

Establishing a Sustainable Healthcare Delivery Workforce in the Wake of COVID-19

Allison J. Weidman

University of Minnesota School of Public Health

## Establishing a Sustainable Healthcare Delivery Workforce in the Wake of COVID-19

### **Executive Summary**

Prior to the COVID-19 pandemic, the U.S. healthcare industry was facing challenges that threatened the sustainability of its workforce, including changing demographics, competition from other industries, and burnout. Now, in the wake of COVID-19, we are seeing even more disruption in the labor market through the exacerbation of these issues. Healthcare delivery organizations in particular have a responsibility to take action to prevent further shortages so that we can continue to deliver to high quality care and have positive health outcomes. Given changes in workforce values and behaviors, organizations can consider four innovative strategies to meet the needs of their current and potential future employees: flexible work arrangements, alternative benefits packages, career pathways, and mental health services. Organizations need to account for their own employee population and their ability to invest in these changes when considering how to move forward.

## Establishing a Sustainable Healthcare Delivery Workforce in the Wake of COVID-19

### **Introduction**

Health care, like many other industries, faces a constant challenge of keeping up with changing social, economic, and political conditions in order to recruit and retain a desirable workforce. Most recently, these challenges have included managing an aging workforce, learning how to support employee wellbeing, and competition from technology-focused industries. The COVID-19 pandemic has exposed and expanded these vulnerabilities. It has become ever clearer in the face of the pandemic the critical role healthcare workers play in maintaining the health, wellbeing, and livelihood of our society.

Current conditions during the COVID-19 pandemic necessitate a new way of supporting healthcare workers. Without a fundamental shift in the way we manage our human resources, the U.S. healthcare system will face further staffing shortages and burnout, which will ultimately diminish population health. This first part of this essay discusses several key market conditions that contribute to current instability of the healthcare workforce, followed by a second section outlining a series of strategies that organizations may pursue to develop a more sustainable workforce.

### **Key Market Conditions**

#### *Demographic Shift*

Various economic and social dynamics have shifted population demographics, particularly following the Baby Boomer era. By 2060, those 65 years and older are

expected to make up 25% of the U.S. population (Centers for Disease Control and Prevention, 2020). Aging of the population leads to rising demand for medical care given chronic condition prevalence. At the same time, lower fertility rates, which are expected to continue, may lead to a smaller overall labor force. Fortunately, we are seeing younger generations as interested, if not more so, in working in health care. For example, millennials, the generation born between 1982 and 2000, are pursuing careers in nursing at nearly twice the rate of Baby Boomers (Auerbach et al., 2017). That being said, these new entrants to the nursing workforce are not predicted to be able to meet the increased demand (Auerbach et al., 2015). Nursing supply is not the only issue. As of 2017, one-third of active physicians were set to reach the age of 65 within the next 10 years (Kirch & Petelle, 2017), leaving the physician workforce vulnerable to shortage in the face of increasing demand. Therefore, one major issue even prior to the COVID-19 pandemic was the looming shortage of healthcare providers compared to increasing demand for care.

A second concern resulting from shifting demographics is distinct generational differences in values and behaviors related to work, which may influence employment patterns. Researchers have found that Generation X employees, defined as those born between 1961-1981, value work-life balance and therefore want flexible work arrangements (Prawitasari, 2018). Millennials are characterized more by the need for creativity and symbols of achievement (money or titles) and are more tied to technology. Naturally, these factors affect which industries, companies, and jobs they pursue. One study found that the top five parameters used by millennials to evaluate job offers are job

security, prestige, challenging job profile, starting salary, and location (Arora & Kshatriya, 2017). Additionally, younger workers have higher expectations that their jobs align with their values and are more willing to switch companies (Rigoni & Adkins, 2016). This presents both an opportunity and a challenge for healthcare organizations. They must adapt to these new values and behaviors or risk the sustainability of their workforce.

### *Competition from Other Industries*

Technology and innovation have also changed work dynamics. New industries and jobs have grown exponentially in the last 20 years as a result of adoption of cyber-physical systems, which has been coined the “Fourth Industrial Revolution” by Professor Klaus Schwab (2017). For example, app developers, social media managers, and user experience design did not exist before this technological revolution (Casserly, 2012). The data processing/information services and computer systems design industries grew by 633% and 168% of GDP respectively from 2000-2020 compared to 33% across all industries (DePietro, 2021).

Not only are these technology-based industries growing, but they also pose a potential threat to the healthcare industry’s ability to retain its workforce. Millennials are 16% more likely to switch industries for a new job compared to non-millennials and they are most likely to switch into technology or software industries (Tockey, 2017). Fortunately, health care is also attracting millennials switching industries (Tockey, 2017). However, this still indicates a potential threat to the future viability of the healthcare delivery workforce if organizations are not able to adapt to the wants and demands of the

current workforce. Given that health care has been historically inelastic when it comes to professional boundaries, this makes the threat of competition from other industries more of a concern (Nancarrow & Borthwick, 2005).

### *Burnout*

Due to the nature of the work, healthcare workers have long experienced stress and burnout. Although it is difficult to measure the prevalence of burnout, it is believed that more than half of physicians and around one-third of nurses in the U.S. experience burnout (Reith, 2018). These numbers are approximately double the national average when controlling for variables such as age, sex, and number of hours worked. Studies also suggest that the rate of burnout grew anywhere from 9% to 25% in a span of four years following 2010. This presents several challenges for the healthcare industry, including the potential influence this could have on retirement patterns or workers' job transitions to other industries. The top four reasons cited for leaving the medical practice are low morale, disconnect with patients and other healthcare workers, unmanageable change and resulting loss of control, and lack of personal and professional support (Andah et al., 2021). If healthcare organizations are not able to find a way to manage burnout of their workforce, they certainly will not be able to maintain a sustainable workforce that can address impending demand.

### **The Impact of COVID-19 on the Healthcare Workforce**

Changing demographics, competition from other industries, and burnout have historically plagued the healthcare delivery workforce, but up until the onset of the

COVID-19 pandemic, we had not yet reached the tipping point we now facing.

Unfortunately, the pandemic has exacerbated these issues, bringing us to a point at which healthcare delivery organizations must address these issues immediately to prevent downstream negative impacts on the health of our populations.

A September 2021 Morning Consult survey found that approximately 18% of U.S. healthcare workers had quit their job following the onset of the COVID-19 pandemic (Gooch, 2021). An additional 31% have considered leaving their job and 19% have considered leaving the healthcare industry altogether. The top-cited reason for quitting was the COVID-19 pandemic, but more specific reasons included wanting more money or better benefits, finding a better opportunity, and burnout, as cited by 50%, 50%, and 49% of respondents respectively (Advisory Board, 2021).

Over one-quarter of hospital systems have had doctors retire unexpectedly (Medical Group Management Association, 2021), although the early retirement of physicians has not occurred to the degree initially predicted. The rate of practice interruption, which can be used as a proxy for understanding physicians leaving the workforce, was found to be the same as before the pandemic, with the exception of a spike in April 2020 (Neprash & Chernew, 2021).

Although the pandemic did not accelerate retirements as expected, we have still seen other outflows from health care. One notable change has been women leaving the workforce. With childcare facilities closing and schools transitioning to remote classes, many families, particularly those with working parents, faced a new struggle of balancing childcare, education, and work. Since U.S. women typically take on more of the familial

responsibilities than men, this has placed a significant burden on working women. Sixty-six percent of women reported having more responsibilities at home as a result of the pandemic (Deloitte, 2021). Additionally, women tend to work more in the industries hit the hardest by the pandemic-induced recession, including health care. According to the U.S. Bureau of Labor Statistics, 1.8 million women have left the labor force, leaving the female employment rate at a more than 30-year low of 57.5% for women aged 20 and older (Cassella, 2021). An additional 23% of women are considering leaving the workforce (Deloitte, 2021). Since women make up a majority of the healthcare workforce, interventions targeted at supporting the needs of female workers are critical for developing a sustainable workforce. One of the greatest challenges for women is work-life balance. Only one in five women reported feeling supported by their employer in balancing their work and home responsibilities (Deloitte, 2021). With school-age children returning to in-person classes and activities, there is now an opportunity to reverse and prevent this outflow. Healthcare organizations need to be deliberate about providing women with the resources and environment they need in order to return willingly and successfully.

Throughout the pandemic, workers' values and preferences have shifted. As of September 2021, 45% of the U.S. workforce was working from home at least part time (Saad & Wigert, 2021). Although this rate has stabilized over the past few months, labor markets are still in a state of disequilibrium and employers are not in a position to push back right now without risking higher turnover and the associated costs. More than 90% of workers also prefer at least part of their work to be remote going forward (Saad &



Wigert, 2021). This shift in values and preferences are going to require employers to adapt in order to successfully recruit and retain their talent. In turn, this will force a “keep up or get left behind” mentality for the healthcare industry.

In addition to a greater preference for remote work, the pandemic has shifted workers’ prioritization of work respective to other activities, especially among younger generations. This shifting of priorities now means that adults seeking jobs are more strict about finding jobs that align with their values. For example, one survey found that 39% of workers would consider quitting their jobs if their employers were not flexible about remote work (Liu, 2021).

As an aside, healthcare organizations are now having to compete with other industries to a greater extent. Healthcare organizations have always competed with other industries on wages/benefits for lower-skilled, non-clinical occupations. Historically, health care has been attractive given organizational mission vs other industries, but work conditions are not as attractive now (if not as safe). Other industries that compete for the same pool of labor are increasing wages and introducing retention bonuses in order to compete (Irwin, 2021; Lucas & Repko, 2021). In response, healthcare organizations are also having to adapt.

Ultimately, the COVID-19 pandemic has worsened the existing factors that were already causing a recruitment and retention challenges within health care. While this issue was something healthcare delivery organizations were already facing, there is now a much greater sense of urgency to find a solution. The pandemic has resulted in rapid changes in employment practices, patterns, and values, and healthcare organizations must

adapt quickly or risk workforce challenges and potential downstream health impacts.

### **The Impending Impact on Care Delivery**

Collectively, these market conditions have the potential to significantly hinder patient care. Employee turnover can be very costly, particularly for skilled workers, such as nurses and physicians. Research suggests that replacing one physician can cost up to one million dollars (West et al., 2018). This cost may be even greater when considering the indirect impacts of burnout, such as increased medical errors and lower productivity. Researchers have found that overall pre-pandemic turnover costs accounted for 3.4-5.8 percent of one medical center's annual operating budget (Waldman et al., 2010). Given how the pandemic has exacerbated turnover, this rate is likely to increase for organizations. Notably, bedside RN turnover increased from 2% to 18.6% from 2019 to 2020 (Peng & Rewers, 2021). Since labor is already the greatest expense for most healthcare delivery organizations, this threatens their financial viability, which ultimately impacts patient care.

In addition to financial health, these conditions could negatively impact the quality of care. Low nurse to patient ratios, which can be the result of nursing shortages, are associated with poorer quality and health outcomes. As such, higher nurse to patient ratios are associated with a lower risk of urinary tract infections, pneumonia, gastrointestinal bleeding, and cardiac arrest (Needelman et al., 2006). Additionally, more employed registered nurses relative to the number of hospitalized patients is associated with lower hospital readmissions. Nursing shortages, as well as other staffing shortages,

can also result in the inability to staff available hospital beds. Not only can this cost hospitals revenue, but it also means they may have to turn away patients in need of care. Depending on the magnitude of staffing shortages, this can result in substantial unmet need for care within communities, which can in turn contribute to worse health outcomes.

### **Strategies to Develop a Sustainable Workforce**

Ultimately, the COVID-19 pandemic and current market conditions threaten the ability of the U.S. healthcare system to deliver high quality care and improve health outcomes because those goals are premised on the notion that organizations have a trained, motivated, and sufficiently large workforce. Although the healthcare labor market has been generally inelastic, organizations must now be more reactive to the market and workforce demands. Fortunately, with a bit of flexibility, healthcare delivery organizations have several opportunities to build a solid foundation for the future of their workforce.

#### *1. Flexible Work Arrangements*

As demonstrated by the increasing prevalence of and preferences for remote work, flexible work arrangements are becoming more ubiquitous in work culture. While there are obvious limitations to offering flexible work arrangements in health care, there is certainly an opportunity to incorporate it for some employees. This is more easily applicable to non-patient facing employees, such as those in administration, information services, and process improvement. However, the increased utilization and development

of telehealth presents an opportunity to allow some doctors, nurses, and other frontline employees to work from home. This can take several forms, including designating a telehealth-specific team of providers or allowing providers to designate certain clinic days as telehealth only. Importantly, healthcare organizations do not need to transition certain jobs to fully remote in order for employees to benefit. Fifty-four percent of employees currently working remotely at least part of the time prefer a hybrid work model (Saad & Wigert, 2021). Flexible work arrangements have been proven to improve satisfaction and decrease turnover. A study of Best Buy employees found that their Results-Only Work Environment, which promotes flexibility around working from home and daily schedules, reduced turnover by 45.5% and also reduced intent to turnover (Moen et al., 2011). Additionally, Mayo Clinic implemented a work from home program for their Patient Access team in 2011 and saw a 10-28% increase in productivity among participants (Vyne Medical, n.d.). Therefore, there are several ways an organization can structure flexible work arrangements with examples within and outside of the healthcare industry. Doing so could help attract and retain talent who have come to value work-life balance more since the pandemic and help mitigate some of the burnout we are currently seeing.

## *2. Educational and Growth Pathways*

Another way healthcare delivery organizations can set themselves apart from other industries is through established career pathways that allow for upward mobility within the organization. This is especially beneficial in attracting and retaining lower-wage

workers or workers without vocational training. Career development has a strong positive association with employee loyalty (Aljehani & Javed, 2021), which will be critical for healthcare delivery organizations going forward given the evidence around employees switching jobs more readily following the pandemic. An example of such a program is an educational pathway for incumbent workers at Rush University Medical Center to become medical assistants (Ansell et al., 2021), which has both individual and community-level benefits. The University of Cincinnati Health (UC Health) has also implemented educational pathway programs for careers in allied health and certificate programs for entry-level positions. Between 2005-2010 the organization realized a return on investment of 11.9% from their entry-level certificate program, as well as many other benefits, including improved job performance and increased workforce diversity (DiMario et al., 2016). Therefore, these pathways can have direct benefits for recruitment and retention as well as indirect, positive impacts on the work environment.

### *3. Alternative Benefits Packages*

Some of the changes in workforce values and behaviors impact preferences around employee benefits. Most organizations do not account for differing individual values and preferences in their fringe benefits offerings. With younger generations beginning to dominate the workforce and the increasing need to retain lower wage employees, healthcare organizations need to pay attention to the specific values of these groups. The evidence has demonstrated that wages play a large role in employment decisions for these groups. Taking into account this, and the fact that changing workforce demographics will

impact utilization patterns for employee benefits, organizations should consider alternative benefits packages, such as a Section 125 cafeteria plan, which allows employees to dedicate a portion of their pre-tax wages to pay for the benefits they need (IRS, 2021). This allows employees to forgo benefits that are of less personal value and choose those that are of higher value. Similarly, one emerging idea is lifestyle spending accounts (LSAs), which allow employees to use benefits funds for wellness products and services (Hays, 2021). Organizations can also offer non-monetary benefits to employees. For example, mental health services, pet insurance, and diversity, equity, and inclusion policies are all gaining traction as employee benefits (Hays, 2021). While alternative fringe benefits may be more difficult to implement given legal and regulatory limitations, they offer healthcare delivery organizations an innovative approach to improve recruitment and retention, particularly for lower-wage employees and employees from younger generations.

#### *4. Mental Health Services*

Finally, increasing rates of burnout and its effects on workers and healthcare delivery, indicate a need for greater quantity and quality of mental health services for healthcare workers. Although the previous strategies may improve work-life balance and other stressors that contribute to employee wellbeing, healthcare delivery organizations need a more targeted approach. Examples of employee mental health services that have gained popularity recently include enhanced mental health coverage in health insurance plans, peer-to-peer support groups, substance use disorder support, and promoting a culture of

anti-stigma and awareness (Coe et al., 2021). Unfortunately, researchers have found a significant disconnect between what employers offer and what employees want in terms of mental health services. Among the most important factors for employees are access to services, communication from their employer about services offered, and an inclusive culture (Coe et al., 2021). Companies have taken a variety of measures in order to effectively expand access to services in the wake of the pandemic, including launching employee assistance programs, increasing the quantity and breadth of in-network providers, waiving cost-sharing, and expanding coverage to include telehealth (Kaiser Family Foundation, 2021). Another innovative idea is the use of digital and app-based services, such as Calm, Headspace, and Modern Health. In the months following the onset of the pandemic, Modern Health saw a 56% increase in user activity and Headspace had a 500% increase in interest from corporations (Levy, 2020). This suggests that employees want and use these services and that they are becoming increasingly incorporated as workplace benefits. Beyond these ideas, healthcare organizations need to be mindful of communicating the services available to employees and creating a flexible, stigma-free environment, which flexible work arrangements could help with. Ultimately, organizations need to listen to their employees so that they tailor the mental health services they are providing to the true needs of their employee population.

### **Key Considerations**

Every healthcare delivery organization is unique, given its geographic location, service offerings, and patient populations served. As such, there is no ‘one size fits all’

approach when it comes to managing the workforce. When moving forward with a new recruitment and retention strategy, organizations must account for two key considerations. First is that what works for each organization will depend heavily on the demographics of their own workforce and the labor pool they recruit from. Each organization must conduct its own analysis to understand the values and behaviors worth adjusting for. We are now in a position where employees hold significant power within the labor market. Therefore, it is important, now more than ever, that organizations listen carefully to the unique wants and needs of their workforce. It may be wise to use a human factors approach to this analysis to truly incorporate all perspectives and directly from the employees themselves.

Second, talent management strategies may take significant investment of resources and organizations may not realize the benefits in the short term. In the wake of the COVID-19 pandemic, many healthcare delivery organizations are facing financial hardship and future financial uncertainty due to fluctuating patient visits, changes in reimbursement rates, and other policy changes. Therefore, some organizations simply may not be able to make the necessary investment at this time. Each organization should evaluate not only its financial resources, but also its readiness for change, as some of the proposed solutions will cause significant disruption and require coordinated effort across the organization.

## **Conclusion**



Although the COVID-19 pandemic has negatively impacted the U.S. healthcare industry in many ways, care delivery organizations can also use it as an opportunity to strengthen their workforce. If the pandemic has revealed anything, it is that we cannot continue to do things the way they have always been done. Americans' values and behaviors have changed on a variety of employment-related topics and in an employee's market, healthcare must adapt to these changes. Now is the time for creativity, flexibility, and the sharing of best practices across the industry. Without this, healthcare delivery organizations will continue to experience shortages, which could have detrimental downstream health impacts.

## References

- Advisory Board. (2021). *Charted: The 13 Reasons Health Care Workers Are Quitting*.  
Advisory Board. Retrieved from <https://www.advisory.com/daily-briefing/2021/10/08/health-care-workers-survey>.
- Aljehani, R. & Javed, U. (2021). Relationship Between Career Development and Employee Loyalty. *PJAE*, 178(14), 123-134.
- Andah, E., Essang, B., Friend, C., Greenley, S., Harvey, K., Spears, M., & Reeve, J. (2021). Understanding the impact of professional motivation on the workforce crisis in medicine: a rapid review. *BJGP open*, 5(2), BJGPO.2021.0005.  
<https://doi.org/10.3399/BJGPO.2021.0005>
- Ansell, D. A., Oliver-Hightower, D., Goodman, L. J., Lateef, O. B. & Johnson, T. J. (2021). Health Equity as a System Strategy: The Rush University Medical Center Framework. *NEJM Catalyst Innovations in Care Delivery*, 2(5).
- Arora, P. & Kshatriya, K. P. (2017). Millennials: The New Generation with High Employment Expectations. *International Journal of Advance Research in Science and Management Studies*, 5(8), 101-109.
- Auerbach, D. I., Buerhaus, P. I., & Staiger, D. O. (2015). Will the RN Workforce Weather the Retirement of the Baby Boomers? *Medical Care*, 53(10), 850–856.  
<https://doi.org/10.1097/MLR.0000000000000415>
- Auerbach, D. I., Buerhaus, P. I., & Staiger, D. O. (2017). Millennials Almost Twice as Likely to Be Registered Nurses as Baby Boomers. *Health Affairs*. 36(10).

- Cassella, M. (2021). *The Pandemic Drove Women Out of the Workforce. Will They Come Back?* Politico. Retrieved from <https://www.politico.com/news/2021/07/22/coronavirus-pandemic-women-workforce-500329>.
- Cassery, M. (2012). *10 Jobs That Didn't Exist 10 Years Ago*. Forbes. Retrieved from <https://www.forbes.com/sites/meghancassery/2012/05/11/10-jobs-that-didnt-exist-10-years-ago/?sh=2edcaf3157ba>.
- Centers for Disease Control and Prevention. (2020). *Promoting Health for Older Adults*. National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP). Retrieved from <https://www.cdc.gov/chronicdisease/resources/publications/factsheets/promoting-health-for-older-adults.htm>
- Coe, E., Cordina, J. Enamoto, K., Mandel, A. & Stueland, J. (2021). *National Surveys Reveal Disconnect Between Employees and Employers Around Mental Health Need*. McKinsey & Company. Retrieved from <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/national-surveys-reveal-disconnect-between-employees-and-employers-around-mental-health-need>
- Deloitte. (2021). *Why Women Are Leaving the Workforce After the Pandemic – And How to Win them Back*. Forbes. Retrieved from <https://www.forbes.com/sites/deloitte/2021/07/01/why-women-are-leaving-the-workforce-after-the-pandemic-and-how-to-win-them-back/?sh=106862e796e7>

- DePietro, A. (2021). *U.S. Industries with the Biggest Growth in GDP from 2000 to 2020*. Forbes. Retrieved from <https://www.forbes.com/sites/andrewdepietro/2021/08/23/us-industries-with-the-biggest-growth-in-gdp-from-2000-to-2020/?sh=76cd94aa1d05>.
- DiMario, S. M., Elvery, J. A. & Spence, C. (2016). *Chapter 4: Employers' Investment in Career Pathways Improves Retention and Enhances Employee Engagement in Cincinnati, Ohio*. Developing Career-Based Training. Federal Reserve Bank of Atlanta.
- Gooch, K. (2021). *18% of Healthcare Workers Have Quit Jobs During Pandemic: Morning Consult*. Becker's Hospital Review. Retrieved from <https://www.beckershospitalreview.com/workforce/18-of-healthcare-workers-have-quit-jobs-during-pandemic-morning-consult.html>.
- Hays Companies. (2021). *How Fringe Benefits Are Evolving After COVID-19*. Hays Companies. Retrieved from <https://www.hayscompanies.com/how-fringe-benefits-are-evolving-after-covid-19/>
- Hospital News. (n.d.). *How One Hospital is Recruiting and Retaining Top Talent*. Hospital News. Retrieved from <https://hospitalnews.com/one-hospital-recruiting-retaining-top-talent/>
- Internal Revenue Service. (2021). *FAQs for Government Entities Regarding Cafeteria Plans*. IRS.gov. Retrieved from <https://www.irs.gov/government-entities/federal-state-local-governments/faqs-for-government-entities-regarding-cafeteria-plans>

- Irwin, N. (2021). *Workers Are Gaining Leverage Over Employers Right Before Our Eyes*. The New York Times. Retrieved from <https://www.nytimes.com/2021/06/05/upshot/jobs-rising-wages.html>.
- Kaiser Family Foundation. (2021). *Employer Health Benefits 2021 Annual Survey*. Kaiser Family Foundation. Retrieved from <https://files.kff.org/attachment/Report-Employer-Health-Benefits-2021-Annual-Survey.pdf>
- Kirch, D. G., Petelle, K. (2017). Addressing the Physician Shortage: The Peril of Ignoring Demography. *JAMA*. 317(19), 1947–1948. doi:10.1001/jama.2017.2714
- Levy, A. (2020). *Companies Are Offering Benefits Like Virtual Therapy and Meditation Apps as COVID-19 Stress Grows*. CNBC. Retrieved from <https://www.cnbc.com/2020/10/10/covid-stress-companies-turn-to-virtual-therapy-meditation-apps.html>
- Liu, J. (2021). *'I'd Rather Bet On Myself': Workers are Quitting their Jobs to Put Themselves First*. CNBC. Retrieved from <https://www.cnbc.com/2021/06/24/workers-are-quitting-their-jobs-to-prioritize-their-mental-health.html>
- Lucas, A. & Repko, M. (2021). *Labor Shortage Gives Retail and Restaurant Workers the Upper Hand – For Now*. CNBC. Retrieved from <https://www.cnbc.com/2021/08/11/labor-shortage-gives-retail-and-restaurant-workers-the-upper-hand.html>
- Medical Group Management Association. (2021). *Measuring the Toll COVID-19 Took on the Physician Workforce*. Medical Group Management Association. Retrieved

- from <https://www.mgma.com/data/data-stories/measuring-the-toll-covid-19-took-on-the-physician>
- Moen, P., Kelly, E. L. & Hill, R. (2011). Does Enhancing Work-Time Control and Flexibility Reduce Turnover? A Naturally Occurring Experiment. *Social Problems*, 58(1), 69-98.
- Nancarrow, S. A. & Borthwick, A. M. (2005). Dynamic Professional Boundaries in the Healthcare Workforce. *Sociology of Health & Illness*, 897-919.
- Needelman, J., Buerhaus, P. I., Stewart, M., Zelevinsky, K. & Mattke S. (2006). Nurse Staffing in Hospitals: Is there a Business Case for Quality? *Health Affairs*, 25(1), 204-211.
- Neprash, H. T. & Chernew, M. E. (2021). Physician Practice Interruptions in the Treatment of Medicare Patients During the COVID-19 Pandemic. *JAMA*, 326(13), 1325-1328.
- Peng, J. & Rewers, L. (2021). *Why So Many Nurses Are Quitting (And What to Do about It)*. Advisory Board. Retrieved from <https://www.advisory.com/daily-briefing/2021/10/06/nurse-turnover>
- Prawitasari, G. (2018). The Influence of Generations on Career Choice: Social Cognitive Career Theory Perspective. *Konselor*, 7(1), 15-20.
- Reith, T. P. (2018). Burnout in United States Healthcare Professionals: A Narrative Review. *Cureus*, 10(12).

- Rigoni, B. & Adkins, A. (2016). *What Millennials Want from a New Job*. Harvard Business Review. Retrieved from <https://hbr.org/2016/05/what-millennials-want-from-a-new-job>
- Saad & Wigert. (2021). *Remote Work Persisting and Trending Permanent*. Gallup. Retrieved from <https://news.gallup.com/poll/355907/remote-work-persisting-trending-permanent.aspx>
- Schwab, K. (2017). *The Fourth Industrial Revolution*. Penguin Books Limited.
- Tockey, D. (2017). *The Top Industries Gaining and Losing Millennials, According to LinkedIn Data*. LinkedIn Trends and Research. Retrieved from <https://www.linkedin.com/business/talent/blog/talent-strategy/top-industries-gaining-and-losing-millennials>
- Vyne Medical. (n.d.). *Work From Home: Mayo Clinic*. Vyne Medical. Retrieved from <https://vynemedical.com/case-study/work-from-home-mayo-clinic/>
- Waldman, J. D., Kelly, F., Arora, S. & Smith H. L. (2010). The Shocking Cost of Turnover in Health Care. *Health Care Management Review*, 35(3), 206-211.
- West, C. P., Dyrbye, L. N. & Shanafelt, T. D. (2018). Physician Burnout: Contributors, Consequences, and Solutions. *J Intern Medicine*, 283, 516-529.