKEAWAY

A greater prevalence of preexisting conditions and lower quality of and access to healthcare has increased the frequency and severity of COVID-19 infections among racial and ethnic minorities.

COVID-19 has significantly negatively impacted the already present racial inequities in both health and healthcare. Racial and ethnic minorities have, on average, worse health than whites before COVID-19 and have persisted and worsened in the COVID-19 era.⁴⁴ To reiterate, the health inequities present are not due to race, but to structural, institutional, and individual racism that has perpetuated a system of worsened health and healthcare for millions of Americans.⁴⁵ The minutiae of the topic are beyond the scope of this paper and are a complex and tangled web of issues, but in broad strokes communities of color, on average, have lower access to quality healthcare (lack of proper insurance, geographic distance to healthcare facilities, implicit bias in providers, etc.) resulting in worse health profiles than whites, even when controlled for socioeconomic status.⁴⁶

Due to the diminished health of stigmatized groups before COVID-19, the incidence and severity is higher among these racial groups than whites. This has primarily manifested due to two reasons, but there are many factors that play into the broader picture: 1) a greater prevalence of preexisting conditions, such as diabetes, heart disease, and lung disease, has



⁴⁴ Ibid.

⁴⁵ David R. Williams, "COVID-19 and Health Equity - A New Kind of 'Herd Immunity'"

⁴⁶ David R. Williams, "Understanding how discrimination can affect health"

increased the vulnerability of individuals, and 2) lower quality of and access to healthcare has prevented timely and accurate testing and treatment of individuals with COVID-19.^{47 48}

This healthcare disparity has resulted in many racial inequities such as an age-adjusted hospitalization rate that is 5 times higher for non-Hispanic American Indian, Alaska Native, and black individuals and 4 times higher for Hispanic individuals than non-Hispanic white individuals.⁴⁹

5.2 Telehealth's Impact on Accessibility

KEY TAKEAWAY

Telehealth has the potential to increase accessibility for disadvantaged communities, but other structural barriers will still persist.

A diminished access to quality healthcare is one of many barriers causing racial inequities in health, but this obstacle can be overcome, at least partially, through the expanded use of telehealth. Many American communities face racial residential segregation and lower access to preventative care facilities which leaves room for an expanded role of telehealth in their preventative care system.⁵⁰ However, an expanded telehealth presence must be done in concert to address the structural racism that individuals face. For example, underinsurance and subsequently the cost of care is one aspect of the barrier to care that individuals may face, therefore increased telehealth access must follow policies to reduce the overall cost of care in order to be most effective. Furthermore, other structural barriers such as access to mobile devices and high-speed internet, educational materials, and social awareness must all be addressed in order for telehealth to have a greater impact in increasing the accessibility and decreasing healthcare inequities.⁵¹

⁴⁷ Clyde W. Yancy, "COVID-19 and African Americans"

⁴⁸ Dorn, A. V., Cooney, R. E., & Sabin, M. L. "COVID-19 exacerbating inequalities in the US"

⁴⁹ CDC, "COVID-19 in Racial and Ethnic Minority Groups"

⁵⁰ KFF, "Communities of Color at Higher Risk for Health and Economic Challenges due to COVID-19"

⁵¹ David R. Williams, "Racism and Health: Evidence and Needed Research"

5.3 Willingness to Accept Home-Based Model

KEY TAKEAWAY

Patients are especially eager to receive community- and home-based care over nursing home stays.

The pandemic has highlighted that nursing home stays oftentimes result in patient neglect, isolation, depression, and medical deterioration. Many people prefer a stay-at-home option over nursing homes; however, over 62% of Medicaid funding for long term care is distributed to nursing homes.⁵² With the pandemic exposing systemic problems in the nursing home system, patients can expect to see a re-evaluation of Medicaid funding and Medicare coverage. Medicaid may become more focused on home- and community-based care, and Medicare may increase coverage of home health care. Melissa Buckley, director of the CHCF Health Innovation Fund, cites increased utilization of Ready Responders, an on-demand at-home healthcare service in New York, as evidence of patient willingness to accept home-based care.⁵³

5.4 Telehealth Adoption and Experience

KEY TAKEAWAY

For patients, telehealth services allow accessible and convenient care while reducing secondary expenses and transmission of COVID-19. However, common forms of telehealth, including virtual visits, remote patient monitoring, and home diagnostics, are currently limited by technological capabilities, most notably internet speed and access.

For patients, telehealth services offer a number of benefits by allowing them to interface with their healthcare provider in a virtual setting. Remote medical services provide patients convenient access to care from the privacy and comfort of their own homes. Telehealth can also reduce geographic or financial barriers to care by reducing secondary expenses like transportation costs or childcare. During the COVID-19 pandemic, telehealth has allowed patients to access treatment without fear of contracting the virus while in the doctor's office; this is especially important for elderly or immunocompromised patients. Additionally,

⁵² Raymond Castro, "The 'American Health Care Act' Would Cause Nearly Half a Million New Jerseyans to Lose Health Coverage"

⁵³ Interview with Melissa Buckley, California Health Care Foundation

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Doctor’s offices are now moving towards remote patient monitoring, and that allows better management for chronic conditions in particular. So, if you have diabetes management or chronic heart failure, those kinds of disease states really benefit from the ongoing sort of information collection and review by a practitioner to intervene.

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coronavirus patients that are not in critical condition can be treated and self-monitored at home, reducing the risk of transmission to healthcare providers and other patients.⁵⁴ There are a wide variety of telehealth products and services available to patients. The most common form of telehealth is the virtual visit, which allows patients to interface with a doctor over a designated telemedicine platform, another telecommunication software like Zoom or Facetime, or a phone call. During the visit, the physician can evaluate the patient’s symptoms, diagnose their conditions, and provide guidance and treatments like prescriptions or lab orders. Often, virtual visits are equally as effective as in-person visits. Virtual visits can be used to address a wide variety of non-emergency conditions, including post-surgery care, prescription refill, or therapy and counseling.⁵⁵ Dr. Joe Kvedar, president of the American Telemedicine Association and Vice President of Connected Health at Mass General Brigham, emphasizes mental health and chronic care as key areas for telehealth usage: “Mental health is number one and will continue to be in there as the physical exam is talking to that patient and watching them, so video is perfect for that. Second: follow up care for chronic illness[es]”.⁵⁶

Another well-known form of telehealth is remote patient monitoring (RPM). RPM involves the use of devices and software to enable patients and physicians to track disease and symptom progression. RPM devices are often wearable or non-invasive and transmit data to the physician for review. With RPM sensors, physicians can monitor temperature, blood pressure, oxygen levels, and other metrics and can use data analytics to assess change in condition over time. Physicians are also notified when there are significant changes in a patient’s condition.⁵⁷ Based on the data, physicians can modify patients’ treatment plans or educate patients on self-care. “Doctor’s offices are now moving towards remote patient monitoring, and that allows better management for chronic conditions in particular. So, if you have diabetes management or chronic heart failure, those kinds of disease states really benefit from the ongoing sort of information collection and review by a practitioner to intervene,” says Thomas (TJ) Ferrante, senior counsel and member of the Telemedicine and Digital Health Industry Team at Foley & Lardner LLP.⁵⁸ Although RPM is most commonly used in chronic situations, it is increasingly being used for acute conditions so that those patients do not need to stay in the hospital.⁵⁹

⁵⁴ MedicalNewsToday, “Telemedicine benefits: For patients and professionals.”

⁵⁵ Smithsonian Magazine, “Is COVID-19 the Tipping Point for Telemedicine?”

⁵⁶ Interview with Dr. Joe Kvedar, American Telemedicine Association

⁵⁷ Healthcare Information and Management Systems Society, “Remote Patient Monitoring: COVID:19 Applications and Policy Challenges.”

⁵⁸ Interview with Thomas (TJ) Ferrante, Foley & Lardner LLP

⁵⁹ Ibid.

Finally, an emerging area of telehealth is in-home diagnostics. In-home diagnostic tests allow patients to test themselves for specific conditions and transmit their results to their healthcare provider wirelessly, saving both doctors and patients time and money. Dr. Kvedar expects to see major growth in home diagnostics in the coming years: "I think home testing is a really interesting growing area. Digital biomarkers is another one where software is coming out, for instance, that by the sound of your cough, can diagnose pneumonia."⁶⁰ Many home diagnostics technologies are still in development and are not yet in widespread use. However, the pandemic has generated incentives for the use of these tests, and a number of companies are working on developing at-home diagnostic tests for coronavirus.⁶¹

In order to take advantage of telehealth services, patients need to have access to and familiarity with technology. For a virtual visit, patients must have a desktop, laptop, or phone enabled with a camera or microphone. Additionally, for all forms of telehealth, patients must have a data plan or wifi connection to connect to the software and transmit information to their physician. Finally, most patients will need to be English speaking for virtual visits or will need a patient liaison or family member to facilitate communication.⁶² Ferrante credits the combination of technological innovation and the isolation of the pandemic for the recent boost of telehealth adoption: "As technological advancements happen, and broadband gets more accessible and faster, you're seeing the results in the actual products themselves. That is helping users become more likely to use it and feel comfortable with it, and the same with physicians. So, for the COVID-19 pandemic, one of the silver linings has been that it's really pushed telehealth in front of the whole world and put it under the spotlight for everyone to see."⁶³

⁶⁰ Interview with Dr. Joe Kvedar, American Telemedicine Association

⁶¹ TechnologyNetworks, "Home Testing is the Future and One Day It Might Even Replace Your Doctor."

⁶² Governing: The Future of States and Localities, "Telemedicine Works Great When Patients Have Access.

⁶³ Ferrante

6. Policy Makers

6.1 Public Healthcare with respect to Telehealth

KEY TAKEAWAY

Rapid changes were made to previously divergent Medicare and Medicaid telehealth policy due to the pandemic. As these changes move towards permanency, issues of patient data access and optimizing regulations bear consideration.

COVID-19 has significantly accelerated the timeline for the adoption of telehealth by providers and physicians; the same is largely true for the policy landscape around telehealth, with a few caveats. Before the pandemic, Medicare policy strictly limited the use of telehealth to specific instances (for instance, rural hospitals).⁶⁴ Medicaid, with its “fifty states, fifty approaches” model, included much more flexibility for telehealth before COVID-19; all 50 states provided reimbursement for some variety of live video services. During the public health emergency, Medicare restrictions in particular have been significantly relaxed. This includes waiving limitations on the type of care providers eligible for Medicare reimbursement; new rules that Medicare can now be billed as originating site for telehealth services; the ability for audio-only phone services to be reimbursable through Medicare; federally qualified health clinics and rural health clinics can be reimbursed for telehealth; waiving video requirements for evaluation/management services; and Medicare Advantage discounts for telehealth services.⁶⁵ The rapid adoption of telehealth has brought the benefits of telehealth to the forefront of the policymaking process - namely, patient choice, enhanced connections with particularly vulnerable populations, an expanded care continuum, and reduced cost for public programs already operating on thin margins.

These benefits were present before the crisis, but COVID-19 has provided the opportunity for them to be fully realized. For Medicare, these expansions will stay in place during the indefinite length of the public health emergency. Beyond this, Seema Verma, the head of CMS, has said she “can’t imagine going back” from the current looser regulatory environment,⁶⁶ and bipartisan legislation has been introduced in Congress to make the new regulations permanent.⁶⁷ Similar progress is being made for state-level programs and Medicaid - for example, a recent bill passed in Colorado bars health plans from imposing limitations on telehealth use.⁶⁸

⁶⁴ HealthcareDive, “Telehealth Seeks to Move Beyond Flu, but Stymied by Regulations.”

⁶⁵ Centers for Medicare and Medicaid Services, “Declared Public Health Emergencies - Health Standards and Quality Issues.”

⁶⁶ STAT, “Medicare Leader Calls for Expanded Telehealth Access After COVID-19.”

⁶⁷ House Resolution 7187, 116th Congress.

⁶⁸ Bloomberg Law, “Telehealth Barriers Smoothed Under New Colorado Law.”

However, there are two distinct and important considerations for policymakers to bear in mind with regard to telehealth as the COVID-19 crisis evolves: patient data and sustainable regulation. For one, the rapid, forced adoption of telehealth presents an opportunity to empower patients through improved data access and interoperability, but if not implemented well, data and accessibility policies could hinder patient access. Patients are willing to adopt these measures; of those that indicated a preference, a majority of survey respondents to HCCG's July healthcare survey said they were "likely" or "extremely likely" to use data services afforded by telehealth to take control of doctor choice and to feel more confident in their health outcomes (86.5% and 75.4%, respectively).⁶⁹ Efforts like the MyEHealthData system from CMS (which allows patients to access and track usage of their healthcare data) can capitalize on this opportunity and ensure patient data engagement remains at the center of healthcare in the long-term.⁷⁰

In order to ensure that programs are actually desirable and effective, policymakers should build them from the patient experience outward. Eleanor Peretto, a senior researcher at the National Health Council, says that "the lack of patient engagement would be crippling" to future development of data-focused solutions.⁷¹ The other major consideration is that a blanket repeal of all regulations could lead to adverse effects (for instance, billing telephone-only calls as a service equal in quality to advanced telehealth systems is not sustainable). Peretto says that the landscape for telehealth "is and will remain different," and that the crisis provides an opportunity to study which regulations work and which ought to remain scaled back. As the crisis continues, robust measurement of what applications of telehealth are most effective for particular populations and diseases (as a bill introduced in Congress in early June would do)⁷² can ensure an optimal effort towards building policy in the long term.

6.2 Telehealth Policy

KEY TAKEAWAY

Telehealth policy changes adopted during the pandemic include increased reimbursement, removal of state licensure barriers, and waiving of requirements for patient locations. Supporters of telehealth have been lobbying for permanent policy changes in the areas of reimbursement, HIPAA and platform, and state licensure, all adjustments that could transform the future of healthcare.

⁶⁹ Results from HCCG July 2020 Healthcare Survey

⁷⁰ Centers for Medicare and Medicaid Services, "Administration Announces MyHealthEData Initiative."

⁷¹ Interview with Dr. Eleanor Peretto, National Health Council

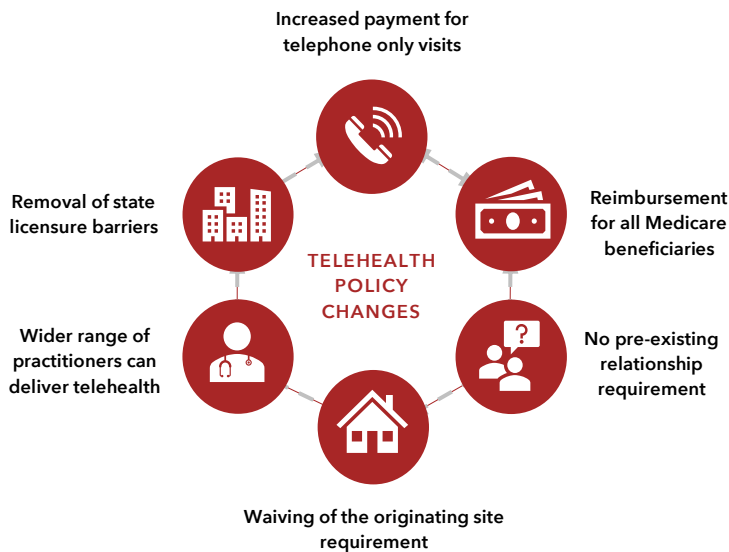
⁷² Healthcare IT News, "New Bill Would Mandate Research on Telehealth Regulations."

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One of the things that we'd like to see continue is reimbursement by health plans for audio-only interactions; we can do a lot that way...Ideal reimbursement is something that's value-based, where we get paid for quality and outcomes. We can use any care delivery model we want within that context; telehealth flourishes in those kinds of settings.

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Prior to the pandemic, there were a number of policy restrictions that limited provider and patient adoption of telehealth services. “For example, if you want to get paid by Medicare for delivering telehealth services, the patient has to be in a qualifying rural area. The patient has to be in an originating facility, which is typically is a hospital or a skilled nursing facility or



doctor's office, the patient's home wouldn't count and you couldn't get paid for that. And then there has to be a certain set of providers and certain CPT (current procedural terminology) codes,” says Thomas (TJ) Ferrante, senior counsel and member of the Telemedicine and Digital Health Industry Team at Foley & Lardner LLP. “So, we put all that together and it really hasn't resulted in great use in this country for telehealth, particularly the Medicare beneficiaries.”⁷³ As a result of the

COVID-19 public health emergency and national disaster, government entities such as Centers for Medicare & Medicaid Services (CMS) and the Department of Health and Human Services (HHS), eliminated many of the restrictions that had been in contention, including the originating site and rural area requirements.⁷⁴

A number of crucial steps have been taken to adjust existing policies during the pandemic, resulting in the rapid adoption of telehealth. First, CMS has implemented a temporary expansion of telehealth coverage. The following changes fall under this expansion: telehealth is reimbursed for all Medicare beneficiaries; physicians can provide telehealth services across state lines; therapists are no longer restricted from providing telehealth services; payments are increased for telephone only visits; and there is no pre-existing relationship needed between the patient and the provider.⁷⁵ CMS has also released a telehealth toolkit designed to accelerate the adoption of state telehealth coverage policies. This toolkit includes

⁷³ Interview with Thomas (TJ) Ferrante, Foley & Lardner LLP

⁷⁴ Department of Health and Human Services, “Telehealth: Delivering Care Safely During COVID-19.”

⁷⁵ Center for Medicare and Medicaid Services, “Coronavirus Press Releases.”



information on eligible patient populations, coverage and reimbursement policies, eligible healthcare providers, technology requirements, and pediatric considerations.⁷⁶

Policymakers will play a significant role in maintaining the momentum of telehealth and incentivizing providers to adopt telehealth technologies. Many doctors are eager to see the telehealth waivers enacted during the pandemic made permanent, particularly those waiving guidelines that limit telehealth to rural areas, restrict coverage in the patient's home, and prevent all Medicare beneficiaries from continuing to use telehealth services.⁷⁷ Dr. Joe Kvedar, president of the American Telemedicine Association and Vice President of Connected Health at Mass General Brigham: "There's something called the originating site rule and it's been waived through the public health emergency, but what it used to be with Medicare was that the patient has to be in the health professional shortage area, which has a very specific definition."⁷⁸ Dr. Kvedar highlights three areas where doctors hope to see permanent policy change: reimbursement, HIPAA and platform security, and state licensure. "One of the things that we'd like to see continue is reimbursement by health plans for audio-only interactions; we can do a lot that way," he says. "Ideal reimbursement is something that's value-based, where we get paid for quality and outcomes. We can use any care delivery model we want within that context; telehealth flourishes in those kinds of settings." Additionally, current licensure policies vary across state lines, and the process to obtain cross-border licensure can be lengthy and expensive. As a policy solution, Kvedar envisions regional licensing that would permit providers licensed in one state to treat patients across state lines without additional licenses.⁷⁹

In the future, Ferrante foresees the removal of originating site requirements and the expansion of telehealth coverage and payment parity under commercial health plans. However, he notes that CMS does not have the legal authority to change these policies permanently on its own. "It has to be an act of Congress, actual legislation. So, there's been a lot of lobbying effort, a lot of pressure happening in the last few weeks to try to push Congress to pass laws that would make some of these relaxed rules become more permanent," he states.⁸⁰ In order to help generate policy change, stakeholders in healthcare can write to their congressional leadership, provide feedback on the CMS Physician Fee schedule, or join telemedicine associations. These policy changes are likely to define the future of telehealth technologies for patients and providers.

⁷⁶ Center for Medicare and Medicaid Services, "State Medicaid & CHIP Telehealth Toolkit: Policy Considerations for States Expanding Use of Telehealth (COVID-19 Version)."

⁷⁷ mHealth Intelligence, "Experts Weigh in on Post-COVID-19 Telehealth Rules and Policies."

⁷⁸ Interview with Dr. Joe Kvedar, American Telemedicine Association

⁷⁹ Ibid.

⁸⁰ Interview with Thomas (TJ) Ferrante, Foley & Lardner LLP

6.3 Public Healthcare in General

KEY TAKEAWAY

While their appeal might seem greater, radical healthcare policy overhauls like Medicare for All are unlikely to rapidly emerge as a result of COVID-19. However, the crisis does provide an opportunity for many innovations and optimizations within the existing policy infrastructure to be realized.

COVID-19 will change the landscape for public healthcare in the United States in specific, rather than broad-based, ways. As the pandemic has laid bare inequities and inefficiencies in the privatized healthcare system, the economic and health crisis in the US has been compounded by the unique extent to which healthcare is tied to employment.⁸¹ With mass unemployment induced by the coronavirus and associated public health measures, one option is to decouple employment from health insurance status. The most extreme solution would be a fully public healthcare plan. Politicians have made the case that a single-payer, public system (most commonly conceived as Medicare for All) is needed more than ever.⁸² However, public opinion on Medicare for all does not appear to have shifted drastically over the course of the pandemic; according to monthly aggregate polling data from the Kaiser Family Foundation, 56% of voters supported a national single-payer health plan in January, before the pandemic; in May, that number remained at 56%.⁸³ Another way to address the coupling of employment and healthcare would be through stimulus measures that include wage subsidies; under this plan, the government pays workers' wages in order to maintain their relationship with their employer during an economic crisis. Wage subsidies have been pursued by other developed nations with high degrees of success; while the US unemployment rate has neared 20%, Germany has no change in employment due to its wage subsidy policy.⁸⁴ However, wage subsidies would be a significant investment and reorientation of the US' patchwork approach of loans and unemployment and are not likely to be pursued as a future measure in the short term – although they were proposed by a bipartisan group of lawmakers in the early stages of the COVID recession response.⁸⁵

Without significant movement in public opinion on nationalized healthcare, and with an extremely low probability of any legislation creating a Medicare-for-all system or other extreme policies like wage subsidies passing Congress, expansions of public healthcare in response to COVID-19 are most likely to succeed within existing policy infrastructure. For example, 14 states have not expanded Medicaid under the Affordable Care Act (ACA). The

⁸¹ Niskanen Center, "What's Wrong with Employer-Sponsored Health Insurance?"

⁸² For an example, see the following op-ed: Chicago Sun Times, "Coronavirus Makes it More Clear Than Ever: Healthcare is a Human Right."

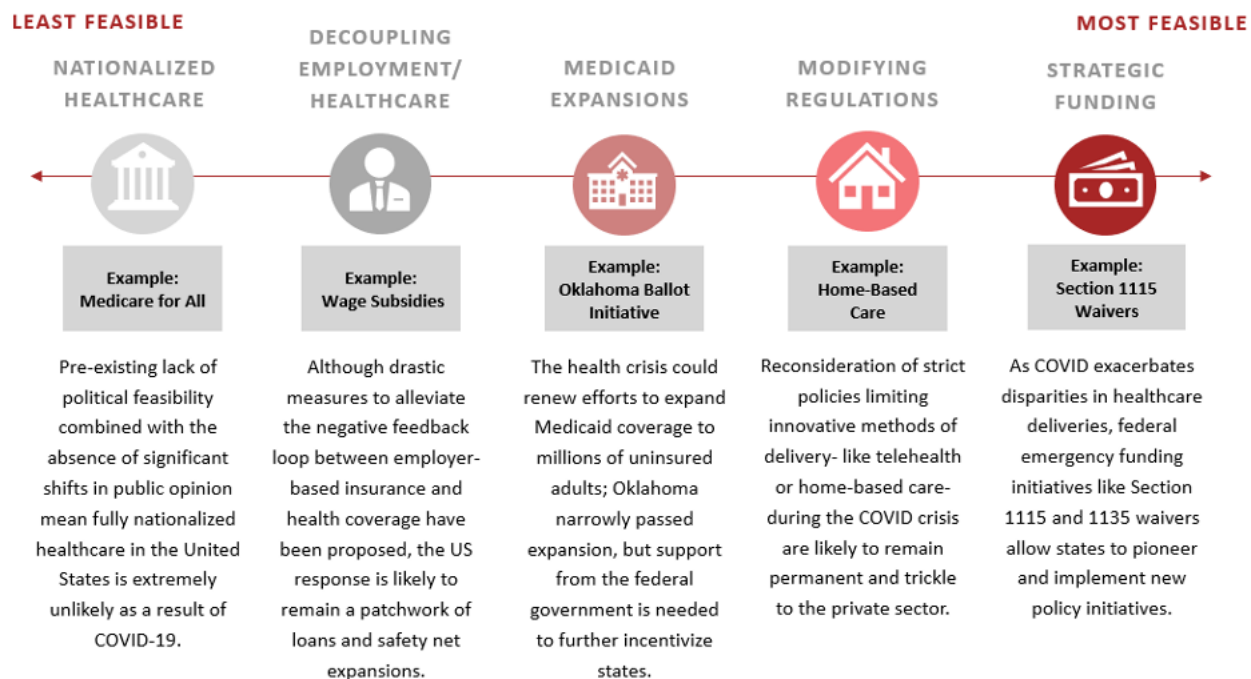
⁸³ Kaiser Family Foundation, "Public Opinion on Single-Payer, National Health Plans."

⁸⁴ Brookings Institution, "The Effect of COVID-19 on Labor Markets."

⁸⁵ House Resolution 6918, 116th Congress.

ACA allows states to expand Medicaid access to uninsured adults who earn up to 138% of the federal poverty level, with the federal government covering 90% of the costs. In June, the first Medicaid expansion during the coronavirus went to a ballot initiative in Oklahoma, where it narrowly passed.⁸⁶ With mass unemployment creating more uninsured adults, a positive feedback loop is established between worsening health outcomes and the economy; expanding Medicaid significantly halts this tailspin. However, Carolyn Yocom, a researcher at the Government Accountability Office specializing in Medicaid, warns that states that have not yet expanded Medicaid still have a significant amount of inertia of adoption, even with the pandemic; Yocom calls Medicaid expansions “a practical matter of what states can afford, and a tricky thing for states to balance as they tighten their belts” with declining revenues.⁸⁷

To alleviate this, the federal government could incentive Medicaid expansion and alleviate cost concerns by returning to covering 100% of the costs- not 90%, as is currently the case (originally, the federal government covered 100% of costs, but the federal share declined to 90%, where it will stay indefinitely unless action is taken otherwise).⁸⁸ Other ways to use public insurance to lessen the negative impacts from COVID-19 include designing a sustainable policy on telehealth (as previously described), similarly shifting Medicaid regulations to encourage more home-based and community care (which is supported by 87% of survey respondents who indicated preference);⁸⁹ loosening regulations for federally qualified health centers to allow them to provide emergency services, receive payment at hospital rates, and expand primary care capacity;⁹⁰ earmarking funds specifically for rural healthcare facilities as a



⁸⁶ NPR, “Oklahoma Votes for Medicaid Expansion Over Objections of Republican State Leaders.”

⁸⁷ Interview with Carolyn Yocom, U.S. Government Accountability Office

⁸⁸ Center on Budget and Policy Priorities, “Medicaid Expansion Continues to Benefit State Budgets.”

⁸⁹ Results from HCCG July 2020 Healthcare Survey

⁹⁰ Rural Health Information Hub, “Federally Qualified Health Centers.”

part of future federal relief packages (rural providers are disproportionately affected by the pandemic)⁹¹, and using emergency waivers to promote budget blending⁹² and state-level policy experimentation (for example, a series of initiatives funded by emergency Section 1115 waivers in North Carolina includes addressing homelessness as a public health matter, expanding the provision of behavioral therapy, and more).⁹³ While COVID-19 might not radically change the landscape for a Medicare for all-style national plan becoming institutionalized in the United States, beneficial policy options within existing structures present a unique opportunity to maximize the potential of public healthcare.

6.4 Vaccines

KEY TAKEAWAY

Short term policy on vaccines should make every effort to avoid being an obstacle to development and deployment. To ensure equitable and rapid vaccine distribution, policymakers should establish proactive guidelines and pursue and aggressively multilateral vaccine foreign policy.

In the short run, the development and distribution of a COVID-19 vaccine presents a number of policy challenges with far-ranging implications. The precise timeline of vaccine development remains unclear, as does the possibility of multiple viable vaccines coming in waves.⁹⁴ After the scientific development of a vaccine, the rapid distribution of a vaccine at the national and global scale is another matter entirely. For both of these phases, policymakers will see considerably more success from pursuing a proactive path. In the development phase, this takes the form of balancing safety concerns and oversight with support for as rapid a process as possible. The push to expand nationwide coronavirus testing provides a cautionary example; during the critical phase before tests were needed at scale, the FDA failed to widely grant Emergency Use Authorization (EUA), a policy through which the approval process for drugs or products is shortened. The agency eventually modified the EUA process in February, but by then, critical weeks had passed and testing efforts had been hamstrung.⁹⁵ When it comes to EUA for a COVID vaccine, the stakes are even higher. In order to reduce the regulatory burden on vaccine development in the safest way possible, policymakers ought to establish a consistent standard well before a vaccine enters the distribution phase for how EUAs will be granted based on science and evidence, not political pressure.⁹⁶

⁹¹ Health Affairs, "The COVID-19 Pandemic and Rural Hospitals."

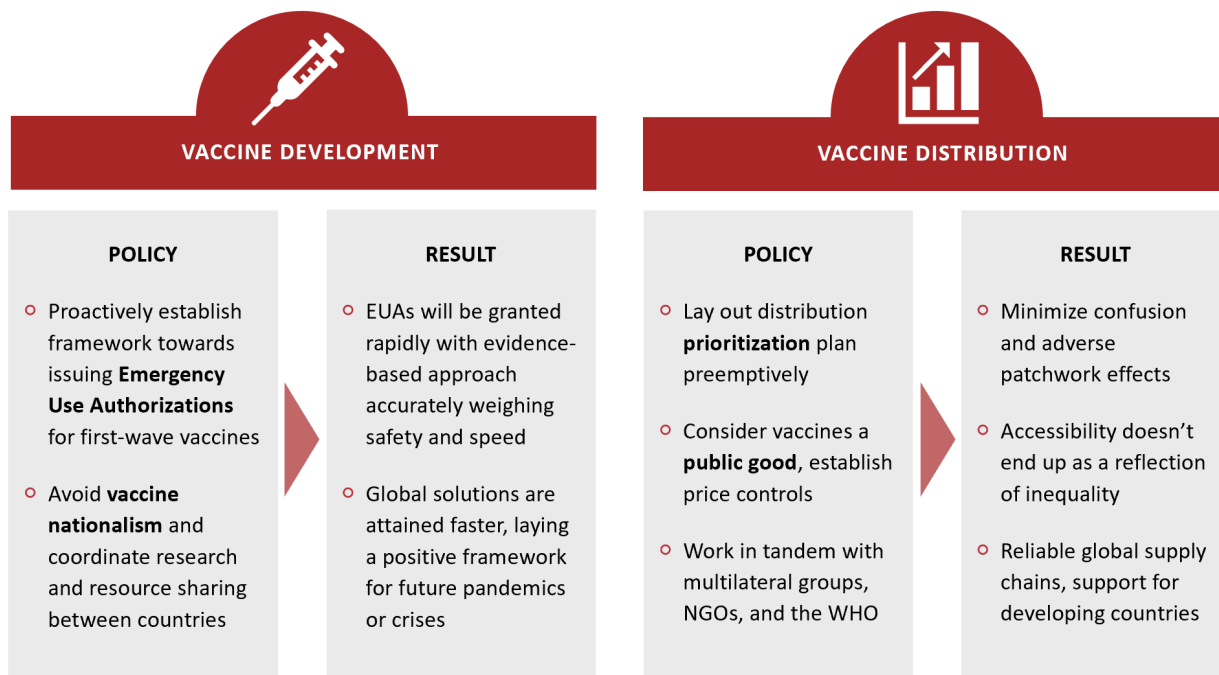
⁹² Brookings Institution, "Budgeting to Promote Social Objectives."

⁹³ North Carolina Department of Health and Human Services, March 27 Letter to Centers for Medicare and Medicaid Services

⁹⁴ USC News, "Coronavirus Vaccines are Coming, but When Will They Arrive?"

⁹⁵ The Atlantic, "The 4 Key Reasons Why the US is So Behind on Coronavirus Testing."

⁹⁶ Clinical Trials Arena, "FDA May Be Risk-Averse to Grant Emergency Use for a COVID-19 Vaccine."



After a vaccine is developed, policymakers can play a proactive role to ensure equitable and broad distribution. One form this takes is vaccine prioritization, i.e., who should have access first. In Texas, after the H1N1 vaccine became available, the first available vaccinations went to healthcare workers. After that, providers were left with ambiguous directions from the CDC that conflicted with the state government's recommendation, and confusion over the order of prioritization delayed distribution.⁹⁷ The ethical issues of which populations receive access first are difficult, but a concrete proactive plan that makes a difficult choice will serve policymakers better than a reactive, patchwork response. It is more efficient for a difficult choice to be made once at the federal level rather than those difficult choices being debated over and over again at the state and local level. Next, the possibility that vaccine access will become another reflection of inequality in the healthcare system can be overcome by considering vaccination to be a public good and providing free access to at least the most vulnerable populations, if not free access for all. Proactive statements like the current administration's announcement⁹⁸ in mid-June that vaccines will be free for those that cannot afford them are a step in the right direction, but concrete policies (e.g. price controls) about vaccine access should be weighed and put in place well before there is a vaccine to distribute. Beyond domestic distribution, if the global distribution of the COVID vaccine distribution follows the pattern of past pandemics, there will be significant inequities across countries. This type of "vaccine nationalism" where countries develop and distribute vaccines with a solely inward focus is incredibly dangerous; it will all but certainly lead to worse outcomes for countries without a developed vaccine (which could even be the United States if another country acquires a vaccine first) and prolong the pandemic worldwide.⁹⁹

⁹⁷ Texas Department of Health and Human Services, 2010 Final After-Action Report to H1N1 Pandemic.

⁹⁸ CNBC, "Coronavirus Vaccine Will Be Made Free For Americans Who Can't Afford It."

⁹⁹ Foreign Policy, "America First vs. The People's Vaccine."

To avoid this outcome, policymakers should pursue a multilateral vaccine foreign policy; coordinating research across countries will promote a more rapid development phase, and coordinating distribution approaches through partnerships with NGOs like GAVI, vaccine bond structures, and establishing reliable global supply chains to understand supranational stock and flow.¹⁰⁰ Multilateral vaccine agreements between countries will be more effective if established preemptively; the Coalition for Epidemic Preparedness Innovations, an agreement founded by Norway and India, provides a framework for this.¹⁰¹ In addition to these agreements, it is essential that nations participate in global institutions like the WHO that act as centralized sources of information and standards. And although the current administration has criticized the WHO for failing to apply proper scrutiny to early Chinese communications about the virus, the policy of US withdrawal from the institution does not adequately address that criticism (changes to the voting and governing structure of the organization would be far more effective); furthermore, the move decreases global coordination in vaccine distribution, which the US would undoubtedly benefit from.¹⁰² A proactive vaccine development and distribution policy framework will allow the most effective response to the current crisis by stopping regulation from being a burden to innovation, ensuring rapid distribution through clearly communicated prioritization, protecting already vulnerable populations from being punitively impacted by costs, and laying the groundwork for global coordination. In the long term, this proactive approach can serve as a model for response to future global pandemics and crises in contrast to the initially reactive responses to the current crisis.

6.5 Supply Chains

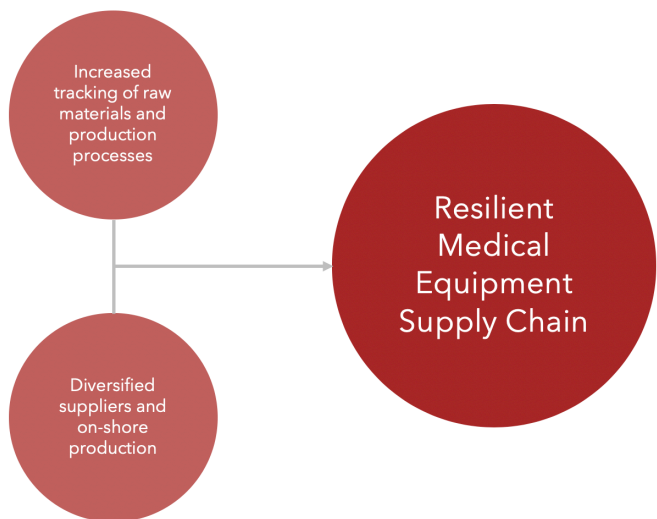
KEY TAKEAWAY

While increasing tracking and reporting of medical equipment production is beneficial in the short term, policymakers should consider collaborating with like-minded countries to diversify suppliers and manufacturing plant locations.

¹⁰⁰ Harvard Business Review, "A COVID-19 Will Need Equitable, Global Distribution."

¹⁰¹ Global Research Collaboration for Infectious Disease Preparedness, "Coalition for Epidemic Preparedness Innovations."

¹⁰² JAMA Network, "COVID-19 Reveals Urgent Need to Strengthen the World Health Organization."



The shock to the medical equipment supply chain was one of the most widely-spoken impacts of the COVID-19 pandemic. As countries began establishing export restrictions, huge vulnerabilities were revealed in the supply chain. First and foremost, the public health crisis exposed the massive dependency on China for medical supplies. In 2019, China exported a total of \$9.8 billion in medical equipment to the United States. Furthermore, China accounts for up to 75% of U.S. imports on specific products, such as personal

protective equipment or sanitary bed articles.¹⁰³ Through manufacturing reports, it also became clear that the source of raw materials used in medical supplies is not well recorded. Finally, over recent years, relaxation over what qualifies as a U.S. product has occurred, masking true dependencies on other countries. Taken together, these vulnerabilities not only led to shortages of medical equipment, but also to swift policy considerations.

Overall, we can expect to see increased tracking of raw materials and more accurate reporting on production processes in the near future as well as diversification and onshoring of U.S. medical supplies in the more distant future. The Medical Supply Chain Security Act has already increased security and reporting of medical equipment, while increased usage of corporate surveys can obtain specific supply chain information about the status of medical supply production, distribution, and export policy.¹⁰⁴ An example at the local level: Ohio State Wexner Medical Center has set the foundations for better tracking and storing of medical equipment by creating a centralized warehouse to increase visibility and accountability of necessary inventory.¹⁰⁵ There have also been financial incentives for U.S. companies to increase onshore production of medical supplies. Although these temporary incentives have had desired effects, it is predicted that more permanent onshore production will take at least two years considering the time required to install controls, upgrade facilities, and complete audits.¹⁰⁶ Similarly, there is potential for collaboration with like-minded countries to diversify and create multiple U.S. medical equipment suppliers. The shock caused by the public health emergency, although unpleasant, can lead to a necessary revamp of the medical equipment supply chain.

¹⁰³ Congressional Research Service, "COVID-19: China Medical Supply Chains and Broader Trade Issues"

¹⁰⁴ Ibid.

¹⁰⁵ Hal Mueller, "What COVID-19 has changed for hospital supply chains"

¹⁰⁶ Deborah Kaplan, "How tariffs ravaged the COVID-19 medical supply chain"

6.6 Drug Development Regulation

KEY TAKEAWAY

In the long term, policymakers should establish regulations that promote and favor re-shoring of pharmaceutical manufacturing processes.

Much like other medical equipment, China and India combined account for 31 percent of the world's active pharmaceutical ingredient manufacturing plants worldwide. More specifically, in 2018, according to the FDA, China accounted for 13.4 percent of drug and biologic imports in the U.S., ranking second among all import countries. Similarly, India supplies 40 percent of U.S. generic pharmaceuticals, with China serving as the major active ingredient supplier for these pharmaceuticals.¹⁰⁷ COVID-19 has highlighted risks associated with concentrating pharmaceutical supplies and raw materials in a select few countries, fueling efforts to establish more local and better monitored supply chains. Export controls imposed in over 25 economies, which led to the delay and denial of medical supplies to the U.S., have further exacerbated the need to reconsider the pharmaceutical supply chain.¹⁰⁸

Although it is unlikely that significant pharmaceutical manufacturing will move to the U.S. in the short-term given costs, taxes, and regulatory considerations, subtle changes in the supply chain are expected. For instance, according to James Bruno, owner of Chemical and Pharmaceutical Solutions, Inc., start-up pharmaceutical companies are leaning towards use of Western active pharmaceutical ingredient suppliers. Compared to larger pharmaceutical companies placing a large emphasis on economies of scale, smaller companies are less worried about profits down to the cents; therefore, these companies prefer to use more local raw materials in production processes.¹⁰⁹ In addition, the Securing America's Medicine Cabinet Act of 2020 is designed to enhance advanced pharmaceutical manufacturing programs in the U.S., strengthening U.S. competitiveness in pharmaceutical development.¹¹⁰ Another expected change is increased tracking of supplies and raw materials necessary for drug development. Pharmaceuticals are only required to report production processes and supplies during shortfalls. However, noticing a problem when there is already a lack of supplies does not allow for enough time to initiate a response. Thus, we should expect improved oversight over the supply chain in order to increase accountability and security of manufacturing processes.

However, taking into account a more forward-looking perspective we can expect to see U.S. pharmaceutical companies moving their manufacturing onshore. Given the regulatory and capacity hurdles that must be passed, James Bruno estimates that it would take at least two

¹⁰⁷ Rick Mullin, "COVID-19 is reshaping the pharmaceutical supply chain"

¹⁰⁸ Deborah Kaplan, "How tariffs ravaged the COVID-19 medical supply chain"

¹⁰⁹ Interview with James Bruno, Chemical and Pharmaceutical Solutions, Inc.

¹¹⁰ Mullin

years for a company before they are able to re-shore.¹¹¹ Many pharmaceutical companies are in the process of consolidation, resulting in less competition and potential increased revenues that can be used to make the transition to onshore production. Furthermore, according to James Bruno, the current pharmaceutical production processes are less labor-intensive and more automated, eliminating the India's and China's previous upper hand in less labor.¹¹² Combined with a government more conducive to pharmaceutical business, these collective drivers are likely to push pharmaceutical manufacturing back to the U.S.

6.7 Shift to Home-Based Care

KEY TAKEAWAY

Policymakers should not only mandate increased safety controls and precautions in nursing homes, but also redistribute Medicaid funding to allow for home care.

The COVID-19 pandemic has placed significant strains on the nursing home industry, both from a financial and a safety perspective. Financially, nursing homes have experienced rising costs and shrinking revenues. The values of publicly traded nursing homes have plummeted, exemplified by Genesis Healthcare share prices falling from \$1.77 in February to \$0.82 in May.¹¹³ The safety of nursing homes has also come under scrutiny as more than a third of COVID-19 related deaths in early months are attributed to residents or workers at nursing homes.¹¹⁴ These strains as a result of pandemic serve as catalysts of permanent change for the nursing home industry.

More immediately, changes should be made to create a safer experience for nursing home residents and employees. There is currently low enforcement of safety controls with little to no penalty for non-compliant nursing homes, according to AARP.¹¹⁵ Infection and general safety control should be increased via higher safety standards, more severe financial penalties, and more frequent enforcement. Along similar lines, nursing home residents often live in close quarters, which increases the likelihood of disease contagion. The layout of nursing homes should be altered to ensure that both residents and workers are not in such close proximity. Furthermore, nursing home workers typically face low pay, averaging at \$13 per hour, and understaffed, poor working conditions.¹¹⁶ In combination with the unfortunate reality that

¹¹¹ Bruno

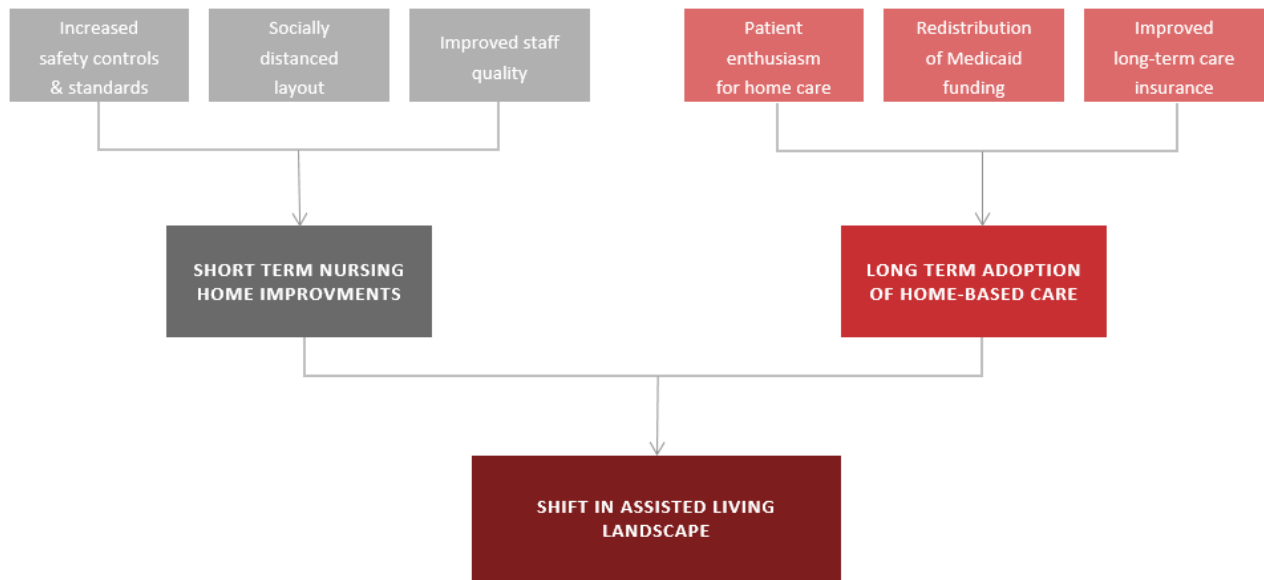
¹¹² Ibid.

¹¹³ Howard Gleckman, "The Grim Post-COVID-19 Future For Nursing Homes"

¹¹⁴ Joe Eaton, "Reimagining the Nursing Home Industry After the Coronavirus"

¹¹⁵ Ibid.

¹¹⁶ Joe Eaton, "Reimagining the Nursing Home Industry After the Coronavirus"



staffers typically have criminal backgrounds – revealed through investigations by the Department of Health and Human Services – poor working conditions lead to rampant abuse and neglect of patients. Improved staff conditions, better training, and more accurate background checks should be implemented alongside increased safety checks to improve the safety and experience of nursing home residents.

More drastic, systemic policy changes also need to be made in Medicaid funding of elderly healthcare. The current nursing home industry exists largely out of necessity, housing over 1.3 million Americans who have no other option for care.¹¹⁷ Medicaid pays the bills of more than 60 percent of nursing home residents, amounting to \$41 billion a year. Although according to survey responses 57% of patients believe that Medicaid spending rules should be changed to focus on home and community-based care rather than nursing homes, Medicaid funds almost exclusively go to nursing homes.¹¹⁸ If Medicaid spending rules were altered to support home care, patients would not only experience greater freedom of choice for care, but also overall improved care given the subpar conditions of nursing homes. Furthermore, changes to the federal law should be made to allow for a functioning long-term care insurance market, enabling patients to better afford the type of care they want.

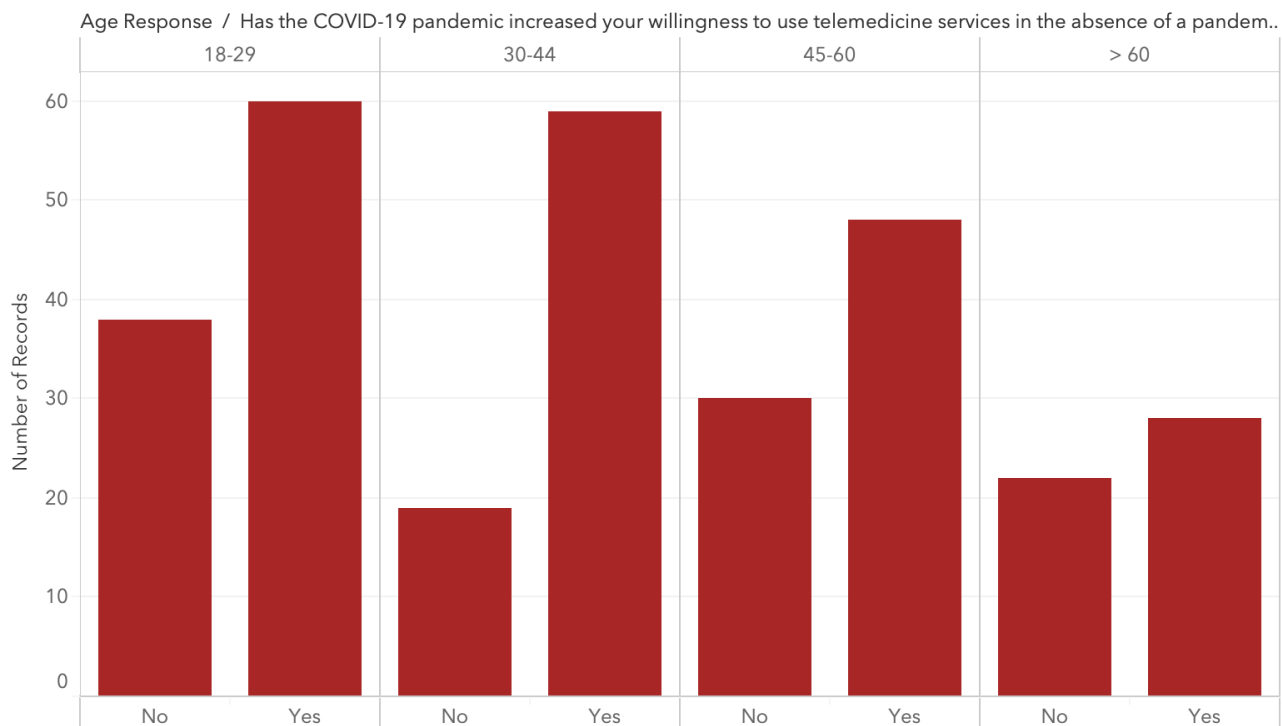
¹¹⁷ Ibid.

¹¹⁸ Result from HCCG’s July 2020 Healthcare Survey

7. Survey Data and Analysis

In order to assess patient perception of telehealth and the likelihood to continue use after the pandemic, HCCG conducted a survey of 312 participants. This survey gave insight into variance in opinion on telemedicine across demographics such as age, race, and income. Across all age groups, sexes, races, and income groups, the most common concern regarding telehealth services was the quality of care or misdiagnosis. Across all age groups, sexes, races, and income groups, the most common incentive for using telehealth services was reduced risk of COVID-19, and convenience was second to reduced exposure.

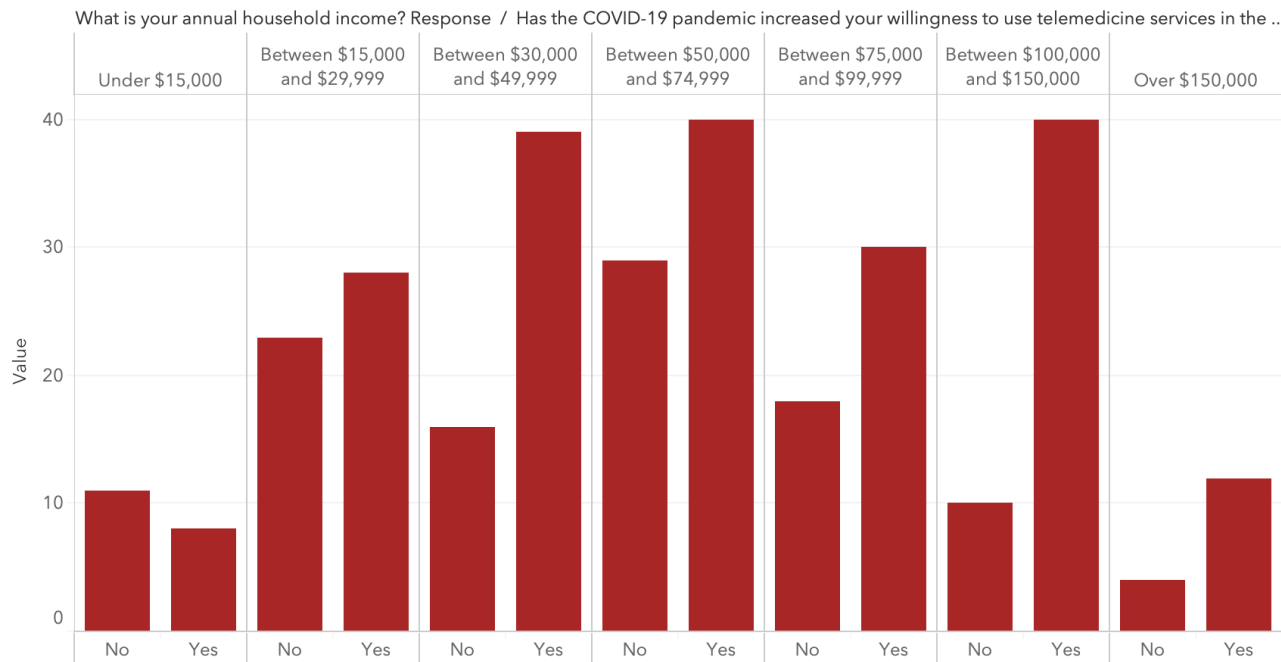
Willingness to use telemedicine after the pandemic by age



Sum of Number of Records for each Has the COVID-19 pandemic increased your willingness to use telemedicine services in the absence of a pandemic? Response broken down by Age Response. The view is filtered on Age Response, which excludes Null.

The survey suggests that there is variation in willingness to adopt telemedicine in the long-term across age groups. Respondents aged 60+ were least likely to believe that the pandemic increased willingness to use telemedicine in the absence of a pandemic, while respondents aged 30-44 were most likely. Providers interested in implementing telemedicine after the pandemic should focus on marketing their services to elderly patients and educating them about the benefits of virtual care. Patients older than 60 are more likely to have chronic conditions and therefore are a target group for telemedicine.

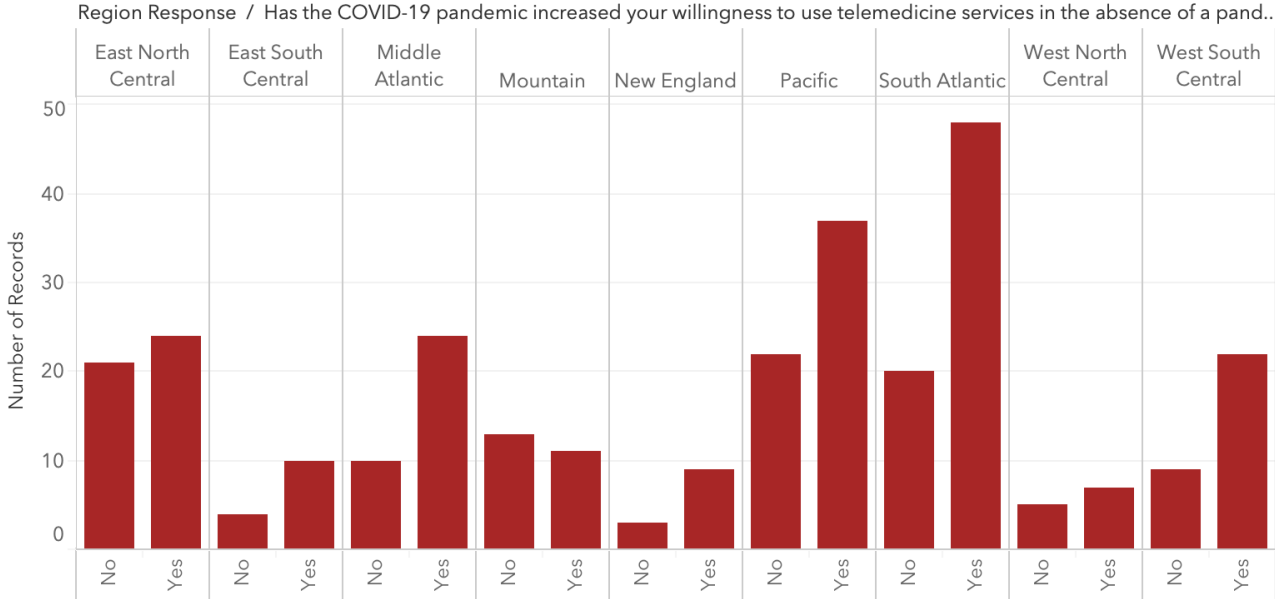
Willingness to use telemedicine after the pandemic by household income



Number of Records for each Has the COVID-19 pandemic increased your willingness to use telemedicine services in the absence of a pandemic? Response broken down by What is your annual household income? Response. The data is filtered on Exclusions (The quality of care of a virtual visit is _____ the quality of care of an in-person visit Response, What is your annual household income? Response), which keeps 33 members.

Our findings also reveal variation in willingness to adopt telemedicine across household income brackets. Respondents with household income under \$15k were the only income group to be more likely to say that the pandemic has not increased willingness to use telemedicine. Generally, as income increased, respondents were more likely to say that the pandemic has increased their willingness to use telemedicine services. These results indicate that providers and policymakers should investigate disparities across socioeconomic status and consider targeting low income patients for telemedicine, which could help make care more accessible and less expensive.

Willingness to use telemedicine after the pandemic by region



Sum of Number of Records for each Has the COVID-19 pandemic increased your willingness to use telemedicine services in the absence of a pandemic? Response broken down by Region Response. The view is filtered on Region Response, which excludes Null.

Finally, our survey results indicated differing perceptions of telehealth by region of residence. Respondents in the mountain region were the only regional group more likely to say that the pandemic has not increased their willingness to use telemedicine in the absence of the pandemic. Mountain states are more rural than coastal regions and patients living in these areas often have reduced access to healthcare. In turn, promoting telemedicine services to patients in these areas through education and policy change would likely benefit both patients and providers.

8. Conclusion

Beyond the impact on and responses of patients, providers, and policy makers, two main themes emerged. Firstly, no matter what policies are implemented, and (for example) no matter how telehealth is rolled out, the effects in the United States are going to vary widely across many metrics, including region, income, race, current access to healthcare, political affiliation, and many, many others. Nearly every analysis that separated on a particular metric displayed vastly different opinions among patients, responses from governments and institutions, and practices among healthcare providers (in this paper we discuss race and access, and income, but this trend was more general; this is easiest to see in survey data where opinion-based responses are broken down by a variety of demographics). This profound heterogeneity, while perhaps not surprising, has a strong impact on policy decisions in particular. To be most effective, at a high level, policy changes must allow for local interpretation and implementation, without sacrificing the actual intent of the policy itself. This is a very fine line to walk (as we explore in §6.4). However, the guaranteed heterogeneity of impact means that policy makers need not worry about thinking of all edge cases, and they need not attempt to please everyone; instead, they may provide stronger higher-level guidance and support, and leave enough room to maneuver such that the effects of region- or other group-based externalities are minimized. An example of such a policy is earmarking funds specifically for rural healthcare facilities as a part of future federal relief packages; ideas like this don't necessarily prescribe how rural facilities should run, and they allow for a universal positive (i.e., extra funding) to make an impact where it's most needed on a local level. Secondly, for the most part, patients are ambivalent about their healthcare choices, which leaves room for better designed systems to gain a foothold. The clearest example of this is discussed at length in this paper: telemedicine during the pandemic. Results from HCCG's survey, as well as the opinions from experts interviewed, aligned on the idea that the end of the pandemic doesn't necessarily immediately mean the end of telemedicine; rather, there are parts of the new system that are simply more convenient, cheaper, and provide equivalent care, and if policy makers and providers work together to continue development of telemedicine, patients are willing to accept (some parts of) the new model. The necessary ingredient throughout any beneficial change is collaboration between all three groups discussed in this paper; policy makers should give providers room to innovate and remove barriers that patients may face when adapting to a changing healthcare system.



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Originally from Richmond, Virginia, Fredericka is a junior living in Leverett House and studying Neurobiology and Economics. As a member of HCCG, she has worked with leading medical device companies on market and data analysis cases. Outside of HCCG, she is a member of the varsity track and field team and is involved in biomedical research at Harvard. This summer, she is interning as a business analytics consultant for a biotech startup in the rare cancer space.

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