



# Effects of Virtual Care Delivery on Health Center Clinician Engagement and Burnout

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## ABSTRACT

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Health centers, funded by the Health Resources and Services Administration (HRSA), serve nearly 30 million people in need of comprehensive, primary care services. Virtual health care services, including telehealth, is not a new technology to health centers, but the global pandemic SARS-CoV-2 has prompted widespread adoption of virtual service delivery. Health care workforce challenges and clinician burnout persisted even before the pandemic, and this paper explores how virtual service delivery is impacting clinician engagement in both positive and negative ways. The paper includes advice from health center clinicians on how to improve their engagement with increased use of virtual services in the context of the global pandemic. The term *virtual care* describes the diverse ways that health care staff and patients interact remotely. These services include but are not limited to non-in-person delivery modalities such as telephone, video, remote monitoring devices, email, text messaging, and artificial intelligence-enabled augmented reality. This paper uses the term *telehealth* when citing research or feedback specific to telehealth services, including phone- and video-based care delivery, which are the primary modes of virtual health care services used by health centers today.

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# Effects of Virtual Care Delivery on Clinician Engagement and Burnout

## BACKGROUND

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On January 21, 2020, the Centers for Disease Control and Prevention (CDC) reported the first confirmed case of the novel coronavirus named SARS-CoV-2, commonly referred to as COVID-19, in the United States. The virus soon flourished into a global pandemic, resulting in nearly 20 million cases and over 300,000 deaths to date in the U.S. alone.<sup>i</sup> In addition to this public health crisis, the virus also triggered an economic recession and supply chain crisis. Those already experiencing health inequities fared the worst on all fronts with higher rates of both getting and dying from COVID-19, job loss, and other forms of disenfranchisement.<sup>ii</sup>

In this context of a global pandemic, this paper describes how virtual services has influenced health center clinician engagement and burnout. This paper uses the term *virtual care* to describe the diverse ways that health care staff and patients interact remotely. These services include but are not limited to non-in-person delivery modalities such as telephone, video, remote monitoring devices, email, text messaging, and artificial intelligence-enabled augmented reality. In health centers at this time, virtual care has largely taken the form of services via telephone and video.

People who are medically underserved, as well as others in need of comprehensive primary care, access their health care at approximately 1,400 health centers operating about 13,000 service delivery sites. Health centers serve over 30 million people in the U.S. each year. Established over half a century ago and funded by the Health Resources and Services Administration (HRSA), health centers are patient-led and promote a mission to increase access to crucial primary care services by reducing barriers such as cost, uninsurance, distance, and language for their patients.

On March 11, 2020, the state of Mississippi reported its first case of COVID-19. Because of this, in Mound Bayou, Mississippi, Dr. Blue learned that her health center, Delta Health Center (one of the first health centers established in the U.S.), had to reduce its daily number of patient visits. She felt “devastated and knew something had to be done so that patients did not feel alone or without care during such a hard time.” Many of her patients were elderly with chronic diseases. She worried that her patients would suffer without someone to help with managing their asthma, blood pressure, and blood sugar levels. Right away, Dr. Blue’s health center sprang into action to ensure that they could stay connected with their patients. As Medical Director, Dr. Blue led the Delta Health Center quality team to create a safety plan to allow them to continue to take care of their patients in rural Mississippi.

Implementing their plan required some detective work. The staff at Delta Health Center needed to understand how they could stay connected to each other and to their patients. They quickly determined who had internet, who had smartphones, and who only had landline phones. Like many other health centers, virtual care was something that they had considered in the past, but the disruption of the pandemic expedited this decision. They needed a way to continue to serve the people who needed them.

Their plan included the use of virtual care, something that Dr. Blue and her health center had previously been considering, but the moment now required.

Virtual care is enabling health centers to continue to deliver needed care while minimizing in-person visits that put patients and staff at risk of contracting COVID-19. This is especially important for communities with high burdens of chronic disease and barriers to transportation. Rural communities such as those served by Delta Health Center were particularly challenged because of the high numbers of elderly patients they serve.

To some clinicians, however, delivering care virtually can be frustrating. Sometimes phone connections do not work; video screens “freeze;” patients miss the call. Some health center staff struggled with the need to switch quickly to virtual platforms without having worked out all the unknowns and undertaking what would usually involve a comprehensive change management process. In the beginning, health centers were also dealing with financial uncertainty as primary care visits generally declined and billing for telehealth services remained uncertain.

The Centers for Medicare and Medicaid Services (CMS) defines telehealth as the “exchange of medical information from one site to another through electronic communication to improve a patient’s health.” Since the start of the global pandemic, CMS has approved 144 telehealth services eligible for payment.

Medicare Program; CY 2021 Payment Policies Under the Physician Fee Schedule and Other Changes to Part B Payment Policies, Vo. 85, No. 248 Federal Register § 42 CFR Parts 400, 410, 414, 415, 423, 424, and 425 (December 28, 2020).

The financial uncertainty that came with COVID-19 threatened the sustainability of many primary care practices. July 2020 survey results from the Physicians Foundation reported that 8% of physicians had closed their practices as a result of COVID-19.<sup>iii</sup> Another survey published in Medscape reported that over 62% of U.S. physicians reported declines in income with nearly a quarter reporting an income loss of 50% or more. When asked about burnout, 64% of respondents reported more intense feelings of burnout, and 25% reported considering retiring earlier than previously planned, prior to COVID-19.<sup>iv</sup> When COVID-19 arrived in the U.S., health centers were already operating on thin margins, and some were facing layoffs for a variety of reasons, including declines in the number of patients covered by Medicaid and increases in the number of those who were uninsured. The rapid shift from in-person to virtual care services added yet another challenge to health centers and their staff.

Quickly moving to virtual care and the associated operational changes needed to strengthen workflow, scheduling, and staff roles in a new and uncertain context can contribute to staff fatigue and burnout. Virtual care requires pre-appointment and follow-up support that can be more challenging when care teams are not in the same physical space. Some health centers have strengthened their virtual workflows and stay connected through instant messaging and collaborative platforms, while others have revised the roles of their scheduling and nursing staff to provide additional clinician support in virtual settings. Some health centers continue to struggle with adjusting the care model to alleviate clinician burden, and this change has been difficult in an already tight health care clinician labor market.

Even before the pandemic, burnout rates among physicians were on the rise--with over half of them reporting that they now experience burnout.<sup>v</sup> The World Health Organization defines burnout as a workplace problem, not an individual behavioral health problem.<sup>vi</sup> Organizational theorists describe that burnout happens when a workplace does not meet employee’s basic needs on factors such as

organizational policies/procedures, supervision, working relationships, and job security. In order to have a thriving and engaged staff, not only must these basic needs be met, but also staff must feel motivated.<sup>vii</sup>

The health center model is a people-driven one. Staff costs comprise the vast majority of health center budgets. Recognizing this investment and the impact of clinician burnout rates on quality, safety, sustainability, and other factors, the Bureau of Primary Health Care identifies “Workforce and Employee Engagement” as a key area for health center excellence.<sup>viii</sup> Health centers, especially those in rural and frontier communities, struggle to recruit and retain clinicians. Burnout is not only a detriment to retaining a workforce, it’s also a threat to a workforce that can deliver safe, empathic, and high-quality care.<sup>ix</sup>

Despite the challenges to staff adjusting the virtual care, the pandemic changed how *patients* wanted to get their health care.. In 2019, only 11% of patients in the general population reported getting care virtual care via telehealth, but by May 2020, 76% of them wanted virtual services going forward. In March and December 2020, the federal government cleared some (but not all) telehealth payment-related barriers.<sup>x</sup> A May 2020 survey found that around 60% of clinicians said they felt better about telehealth than they did, pre-pandemic.<sup>xi</sup> By July 2020, according to a study published by the Centers for Disease Control and Prevention (CDC) 95% of health centers reported that they were delivering care via telehealth.<sup>xii</sup> Changes to payment policies, access to improved telehealth and collaboration platforms, and concerns about COVID-19 exposure during in-person care are a few likely reasons for this shift toward a more favorable perception of virtual care compared to in-person care.

This is good news for health centers already challenged with workforce-related issues like clinician well-being and staff retention. The July 2020 CDC study also described that telehealth service visits were significantly higher among health centers reporting reduced staff capacity. Compared to those at full staffing capacity, health centers reporting a 10% or higher staff absence were 63% more likely to report using telehealth for >30% of visits.<sup>xiii</sup> In other words, health centers with lower staff capacity used more telehealth to deliver services.

Now that more health centers are using virtual care services including telehealth, leaders need to understand how telehealth impacts clinician burnout, motivation, and engagement--both in negative and positive ways. This understanding is important because burnout impacts not only clinician retention but also quality, safety, and patient engagement.

This paper is based on findings from peer-reviewed and grey literature on organizational theory, health care clinician engagement and motivation, telehealth, virtual care, and health center clinician experience. This document also reflects input from several health center leaders and clinicians across the nation to understand how telehealth is influencing staff burnout and engagement. Based on this research, this paper frames the impacts of virtual care services on employee engagement with three elements of internal motivation described by Daniel Pink in his 2011 book *Drive: The Surprising Truth About What Motivates Us*. These elements are *autonomy*, *capability*, and *purpose* (see sidebar).

### What Drives Motivation?

**Autonomy:** Directing your own work (what you do, when, with whom, and how)

**Capability:** Getting better at what you care about

**Purpose:** Feeling part of something greater than yourself

*Note: This paper replaces the term “Mastery” with “Capability.”*

Pink, D.H. (2009). *Drive: the surprising truth about what motivates us*. New York, NY: Riverhead Books.

## AUTONOMY

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Loss of autonomy has been commonly cited as a key driver of frustration and burnout among clinicians.<sup>xiv</sup> However, delivering health center services virtually can contribute to a greater sense of autonomy among clinicians and their patients.<sup>xv</sup> In some cases, clinicians using virtual care delivery can shape their own hours, rather than needing to stick to the regular clinic schedule. This ability to control their schedule allowed clinicians to juggle family responsibilities amid the pandemic. Rather than provide a set appointment time, health centers can offer a time “window” during which a patient can expect a call for a phone or video visit. Flexible schedules can also reduce the stress and anxiety that clinicians may experience when a visit takes more time than anticipated. One clinician noted, “When I get behind, I can call the patient later, and they’re at home and not just sitting in a waiting room. I feel less anxious and rushed because I don’t want people to feel inconvenienced if I get behind, but at home it’s [less] pressure.”

For those working from home, virtual care modalities can enable clinicians to have more control over their physical and social environments. Many of the clinicians we spoke to described that they appreciated the ability to focus only on the patient during their telehealth visits, without the interruptions they may have in their busy clinic sites. This control over their physical working space also contributed to a sense of autonomy. Other clinicians may not agree in the context of the global pandemic, especially those with children at home. One clinician shared, “It can be disruptive if you have others in your home while you are working. Explain to [household members] that things need to wait. Make sure you have the support at home or schedule your patient interactions when you are least likely to be disrupted. Patients understand interruptions, so try to be flexible.” Some clinicians may need additional support and flexibility to work when they are least likely to be interrupted. Taking the long view can help, as one clinician recognized, “It’s really hard for clinicians with young children. As we get past COVID, and kids go back to school, then doing telehealth from home won’t be so difficult. We can’t abandon it.”

Attention to optimal scheduling, workflow, and support staff are key elements of bolstering the level of autonomy that virtual care can enable. This is also true for in-person care but is more critical in improving clinician engagement when they are adjusting to delivering care virtually. Clinicians experience less autonomy when scheduling requires consecutive visits with fewer breaks from the computer screen. As with in-person care, support staff can play an important role in ensuring that the clinician feels that they are using their specialized skills to deliver care while others are able to support patients with their overall care experience.

## CAPABILITY

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A personal sense of accomplishment and the ability to deliver excellent care is a key element to reducing provider burnout.<sup>xvi</sup> The ability to deliver virtual health care services can strengthen a clinician’s sense of their capabilities because they can still do their work, even when in-person care is not as easily accessible to patients. However, virtual services can also detract from a sense of capability since clinicians need to adjust how they would usually deliver care in-person. Clinicians may miss the physical contact with patients often described as “laying-on of hands.”<sup>xvii</sup> One clinician serving primarily older adults described that the global pandemic worsens the situation, “Some patients look forward to coming to the office as an interaction with another human being. Many feel isolated, and now it’s even worse with COVID

because they are unable to venture out.” This sense of isolation can influence the patient experience of care. According to Dr. Jim Hotz, Medical Director at Albany Health Center in rural Georgia, “People felt the pain of isolation. A lot of my calls take longer than seeing them in person. They want to connect to the outside world.”

Some clinicians may feel less capable because they lack the in-person interactions, shared experiences, and mutual support of their care teams to help them do their work well. Practicing team-based care in a virtual setting remains a challenge that health centers have accepted. Some clinicians describe that they struggle to adjust and provide care at the usual level of quality. The feeling of reduced capability is often an individual experience. Being agile and adaptable to deliver virtual care services is a critical element for success.

*It's been comforting to know that we can pivot to something new in the profession. [It's] reassuring that the profession is nimble enough to do this as a collective; [we are] able to stand up to this challenge. Surprising, but getting this done.*

*Massachusetts-based provider*

Clinicians recognize that not all medical visits are conducive to virtual care, and having the option of doing an in-person exam is important. However, many clinicians acknowledge that in primary care, taking a thorough medical history by listening to their patients and having access to lab results can mitigate the inability to do an in-person physical exam. Some clinicians guide the patient through a self-exam, including being able to take their own blood pressures and blood sugar levels. For patients with chronic diseases, having self-exam toolkits and smartphone apps with the instruments needed to provide some self-exam information can be beneficial.

One clinician observed, “We are taught in medical school that about 80% of the diagnosis is based on [medical] history, 12% physical exam, and the rest is labs. We all learn from the get-go that the [medical] history is most important, but when we're put in a position when we can only get part of these, I worry that I'm missing something because I'm not used to it. It requires a shift in practice. As we move through it and adjust, [clinicians] will get more used to it and not feel as exposed.” Another clinician shared, “I imagine that there are some things that could be overlooked because you're not able to use all your senses at a distance, which is why we ask people to come in so you can do that if you need to.”

*We are an incredibly versatile lot. Our commitment to lifelong learning and constant change in our profession has trained us well for meeting this moment successfully.*

*Massachusetts-based provider*

Some clinicians felt that they could deliver more patient-centered care in virtual settings because it is more convenient for the patient. Other clinicians noted that the current way care is delivered is not designed around the patient, but rather the reimbursement model, which does not easily accommodate the many ways high quality care can be delivered. One clinician observed that face-to-face care may not always be necessary to deliver high quality care, but given higher reimbursement rates for face-to-face care with a specific provider type, it is still the preferred approach for some organizations.

Delivering care virtually has the potential to help health care clinicians learn more about their patients than they would have in the clinic. One clinician shared, “I had one patient who [in the clinic] always wore a dress and high heels, her hair and make-up [were] fixed up. Seeing her at home, she's got her kids in the

background fighting and the house [was] a little chaotic. Seeing this context helped me understand a little better what her life is like. I learned a little more about her.”

Health centers adopting virtual care services including telehealth need to acknowledge that care delivery requires a shift in practice and recognize when clinicians need additional support in order to feel capable. Assuming that the clinician can quickly and easily adjust can be a detriment to clinician engagement and quality and safety of care. For clinicians who are more averse to technology, having training and support staff when needed is essential to ensuring that they can maintain a sense of capability. Understanding what support each clinician needs in order to adjust their care practices can help mitigate feelings of burnout.

Making it easy for patients to connect with their clinicians is also important to engender a sense of capability among clinicians. Understanding what patients need in order to engage in virtual care is an important factor for access. Health centers

need to ensure that patients have technology capacity, especially when delivering video-enabled care among people who are older and/or disabled. Because health centers are rooted in reducing the barriers to care that patients often experience, emphasizing the benefits to the

*With this model, you can call people during their breaks at work, can adjust their insulin daily by getting their daily blood sugar readings. Because it's so much more convenient for patients, it allows for better care.*

Dr. Tillman Farley, Salud Family Health Center, Colorado

patient in terms of convenience and access may mitigate clinicians' concerns that the medical exam itself is not in-person, but this is only possible when virtual care accounts for the patient's accessible and appropriate technology.

Recognizing that virtual care delivery may require different staff skills, tools, and technology will support clinicians in feeling that they are able to do their jobs well. This can be a challenge to health centers, given their thin margins and uncertain revenue environments. Health center leaders and care teams need to continue to have a problem-solving mindset, continuously checking in with staff to ensure they have what they need. Health centers have been successful at looking outward to the community to identify what is needed and how to leverage resources. Health centers can also elevate their voices through organizations devoted to helping policy makers understand what is needed.

## PURPOSE

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Feeling connected to the meaning of work is linked to increased feelings of clinician wellness.<sup>xviii</sup> Virtual care may take the form of a phone call for some, and for others it may be a wearable device sending information to the clinic. Care can also be a video visit from a smartphone enabled with apps and attachments, or a duffel bag from the clinic with a blood pressure cuff, glucometer, thermometer, and other tools to take vital signs. Virtual care services, as with in-person care, requires patient-centeredness and considerations of any barriers to care that the patient may face. This is “the health center way” and what keeps so many clinicians engaged in their purpose.

People who work in health centers commit to a mission to deliver high quality health care for all. As one clinician noted, “It’s an easy slogan, but it’s not easy to live it every day. It’s a profound commitment.”

When a health center has staff who deeply understand and commit to its mission, a sense of purpose comes naturally.

Being able to continue to deliver care virtually helps clinicians maintain their sense of purpose. One clinician described how telehealth helps them stay connected to their patients, “I feel like I’m still making a contribution, and I think the patients feel that way also. We realize that when patients don’t come in regularly, they will fall off [from getting needed care], so continuity of care is disrupted. Some of the patients, I’ve known for a very long time. To be able to still provide them with basic health care means a lot to me. It’s still fulfilling.”

*You see the TV commercials—  
people running away from a disaster, but  
we’re the ones who run towards. This work is  
for the best and brightest, and we’re always  
there for our community.*

Dr. Jim Hotz, Albany Health Center, Georgia

Being able to ensure equitable access to care is a key element for staff to continue to serve their purpose. Ensuring equitable access using newer technologies is not always easy. Health centers have gotten creative through partnerships with community agencies, foundations, and technology companies to reduce the digital divide experienced by patients who experience health inequities. Some patients need to understand how to use the video capabilities of their phones, and others need a Wi-Fi hotspot to access the internet. Sometimes virtual care applications (i.e. “apps”) are difficult to navigate for non-English speaking patients, and they may need additional support to navigate it. Patients who experience housing instability often have changing needs for support. Continuously re-assessing patient access barriers is important to ensuring equitable access to health center services and also reduces clinician stress about whether their patients can access care.

## CONCLUSION AND RECOMMENDATIONS

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The ability to deliver services virtually can influence how providers experience autonomy, capability, and purpose, the elements that motivate engagement, in both positive and negative ways. How virtual care service is considered, designed, practiced, and monitored by individual clinicians and their health centers can make all the difference in clinicians’ levels of engagement and feelings of burnout. On a practical level, clinicians emphasized the importance of staff tending to their individual physical and mental health needs and recommended basic self-care strategies such as standing up and stretching whenever possible; scheduling breaks; making sure healthy snacks are available; drinking plenty of water; getting outside for a walk during breaks; and reducing the use of electronics at night. Advice for health center leaders and other staff, including clinicians, in both navigating the challenges and optimizing the benefits of delivering virtual care concludes this paper on the next page.



## ADVICE FROM THE FIELD

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This section lists mindsets clinicians and health center leaders find useful in preventing burnout. Each suggestion is followed by an illustrative quote from health center leaders and clinicians.

**Uncertainty is the only certainty.** *We have to learn that there are always going to be events, disasters that require flexibility. When you make a commitment to be there for better for worse, etc. that commitment demands the ability to rapidly evolve. Be flexible.*

**(Virtual) Access to care remains key.** *Telehealth services can make care more convenient to access, but the access barriers have not gone away, they have changed. Making sure that both providers and patients have access to the technology needed and that they know how to use it is essential to making sure the staff can still do their jobs and patients have a positive experience. Know when and for whom a virtual visit just isn't going to work.*

**Realize that disasters always occur--and be prepared.** *You never know when your community will experience the big wildfire, the hurricane, the flood. When those things happen, we always ask, "who ever thought this would happen?" Instead, be ready, and expect it.*

**Take the opportunity to re-think your care delivery model (and repeat).** *One of the positives about COVID-19 is that everything is so uncertain, people naturally expect change. So now's the time to make the changes that will help you deliver better care to your patients. Treat it like a series of PDSA (plan-do-study-act) cycles and try new ideas to make care better. Seize the moment.*

**Re-imagine the entire care team and their roles, especially the roles of support staff, to keep everyone in their "zone of genius."** *Now the care team really focuses my schedule on patients with a diagnostic dilemma, not for routine follow-up that is better managed by our pharmacy manager, or a well-visit that can be handled by a physician assistant or nurse practitioner.*

**Keep exploiting technology.** *COVID-19 disrupted the way people get health care, among other things. People talk about going back to the old way—we can't go back. Resistance to change will push people back into a bad system, rather than fixing the system. Use this situation to create a culture that embraces technology, even without a global pandemic.*

**Be proud of your commitment—and support each other.** *Realize you've committed to a noble and inspiring thing to do, but it's not easy and you need help. Health center leaders should consider flexible scheduling for staff and other ways to support life at home—it will support quality, safety, and a positive patient experience.*

**Consider Your Legacy.** *Your kids will model what you do, not what you say. If you have family, they will watch more what you do, not what you say. Realize that what you do is impacting the next generation.*

## WORKS CITED

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- <sup>i</sup> The New York Times. (2020, March 3). Coronavirus in the U.S.: Latest Map and Case Count. Retrieved December 30, 2020, from <https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>
- <sup>ii</sup> Bauer, L., Broady, K., Edelberg, W., & O'Donnell, J. (2020, September 18). Ten Facts about COVID-19 and the U.S. Economy. Retrieved December 30, 2020, from <https://www.brookings.edu/research/ten-facts-about-covid-19-and-the-u-s-economy/>
- <sup>iii</sup> *2020 Survey of America's Physicians: COVID-19 Impact Edition* (Rep.). (2020, August). Retrieved December 31, 2020, from <https://physiciansfoundation.org/wp-content/uploads/2020/08/20-1278-Merritt-Hawkins-2020-Physicians-Foundation-Survey.6.pdf>
- <sup>iv</sup> Kane, L. (2020, September 11). Medscape US and International Physicians' COVID-19 Experience Report: Risk, Burnout, Loneliness. Retrieved December 31, 2020, from <https://www.medscape.com/slideshow/2020-physician-covid-experience-6013151?faf=1>
- <sup>v</sup> Shanafelt, T. D., Hasan, O., Dyrbye, L. N., Sinsky, C., Satele, D., Sloan, J., & West, C. P. (2015). Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014. *Mayo Clinic Proceedings*, *90*(12), 1600-1613. doi:10.1016/j.mayocp.2015.08.023
- <sup>vi</sup> Burn-out an “occupational phenomenon.” *International Classification of Diseases, World Health Organization* (2019, May 28). Retrieved December 31, 2020, from <http://www.who.int/news/item/28-05-2019-burn-out-an-occupational-phenomenon-international-classification-of-diseases>
- <sup>vii</sup> Herzberg, F. (1974). *Work and the nature of man*. London, England: Crosby Lockwood Staples
- <sup>viii</sup> Health Center Program Strategic Initiatives. (2019, May 29). Retrieved December 31, 2020, from <https://bphc.hrsa.gov/programopportunities/strategic-initiatives>
- <sup>ix</sup> Epstein, R. (n.d.). What's the Opposite of Burnout? *Journal of General Internal Medicine Vol. 32,7 (2017)*: 723-724. doi:10.1007/s11606-017-4034-x
- <sup>x</sup> Medicare Telemedicine Health Care Provider Fact Sheet. (2020, March 17). Retrieved December 31, 2020, from <http://www.cms.gov/newsroom/fact-sheets/medicare-telemedicine-health-care-provider-fact-sheet>
- <sup>xi</sup> Bestsenny, O., Gilbert, G., Harris, A., & Rost, J. (2020, June 01). Telehealth: A quarter-trillion-dollar post-COVID-19 reality? Retrieved December 31, 2020, from <http://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality>

- 
- <sup>xii</sup> Demeke, H. B., Pao, L. Z., Clark, H., Romero, L., Neri, A., Shah, R., Rose, M. A. (2020). Telehealth Practice Among Health Centers During the COVID-19 Pandemic — United States, July 11–17, 2020. *MMWR. Morbidity and Mortality Weekly Report*, 69(50), 1902-1905. doi:10.15585/mmwr.mm6950a4
- <sup>xiii</sup> Demeke, H. B., Pao, L. Z., Clark, H., Romero, L., Neri, A., Shah, R., Rose, M. A. (2020). Telehealth Practice Among Health Centers During the COVID-19 Pandemic — United States, July 11–17, 2020. *MMWR. Morbidity and Mortality Weekly Report*, 69(50), 1902-1905. doi:10.15585/mmwr.mm6950a4
- <sup>xiv</sup> Wendy Dean, M. (2020, January 24). The Real Epidemic: Not Burnout But 'Moral Injury' Of Doctors Unable To Do Right By Patients. Retrieved December 31, 2020, from <https://www.wbur.org/commonhealth/2020/01/24/moral-injury-american-medicine>
- <sup>xv</sup> Dewar, A. R., Bull, T. P., Malvey, D. M., & Szalma, J. L. (2016). Developing a measure of engagement with telehealth systems: The mHealth Technology Engagement Index. *Journal of Telemedicine and Telecare*, 23(2), 248-255. doi:10.1177/1357633x16640958
- <sup>xvi</sup> The role of personal accomplishment in physician burnout. (2016, March 29). Retrieved December 31, 2020, from <https://www.ama-assn.org/practice-management/physician-health/role-personal-accomplishment-physician-burnout>
- <sup>xvii</sup> Lin, M. Y., Ramkumar, M., & Kugler, J. F. (2019). Laying Hands on the Patient Who Is Unstable: Bedside Diagnosis in Medical Emergencies. *The American Journal of Medicine*, 132(11), 1254-1255. doi:10.1016/j.amjmed.2019.03.049
- <sup>xviii</sup> Drummond, D. (2015, October 01). Physician Burnout: Its Origin, Symptoms, and Five Main Causes. Retrieved December 31, 2020, from <https://www.aafp.org/fpm/2015/0900/p42.html>

### About the STAR<sup>2</sup> Center

The ACU's Solutions, Training, and Assistance for Recruitment and Retention (STAR<sup>2</sup>) Center provides resources, training, and technical assistance to help Health Center Program grantees with their clinician workforce challenges and questions. We are a National Training and Technical Assistance Partner of the Bureau of Primary Health Care. Our funding through a national cooperative agreement with the Bureau of Primary Health Care at the Health Resources and Services Administration ensures that services are offered free of charge to all health centers and look-alikes.

Find more information and resources at [www.chcworkforce.org](http://www.chcworkforce.org).