

Clinician-to-clinician telemedicine in acute care settings

Better connecting for better health

EY-Parthenon Health Care practice



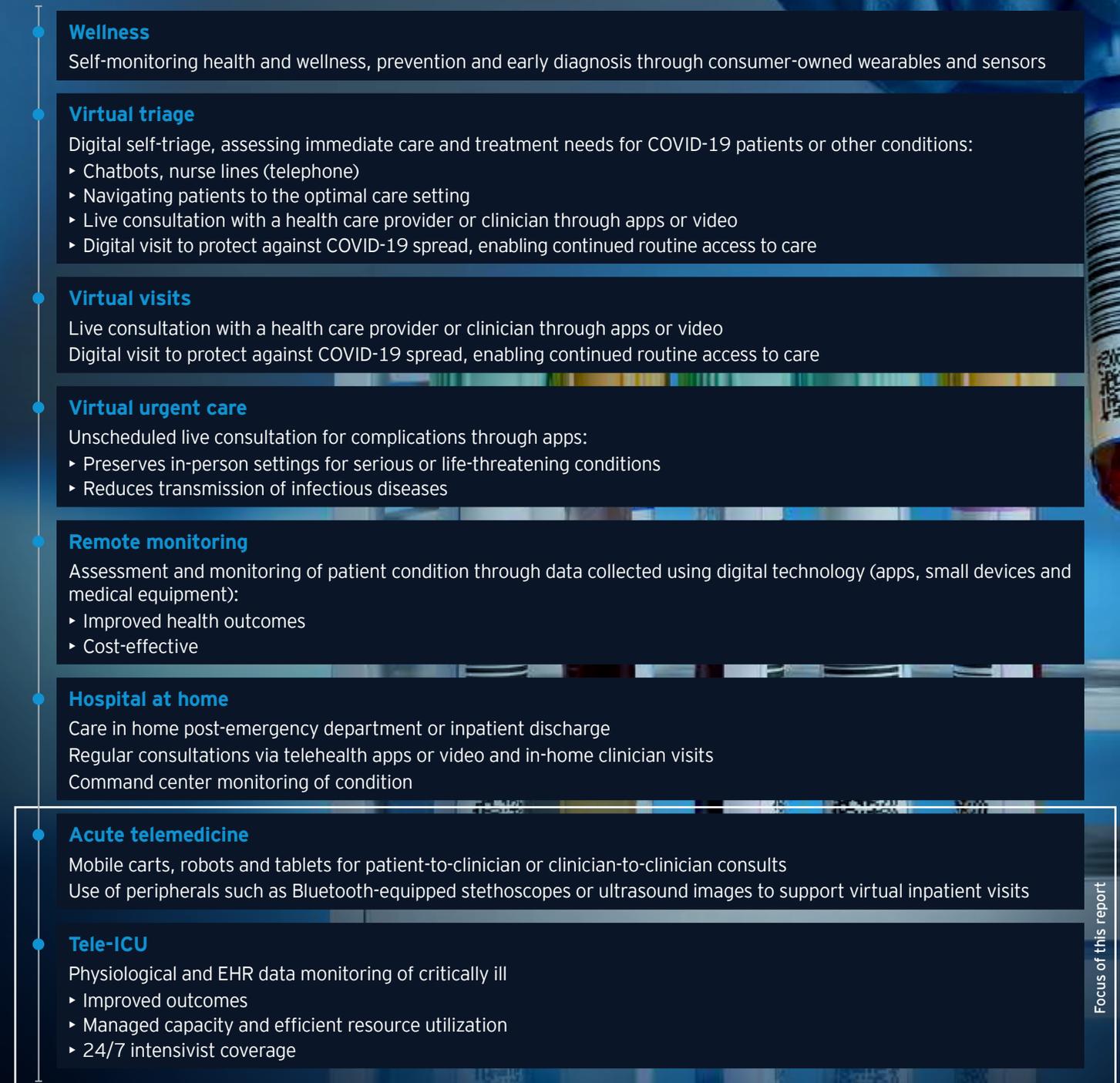
Introduction

Since the COVID-19 outbreak, interest in telehealth and its overall utilization in the US have seen a dramatic increase. Telemedicine, a subset of telehealth, is defined as the provision of medical care using technology in clinical settings; it has enabled providers to deliver care across the continuum, despite shelter-in-place mandates (Figure 1). Adoption by consumers, physician practices and hospitals has increased significantly as patients seek to avoid health care settings to reduce exposure to COVID-19 and administrators shift as much care as possible to virtual channels to conserve vital resources for frontline work. The significant uptake in the deployment of telemedicine has been enabled by temporary increases in funding and relaxation of regulations by government departments, in conjunction with shifts in coverage and reimbursement policies from commercial payors. Some providers, including primary care providers, have come to rely on telemedicine as the only viable option to deliver care under shelter-in-place orders.

While COVID-19 and shelter-in-place mandates have stimulated the use of telemedicine between physicians and patients, health systems and hospitals have also seen increased utilization of telemedicine applications in acute settings and tele-ICU monitoring to coordinate care among clinicians. In order to better understand the adoption dynamics, we conducted a series of interviews with health care executives to explore health system perspectives on the **investment in clinician-to-clinician telemedicine models in acute care settings**. Our research, and our work with health systems, suggests that there will be a notable increase in the usage of telemedicine solutions in this context. Moreover, we believe that hospital and health systems will increasingly value clinically integrated solutions that bundle technology with clinical support to round out staffing shortages.

Figure 1. Telehealth continuum of care framework

Telehealth capabilities are being rapidly deployed to support COVID-19 patients. Beyond the crisis, telehealth can be leveraged across the continuum of care. Telemedicine in acute care settings – a subset of telehealth – is the focus of this report.



Focus of this report

Use cases of clinician-to-clinician telemedicine in acute care settings

Clinician-to-clinician telemedicine in acute settings enables care coordination between providers synchronously during an episode of care (e.g., emergency psychiatry or neurology evaluation), asynchronously after a visit (e.g., remote radiology reads) or on an ongoing remote monitoring basis (e.g., tele-ICU to be consistent with how it is referred below). The overall total addressable market (TAM) for acute care telemedicine is estimated at more than \$10b,¹ compared to the overall acute care health care information technology (IT) TAM approximated at \$60b to \$80b.² The adoption of telemedicine had been increasing prior to the COVID-19 pandemic. For example, from 2014 to 2018, claim lines for clinician-to-clinician telemedicine in rural areas increased by 68%.³ After the pandemic, this trend is expected to continue.

Clinician-to-clinician telemedicine use cases in acute settings assist a patient's provider team by providing virtual access to specialists to create more flexible labor models, particularly for high acuity episodes. While various use cases exist, the most notable examples of health systems utilizing synchronous clinician-to-clinician telemedicine are in the areas of telepsychiatry and teleneurology (e.g., stroke care), though applications also exist in emerging areas such as telenephrology and infectious disease management. Tele-ICU monitoring is another application of telemedicine used by health systems and hospitals to coordinate care for patients under critical care conditions.

- ▶ **Telepsychiatry:** treatment of behavioral health disorders requires consultations with psychiatric specialists who can diagnose and manage care effectively. These departments are typically low-margin and resource-intensive to maintain, resulting in a shortage of specialists in most settings. Telepsychiatry platforms enable specialist consults for emergency department providers attending to patients with emergency psychiatric presentations.
- ▶ **Teleneurology:** treatment of acute episodes, such as stroke, requires specialist consultation with neurologists trained in this form of care management. Health on staff systems and hospitals without necessary expertise leverage teleneurology to coordinate care for patients with complex conditions.
- ▶ **Tele-ICU:** critical care management often requires coordination between teams of providers (e.g., nurses, pulmonologists, intensivists). Health systems and hospitals may choose to centralize these specialists and providers in a single command center location set up with sophisticated audio and visual capabilities to manage multiple patients' care simultaneously. Tele-ICU capabilities can also help coordinate care between attending providers and specialists external to the health system and hospital.
- ▶ **Telenephrology:** general providers (e.g., primary care physicians) may consult with specialized nephrologists with relevant expertise for complex kidney-related conditions.
- ▶ **Infectious disease management:** remote consultations between provider teams for infectious diseases can mitigate exposure and risk of disease contraction among providers.
- ▶ **Teleradiology:** attending radiologists may send complex reads (e.g., subspecialty, advanced imaging) to specialists after a patient visit for further consultation.

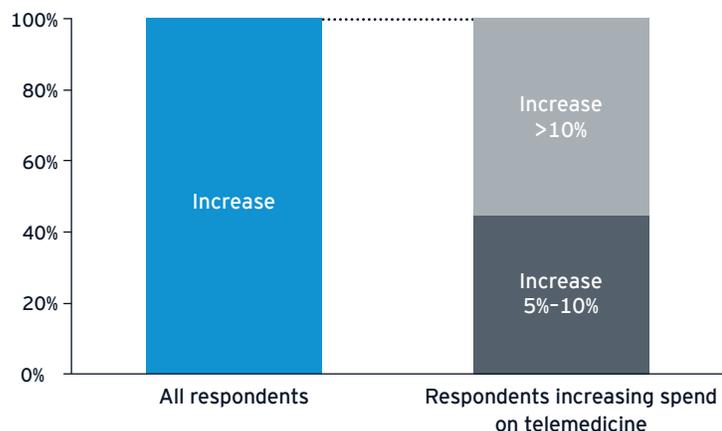
Industry views: acute telemedicine investment interest and future intentions

Over the last few years, health systems have invested in IT across their organizations to bolster clinical and nonclinical operations. However, unlike with telemedicine, historical IT investments (e.g., electronic health record) have not always improved provider experiences. While decision-makers indicate some uncertainty around future IT investment given margin pressures due to the COVID-19 pandemic, there remains a strong appetite and interest in acute telemedicine and tele-ICU going forward (Figure 2). As one health system CIO indicates, “Even if over the next 12 to 18 months IT spend was flat or went down, I’d expect telemedicine spend to continue to increase. We’re going to see some additional investment as we continue to see more use.”

Figure 2. Evolution of telemedicine spend

Overall telemedicine investment

How do you expect your organization’s overall telemedicine spend to trend over the next 12 to 18 months after the COVID-19 pandemic (increase, stay the same, decrease)? If increase, by what percentage?

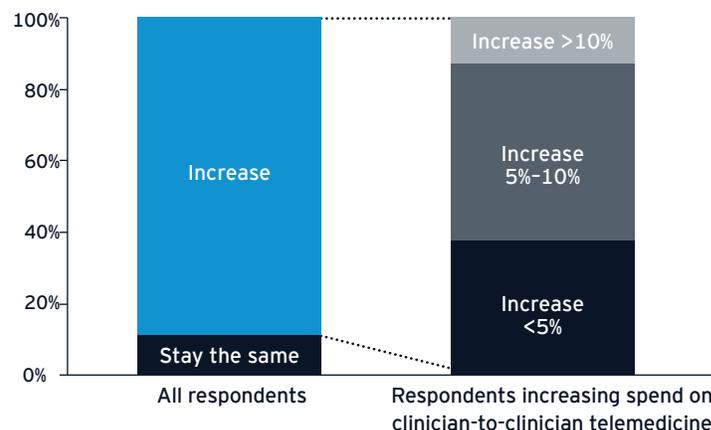


In particular, decision-makers express interest in expanding budgets related to clinician-to-clinician acute telemedicine by 5% to 10% to manage care delivery through the COVID-19 pandemic and beyond (Figure 3). “We’ve seen an increase in clinician-to-clinician telemedicine spend over the last two years. I expect it to increase another 5% to 10% over the next 12 to 18 months,” said one health system CIO.

Figure 3. Evolution of clinician-to-clinician telemedicine spend

Clinician-to-clinician telemedicine investment

How do you expect your organization’s spend on clinician-to-clinician acute care telemedicine to trend over the next 12 to 18 months after the COVID-19 pandemic (increase, stay the same, decrease)? If increase, by what percentage?

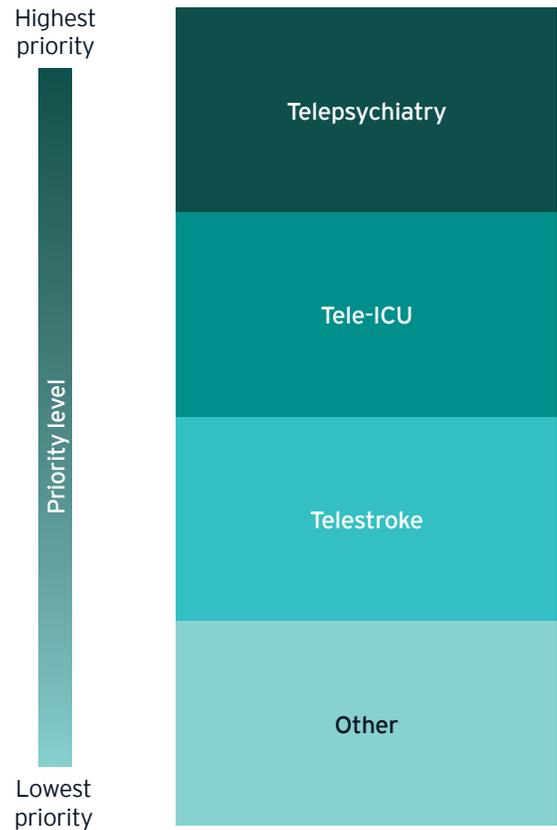






Clinician-to-clinician telemedicine in the acute setting empowers health systems and hospitals to (1) improve access and the quality of care delivery, particularly in rural geographies; (2) manage specialist shortages and capacity need; and (3) optimize the cost of care delivery through resource centralization. Given these use cases and value proposition, health system and hospital decision-makers expect to increase the spend on acute care telemedicine going forward. With the onset of COVID-19, more providers are expected to adopt telemedicine capabilities, given the general comfort and acceptance of telemedicine as a sustainable model of care delivery. As one telemedicine vendor indicated, “With COVID-19, we have seen providers who were in isolation now able to consult via telemedicine. Long term, there’s a lot of potential. With acute care telemedicine, specialists can be connected in five minutes and be way ahead of treating that patient who presents at the emergency department.”

Figure 4. Telemedicine subuse case investment priority





Investment in clinician-to-clinician telemedicine is expected to be particularly strong in telepsychiatry (Figure 4). Decision-makers indicate that telepsychiatry fills a critical need for health systems and hospitals, particularly those without on-site emergency psychiatry services.⁴ More and more patients are presenting at the emergency department with psychiatric conditions, and decision-makers indicate the vast majority of systems are ill-equipped to handle this patient volume with on-site resources.⁵ In particular, margin-compressed hospitals have been reluctant to invest in psychiatric departments and are in some cases shuttering them due to low-margin outcomes and resource intensiveness. With approximately 80% of US counties reporting a shortage of psychiatrists,⁶ hospitals are looking for innovative ways to manage the influx of psychiatric conditions and growing patient need for specialist behavioral health care. As one hospital COO indicated, **“Telepsychiatry is going to grow for a number of different reasons. One is that it’s very hard to recruit a psychiatrist – it’s a difficult position to staff and a difficult position to maintain. Another is that we have a massively underserved population of psychiatry patients.”**

Teleneurology – particularly remote stroke care – is a more mature application of acute care telemedicine and has benefited from provider investment over the last few years. Going forward, the spend on remote stroke consultations is likely to increase, but at a slower pace than that for telepsychiatry, although the demand for teleneurology remains strong. According to a CIO, **“Telastroke is a very well-evolved model. I could see growth continuing there. In telepsych, there are just phenomenal opportunities, because it’s a massively unmet need within our health care system.”**

Health systems are also increasingly centralizing teams of providers in a common location or command center to coordinate care for critical patients in ICU settings. These tele-ICU capabilities also enable rural systems that lack specialists to holistically care for patients in cost-effective and sustainable ways. Providers have especially utilized tele-ICU capabilities during the COVID-19 outbreak to limit the infection exposure and optimize the use of scarce personal protective equipment resources, and to address a strained shortage of critical care physicians. Almost all states in the US are expected to experience a shortage of intensivists in the future; tele-ICU models are a possible solution for relieving those stressors.⁷

The importance of clinician-to-clinician telemedicine models in acute care settings is amplified for health systems and hospitals in underserved or rural geographies (e.g., critical access hospitals). However, decision-makers at larger health systems also see value in expanding clinician-to-clinician telemedicine access given the complexity of care needs and to bolster clinical capacity at adjacent, understaffed sites within their system.

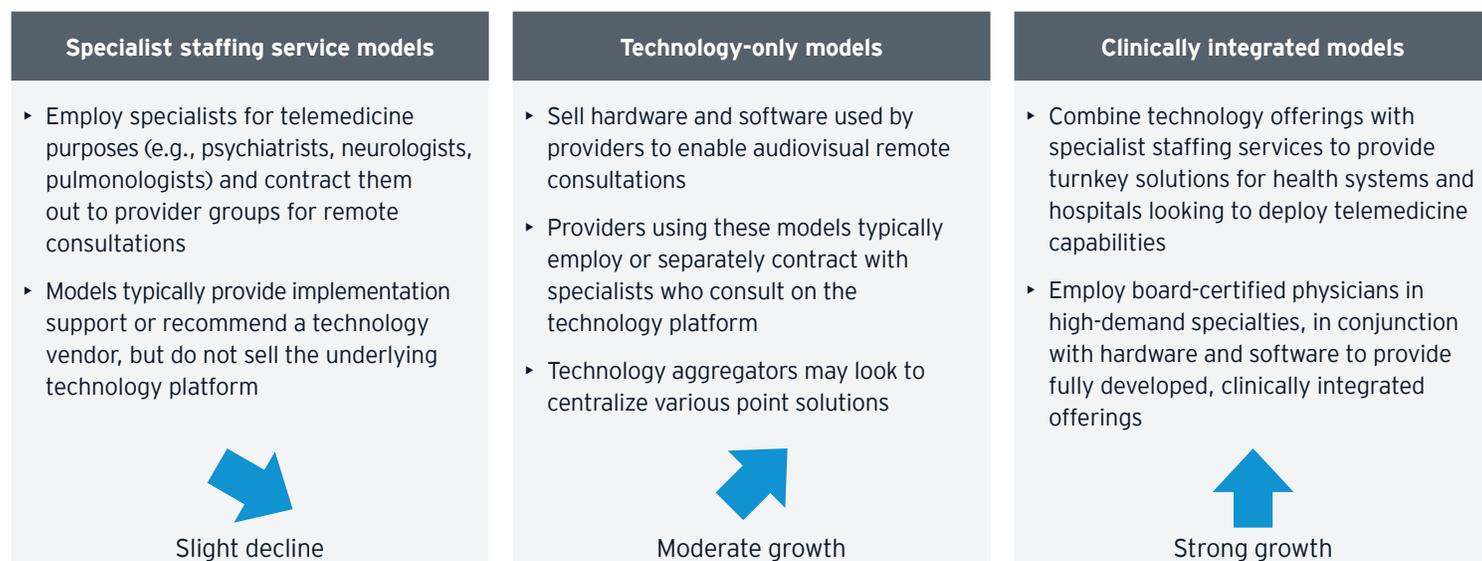
Business model evolution

While clinician-to-clinician telemedicine in acute care settings might not see a “hockey-stick” adoption – as may be the case for other telemedicine capabilities in the care continuum, such as virtual primary care – clinician-to-clinician models are resilient, and health system decision-makers indicate an interest in the continued investment in these technologies. This resiliency stems from the technology’s demonstrable ROI and scalability in expanding access to specialist care. In some instances, larger health systems with access to specialists (e.g., academic medical centers) have invested in capabilities internally and can provide services to other hospitals. In addition to in-house models, a variety of third-party business models exist to support health systems and hospitals in their deployment of clinician-to-clinician telemedicine capabilities. Most prominent among these are three models: specialist staffing services; technology-only models; and clinically integrated, full suite offerings (technology and staffing [Figure 5]).

The decision-makers interviewed for this report highlight that technology for acute care telemedicine has specific use cases and there is some differentiation in low latency and reliable infrastructure for critical applications. Generally, technology platforms are particularly well-perceived by large health systems with an abundance of specialists on staff. These systems (e.g., academic medical centers) leverage technology to extend their labor footprint within and beyond their system.

However, most hospitals are constrained by specialist capacity and perceive strong value in clinically integrated telemedicine solutions that bundle clinical services with technology to streamline deployment. A fully integrated solution offers financial, clinical and work planning efficiency. **“It was critical for us that our vendor provided clinical support in addition to technology. Every time we go into something like psychiatry or neurology, we need to make sure physicians are available. Having this full suite offering makes it easy for us to get access to specialists we just don’t have access to otherwise,”** said one health system COO.

Figure 5. Evolution of third-party vendor business models



Going forward, we expect clinically integrated models to benefit from strong growth given the decision-maker investment interest in acute telemedicine and the burgeoning specialist shortages in key areas. Technology models will continue to garner interest from larger systems and academic centers looking to extend their labor footprint beyond core campuses. Specialist staffing service models that do not provide technology are likely to expand technology capabilities through organic investment or partnerships to remain competitive.

While the spike in adoption sparked by the COVID-19 pandemic across the broader care continuum may recede over time, clinician-to-clinician telemedicine models in acute settings will remain resilient – and will benefit from increased health system and hospital investment in the coming months and years.

Endnotes

- ¹ Credit Suisse analyst report on Teladoc, March 2020; EY-Parthenon analysis.
- ² EY-Parthenon analysis.
- ³ "A Multilayered Analysis of Telehealth," *Fair Health website*, <https://s3.amazonaws.com/media2.fairhealth.org/whitepaper/asset/A%20Multilayered%20Analysis%20of%20Telehealth%20-%20A%20FAIR%20Health%20White%20Paper.pdf>, accessed June 18, 2020.
- ⁴ Rain E. Freeman, Krislyn M. Boggs, Kori S. Zachrison, Rachel D. Freid, Ashley F. Sullivan, Janice A. Espinola and Carlos A. Camargo, Jr., "National Study of Telepsychiatry Use in U.S. Emergency Departments," *Psychiatric Services*, 2020, 71:6, 540-546.
- ⁵ "The Psychiatric Shortage: Causes and Solutions," *National Council for Behavioral Health website*, <https://s3.amazonaws.com/media2.fairhealth.org/whitepaper/asset/A%20Multilayered%20Analysis%20of%20Telehealth%20-%20A%20FAIR%20Health%20White%20Paper.pdf>, accessed June 18, 2020.
- ⁶ "2017 Review of Physician and Advanced Practitioner Recruiting Incentives," *Merritt Hawkins website*, https://www.merrithawkins.com/uploadedFiles/MerrittHawkins/Pdf/2017_Physician_Incentive_Review_Merritt_Hawkins.pdf, accessed June 18, 2020.
- ⁷ "Array Advisors Projects Massive Shortage of Critical Care Physicians Due to COVID-19," *Array website*, <https://array-architects.com/press-release/array-advisors-projects-massive-shortage-of-critical-care-physicians-due-to-covid-19/>, accessed June 18, 2020.



Authors



Dan Shoenholz

Principal

EY-Parthenon

Ernst & Young LLP

+1 212 773 4517

dan.shoenholz@parthenon.ey.com



Aaron Feinberg

Principal

EY-Parthenon

Ernst & Young LLP

+1 212 773 5770

aaron.feinberg@parthenon.ey.com



Andy Bechtel

Principal

EY-Parthenon

Ernst & Young LLP

+1 617 478 4646

andy.bechtelt@parthenon.ey.com



Supriya Jain

Vice President

EY-Parthenon

Ernst & Young LLP

+1 415 486 3710

supriya.jain1@parthenon.ey.com

Contributors



Abhinav Sah

Consultant

EY-Parthenon

Ernst & Young LLP

+1 212 773 5406

abhinav.sah@parthenon.ey.com



Luke Shearin

Associate

EY-Parthenon

Ernst & Young LLP

+1 312 879 6718

luke.a.shearin@parthenon.ey.com

For more information about the EY-Parthenon Health Care practices of the EY network, please visit ey.com/parthenon.

EY | Assurance | Tax | Strategy and Transactions | Consulting

About EY

EY is a global leader in assurance, tax, strategy, transaction and consulting services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. Information about how EY collects and uses personal data and a description of the rights individuals have under data protection legislation are available via ey.com/privacy. For more information about our organization, please visit ey.com.

Ernst & Young LLP is a client-serving member firm of Ernst & Young Global Limited operating in the US.

About EY-Parthenon

EY-Parthenon teams work with clients to navigate complexity by helping them to reimagine their eco-systems, reshape their portfolios and reinvent themselves for a better future. With global connectivity and scale, EY-Parthenon teams focus on Strategy Realized – helping CEOs design and deliver strategies to better manage challenges while maximizing opportunities as they look to transform their businesses. From idea to implementation, EY-Parthenon teams help organizations to build a better working world by fostering long-term value. EY-Parthenon is a brand under which a number of EY member firms across the globe provide strategy consulting services. For more information, please visit ey.com/parthenon.

© 2020 Ernst & Young LLP.

All Rights Reserved.

SCORE No. 09686-201US

CSG No. 2005-3491326

ED None

This material has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax or other professional advice. Please refer to your advisors for specific advice.

ey.com