AN FTI CONSULTING REPORT - PUBLISHED JULY 2022

Protecting the Pipeline:

How a Public Option Could Impact Our Nation's Health Care Workforce

Jeremy Nighohossian, Ph.D. and Sabiha Quddus, M.S.





Overview

Although the Affordable Care Act made historic strides in expanding insurance coverage, 29 million Americans remain uninsured as of Q3 2021,¹ driving policymakers to consider what comes next to bridge the remaining coverage gap. While campaigning for the presidency in 2019, President Joe Biden pledged to offer Americans a public option – a government-run insurance plan that would compete with private plans in the marketplace.² FTI Consulting analyzed this proposal to determine the impact a national public option could have on our nation's health care workforce and patients' access to care. Our analysis finds that this policy could present additional challenges for our health care workforce by cutting its funding, straining resources used to attract and retain staff, and threatening access to care.

Economists at FTI Consulting found that government rate setting under a public option may exacerbate health care workforce shortages. Our analysis assumed the public option would reimburse physicians less than private insurance and would increase the share of patients on government plans, which may lead to reductions in provider incomes. This could pose an issue for workforce recruitment and retention, discouraging aspiring workers from entering the field and prompting early retirements. These findings corroborate previous studies conducted by FTI Consulting, which found a public option could leave hospitals in financial distress, leaving them no choice but to reduce their service offerings, hours of operation, or time spent with patients to remain afloat.³ Our results also support prior research indicating low payment rates under a public option could lead to workforce reductions and other measures that could be detrimental to the quality of patient care.4

Further, we found that the nation's workforce is already stretched thin today, and many providers are on the brink of leaving medicine altogether. Given this, the additional workforce reductions predicted under a public option could lower staffing levels across physician specialties, including primary care, and for the nursing workforce, worsening patient access challenges, particularly in underserved communities. In addition, our analysis suggests that a public option could widen existing workforce disparities between urban and rural communities. Ultimately, a public option could exacerbate health care labor shortages nationwide, all while the workforce is still reeling from the immense demands of the COVID-19 pandemic.

Initial Key Findings

- A national public option would reduce total national expenditures on physician and clinical services by nearly 1.4 percent, amounting to losses of more than \$10 billion per year for providers.
- The COVID-19 pandemic put tremendous strain on our nation's health care workers, leading to burnout and accelerating previous workforce shortage predictions.⁶
 A public option could lead to additional workforce reductions, challenging providers' ability to meet patient needs and likely generating additional stress and burnout.
- For years, the U.S. has had one of the lowest rates of physicians per capita among developed nations.⁷ A public option could make matters worse, lowering the physicianto-patient ratio by 10 physicians per 1,000,000 people by 2050, reducing the workforce by over 4,000 physicians.
- Health care workforce shortages left many physicians feeling stretched thin and even burnt out during the COVID-19 pandemic. We estimate that a public option could compound these challenges, elevating the physician shortage to 78,701 providers and contributing to a projected shortage of nearly 33,000 primary care providers (PCP) by 2050.
- Patient access to specialty care may also decline under a national public option. We estimate the specialist workforce may shrink by nearly 3,400 physicians by 2050 under a public option, resulting in a total shortage of 46,304 specialists.
- A public option could exacerbate rural workforce shortages, amplifying disparities. There are currently 2,640 physicians per million people in urban areas compared to 1,170 in rural areas. A public option would reduce that further, widening the disparity. Low reimbursements could also cut into the margins rural hospitals depend on to pay health care workers.
- Hospitals experienced historic spikes in labor expenses during the COVID-19 pandemic, fueled in part by nursing shortages. A public option could make matters worse by cutting into hospitals' margins, rendering them unable to meet rising labor prices.
- Research finds a positive correlation between wage fluctuations and nurse graduation rates. The public option could cut into financial resources providers reserve for wages and, as a result, we project registered nurse (RN) graduations may fall by two percent, or 88 thousand nurses, by 2050 under a public option.

Methodology

FTI Consulting modeled the effect a national public option would have on the health care workforce. This analysis assumed that Americans on the health insurance exchanges would gradually migrate to the public option beginning in 2023 due to cost savings, culminating in this entire population transferring to the public option over time. Further, the analysis assumed the public option would base its reimbursement levels on Medicare. Medicare reimbursement rates are expected to fall to 63 percent of private insurance rates by 2023,8 and a Congressional Budget Office (CBO) estimate assumed that reimbursements under a public option would be five percentage points higher than Medicare. 9 Accordingly, FTI Consulting estimates physician reimbursements under a public option would average 68 percent of private insurance rates.

Reimbursement Rates

Public option reimbursement rates would be **5** percentage points higher than Medicare

Medicare reimbursement rates to be 63% of private insurance rates by 2023

Physician reimbursements under a public option would average 68 percent of private insurance rates

The fundamental assumption of FTI Consulting's analysis is that these reduced payments will lead to reduced income for both nurses and physicians, resulting in reductions in these workforces. Providers rely on a balanced payer mix - the proportion of their patients with private insurance compared to those with government insurance – to remain solvent. 10 According to the Centers for Medicare and Medicaid Services (CMS) Office of the Actuary, Medicare and Medicaid reimbursements for inpatient hospital services in 2019 fell to 60 percent and 62 percent of payments under private plans, respectively. 11 Since government plans typically reimburse providers at lower rates than private insurance, providers

rely on having enough patients with higher-paying private insurance to cover the costs for patients with government plans. 12 As Medicare and Medicaid reimbursements are projected to decline over the next several decades, providers may attempt to mitigate their losses by negotiating higher rates with private plans, but they are unlikely to fully offset those revenue cuts under a public option. By shifting the payer mix to feature government plans more heavily, a national public option could leave providers unable to afford rising labor costs, leading to workforce reductions.

Background

The United States currently faces a critical health care workforce shortage, which experts predict will only get worse under the status quo. As the Baby Boomer generation faces retirement, the number of Americans over the age of 65 is projected to grow by 45.1 percent by 2033, creating a corresponding spike in demand for medical services. 13 Further, more than two in five practicing physicians will reach the traditional retirement age within the next decade, 14 which, if not replaced with new physicians, will decrease the supply of physicians just as demand increases. Demographic trends suggest it is unlikely the additional physicians expected to enter the workforce will be sufficient to compensate for these retirements, leading to an anticipated shortage of 54,100 to 139,000 physicians by 2033, according to the Association of American Medical Colleges (AAMC). 15 However, these projections do not account for the increased demand for services, or the workforce burnout and attrition created by the COVID-19 pandemic.

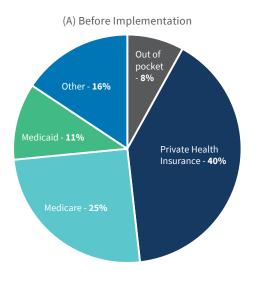
COVID-19 placed unprecedented stress on our nation's health care workers, pushing many to their breaking point. Providers have had to contend with a number of challenges during the pandemic, including personal risk of infection, physical exhaustion from long hours, and the emotional burden of making so many life-or-death decisions. 16 These challenges and many others have led to significant burnout and staffing shortages: nearly one in four hospitals reported critical staffing shortages during the Omicron variant surge in the winter of 2022. 17 These shortages may continue to worsen, as Elsevier Health's 2022 Clinician of the Future report found 47 percent of health care workers are considering leaving their roles in the next two to three years. 18 Recent Centers for Disease Control and Prevention (CDC) estimates found that one in five adults under 65 who survive COVID-19 experience "long COVID," meaning either their symptoms persist for over a month or they develop

new conditions, such as cardiac and respiratory issues.¹⁹ Although the total long-term effects of COVID-19 are still unknown, it is becoming increasingly clear that COVID-19 will continue to drive demand for medical services in the future. However, workforce shortages could precipitate a crisis wherein our nation's pandemic response falls short of patients' long-term needs.

Impact on Physician Workforce

The structure of a national public option – relying on reduced reimbursement rates to contain premium costs - is likely to place additional strain on providers' financial resources and spur further reductions in the workforce. Private payers account for approximately 40 percent of expenditures for physicians and clinical services, 20 and as a result, individuals switching from private plans onto

Figure One - Source of Payments for Physician and Clinical Expenditures, 2019



(B) After Implementation Out of pocket 8% Other - 16% Medicaid - 11% Private Health Insurance - 39% Loss from

Public Option - 1%

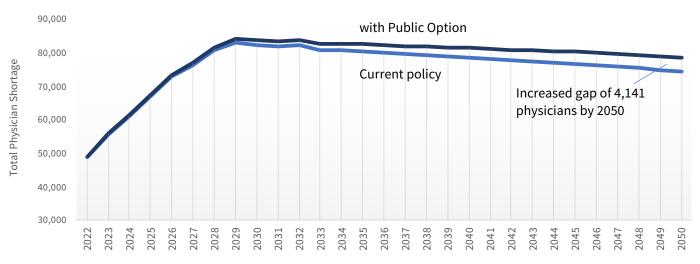
Source: CMS National Health Expenditures in 2019 by type of service and source of funds

lower-paying government plans would reduce total national expenditures on physician and clinical services by nearly 1.4 percent [Figure One], amounting to losses of more than \$10 billion per year for providers. While hospitals will likely absorb many of these revenue cuts, they may need to take other measures - such as reducing physicians' wages or staffing – to mitigate the impact of shifts in the payer mix.²¹

A change in physician wages will likely have a longterm effect on the supply of physicians, as our research demonstrates a positive correlation between wages and physician supply - the higher the physician wages in a country, the higher the ratio of physicians to patients. Despite that general trend, the U.S. has had one of the lowest rates of physicians per capita among developed nations.²² A public option could make matters worse, lowering the physician-to-patient ratio by 10 physicians per 1,000,000 people by 2050, reducing the workforce by over 4,000 physicians [Figure Two]. In total, we project the physician shortage could rise to 78,701 by 2050.

A public option could also exacerbate physician burnout, in turn leading to additional workforce reductions. The COVID-19 pandemic placed an unprecedented toll on our nation's health care workers, leaving nearly half of physicians in the U.S. feeling burnt out.²³ To curb the spread of COVID-19, many physicians worked long hours for months while attempting to cope with tremendous stress and the emotional burden of making life-or-death decisions for COVID-19 patients at a time when clinical guidelines were sparse. This burnout may compel physicians to retire early or switch professions, leading to workforce reductions. In 2020, more than 55 percent of physicians expressed intent to either reduce their hours or leave their role.²⁴ A public option could make this already precarious situation even more concerning. Nearly one in five physicians report that lower reimbursements – a key feature of a public option – are the largest contributor to burnout.²⁵ Still reeling from the immense demands of the pandemic, physicians may find the additional pressures of the public option too much to bear.

Figure Two: Physician Shortage Over Time



Sources: Current policy gap comes from AAMC 2021 Physician Shortage Report (extrapolated to 2050)

"Many physicians report that lower reimbursements - a key feature of a public option – are the largest contributor to burnout."

Impact on Primary Care Workforce Shortages

Primary care is designed to be the first-place patients turn to when in need of care, with PCPs spearheading their care delivery. However, there is currently a shortage of over 16,000 PCPs nationwide, 26 with 71 percent of PCPs reporting all-time high levels of exhaustion in 2021.²⁷ In 2015, only one in four Americans had a source of primary care.²⁸ Further, this workforce shortage issue does not show signs of abating. One in four PCPs intend to leave the field within three years.²⁹ A public option could worsen existing PCP shortage projections by reducing physicians' expected compensation to a point where the additional costs of physician training are no longer worthwhile.

As PCPs retire or leave the field, strong recruitment and retention levels are essential to maintain a robust workforce. PCPs typically have lower wages than specialists - \$100,000 less per year on average³⁰—which can deter some physicians from entering the field. Our analysis finds that low reimbursement rates under a public option may cut into providers' revenue, leading to reduced wages for PCPs, who are already among the lowest paid physicians. Under a public option, the U.S. may see its PCP shortage grow to nearly 33,000 by 2050.

These shortages could be particularly damaging to patients in underserved areas. More than one in four Americans live in a Primary Care Health Professional Shortage Area (HPSA), which are geographic areas or population groups that have a shortage of PCPs.³¹ PCPs that already face financial challenges in underserved areas on the verge of becoming HPSAs may find revenue losses under a public option to be too great to withstand, pushing them into closure and leaving the patients they served with few to no alternative sources of primary care and preventive services. Without a reliable source of care, patients are more likely to seek care through emergency departments, which are often more expensive, to treat health conditions that may have been avoidable if they had proper access to preventive services.³²

Patients and communities bear the brunt of our health care workforce shortages. Research shows a direct association between the supply of PCPs and patients' health outcomes. For example, increasing the supply of PCPs by just one individual per 10,000 physicians could improve health outcomes by up to 10.8 percent.³³ This is due in large part to primary care's crucial role in promoting preventive services. Patients with at least one primary care visit per year are 122 percent more likely to receive a colonoscopy and 75 percent more likely to receive a mammogram.³⁴ Without sufficient access to primary care providers under a public option, patients with chronic diseases may see delays in their time to diagnosis, diminishing the probability of favorable prognoses.

Impact on Specialty Physicians

The downward wage pressures of a public option, and its ensuing workforce reductions, will likely not be concentrated solely amongst PCPs, but instead could manifest across specialties. The Association of American Medical Colleges (AAMC) projects "other" specialties, including anesthesiology, psychiatry, and emergency medicine, will see the largest shortages of the nonprimary care specialties, compared to surgical and medical fields.³⁵ Our analysis finds the specialist workforce may shrink by nearly 3,400 physicians by 2050 under a public option; resulting in a total shortage of 46,304 specialists. This could also have far-reaching effects for patients seeking mental health services, many of whom are already underserved. As of 2022, 151 million Americans live in Mental Health HPSAs due to a current shortage of more than 7,500 mental health practitioners.³⁶ In 2020, nearly one-third of adults with unmet needs for mental health services did not receive services because they did not know of available providers.³⁷ A public option could compound challenges in locating essential specialty services for patients in any community across the U.S., big or small.

Impact on Urban-Rural Provider Supply

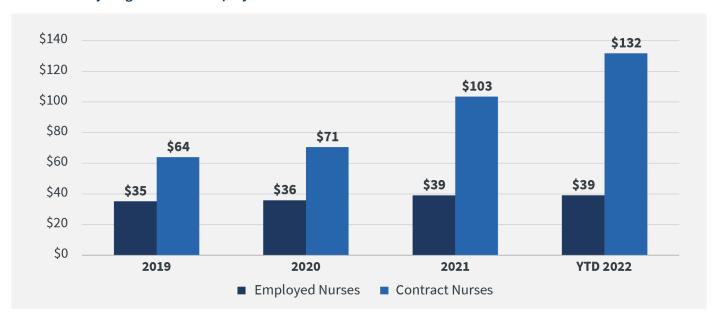
Rural communities have long struggled to recruit and retain a robust health care workforce, creating substantial disparities in access to care compared to metropolitan

areas. Although nearly 20 percent of Americans live in rural communities, only 11.4 percent of physicians are located in these areas. There are several reasons for this, including young physicians' concerns that rural areas offer lower wages. As a result, a disproportionate number of rural communities are experiencing provider shortages; approximately 61 percent of primary care HPSAs were located in rural areas in 2021. The COVID-19 pandemic only made matters worse by placing additional strain on hospitals, contributing to 22 rural hospital closures. Low reimbursement rates under a public option could exacerbate recruitment challenges. Our analysis also found there are currently 2,640 physicians per million people in urban areas and 1,170 in rural areas. A public option would reduce that further, widening the disparity.

Impact on Nursing Workforce Recruitment and Retention

Nurses play a critical role in our nation's health care system, both in care delivery and patient advocacy. Despite their importance, there are not enough nurses. Nursing shortages are no new phenomenon in the U.S. 42 However, the average nurse vacancy rate more than doubled during the COVID-19 pandemic, rising from eight percent in 2019 to 17 percent in 2022. 43 These shortages contributed to historic spikes in labor expenses during the pandemic, causing contract nurses' and employed nurses' wages to increase by 106

Median Hourly Wage Rates for Employed and Contract Nurses



Source: Kaufman Hall: "The Financial Effects of Hospital Workforce Dislocation," May 2022

We project graduations of Registered Nurses (RNs) may fall by two percent, or 88,286 nurses, under a public option.

percent and 11 percent, respectively. 44 A national public option would decrease provider revenues, creating financial stress for hospitals and other providers that employ nurses. As their revenue streams contract, hospitals may find it difficult to raise nurse wages, introduce new benefits, and hire additional staff. By limiting the financial resources hospitals depend on to invest in the nursing workforce, a public option could create larger shortages both nationally and regionally, making the health care system more fragile.

By cutting payments and creating new financial pressures on hospitals and providers, a public option could dissuade future students from choosing nursing as their career. Given that research finds a positive correlation between wage fluctuations and nurse graduation rates, 45 and that a public option would make it harder for hospitals and other providers to raise nurse wages consistently, we project graduations of Registered Nurses (RNs) may fall by two percent, or 88,286 nurses, by 2050 under a public option. Further, the pandemic demonstrated that wages are an important factor to nurses already in the workforce, 46 as some hospitals raised nurses' wages by as much as 15 percent during the pandemic to remain competitive in the labor market. 47 Nonetheless, many nurses left their hospital jobs for travel nursing positions, which offered as much as \$40,000 in signing bonuses alone. 48 Hospitals, particularly those that are small, rural, and have had financial troubles in the past, may find it more difficult to compete for nurses under a public option.49

Insufficient staffing has the potential to create ripple effects across our care delivery system. Nearly 30 percent of hospital leaders surveyed in 2021 reported that nurse staffing issues have resulted in the suspension of services, and another 22 percent of respondents say they are considering doing this.⁵⁰ However, the COVID-19 pandemic is far from over, and the country will continue to depend on nurses for care. There were over 100,000 new cases of COVID-19 per day on average during the week of May 19, 2022, a 52 percent increase over the previous two weeks.⁵¹ Further, uncertainty remains

regarding the prevalence of so-called "long COVID-19" and the degree to which it may prolong the increased demands our health care system has endured throughout the pandemic. Introducing a public option would likely create additional barriers to addressing the historic nursing shortage already projected to grow worse.

Conclusion

Our analysis suggests a national public option would exacerbate the country's widespread health care workforce shortages, contradicting policymakers' goals to expand access to care. A healthy and robust health care workforce is essential to optimal care delivery, but the U.S. health care system has significant room for improvement. In addition, the COVID-19 pandemic brought existing shortages in primary care, nursing, rural communities, and the medical field as a whole to new levels. Policymakers must consider the full picture when evaluating policy proposals to expand access to care. We find that a public option could lead to widespread workforce reductions, leaving patients without access to the full array of services they need during this and future public health crises.

Acknowledgments: This work was financially supported by the Partnership for America's Health Care Future.

ENDNOTES

- Chu, Rose, Aiden Lee, Christie Peters, and Benjamin Sommers. "Health Coverage Changes From 2020-2021." Department of Health and Human Services Assistant Secretary for Planning and Evaluation, January 27, 2022. https://aspe.hhs.gov/sites/default/files/documents/ ed44f7bb6df7a08d972a95c34060861e/aspe-data-point-2020-2021-uninsured.pdf.
- "The Biden Plan to Protect & Build on The Affordable Care Act." Joe Biden for President: Official Campaign Website, October 11, 2020. https://joebiden.com/healthcare/.
- Nighohossian, Jeremy, and Sabiha Quddus. "Connecticut Public Option: Potential Ramifications on Provider Finances and Patient Access to Care." FTI Consulting, Inc., May 27, 2021. https://www.fticonsulting.com/insights/reports/connecticut-provider-finances-patient-accesscare.
- Nighohossian, Jeremy, and Susan Manning. "Colorado's Government Option: Assessing the Impact of Reforms on Access to Health Care." FTI Consulting, Inc., January 16, 2020. https://www.fticonsulting.com/insights/reports/colorado-government-option-assessing-reformshealth-care.
- Elsevier. "Clinician of the Future: A 2022 Report." Elsevier Connect, March 15, 2022. https://www.elsevier.com/connect/clinician-of-the-5.
- "Impact of the COVID-19 Pandemic on the Hospital and Outpatient Clinician Workforce," Department of Health and Human Services Assistant Secretary for Planning and Evaluation, May 2, 2022. https://aspe.hhs.gov/sites/default/files/ documents/9cc72124abd9ea25d58a22c7692dccb6/aspe-covid-workforce-report.pdf.
- Kamal, Rabah, Nisha Kurani, Daniel McDermott, and Cynthia Cox. "How Prepared Is the US to Respond to COVID-19 Relative to Other Countries?" Peterson-KFF Health System Tracker, March 27, 2020. https://www.healthsystemtracker.org/chart-collection/how-preparedis-the-us-to-respond-to-covid-19-relative-to-other-countries/.
- "Research, Statistics, Data & Systems." Centers for Medicare & Medicaid Services, April 22, 2019. https://www.cms.gov/Research-Statistics-<u>Data-and-Systems/Research-Statistics-Data-and-Systems.</u>
- "Add A 'Public Plan' to the Health Insurance Exchanges." Congressional Budget Office, November 13, 2013. https://www.cbo.gov/budget-9. options/2013/44890.
- 10. Manary, Matthew, Richard Staelin, William Boulding, and Seth Glickman. "Payer Mix; Financial Health Drive Hospital Quality: Implications for Value-Based Reimbursement Policies." Behavioral Science and Policy Association, 2015. https://behavioralpolicy.org/wp-content/ uploads/2017/02/BSP vol1is1 Manary.pdf.
- 11. Shatto, John, and M. Kent Clemens. "Projected Medicare Expenditures under an Illustrative Scenario with Alternative Payment Updates to Medicare Providers." Centers for Medicare and Medicaid Services, August 31, 2021. https://www.cms.gov/files/document/illustrativealternative-scenario-2021.pdf.
- 12. Morse, Susan. "Mayo Clinic Admits Need to Grow Commercial Payers to Balance Payer Mix, Subsidize Underinsured." Healthcare Finance News, March 17, 2017. https://www.healthcarefinancenews.com/news/mayo-clinic-admits-putting-commercial-payers-first-balancepayer-mix-subsidize-underinsured.
- 13. "The Complexities of Physician Supply and Demand: Projections From 2018 to 2033," AAMC, June 2020. https://www.aamc.org/system/ files/2020-06/stratcomm-aamc-physician-workforce-projections-june-2020.pdf.
- 14. Ibid.
- 15. Ibid.
- 16. Leo, Carlo Giacomo, Saverio Sabina, Maria Rosaria Tumolo, Antonella Bodini, Giuseppe Ponzini, Eugenio Sabato, and Pierpaolo Mincarone. "Burnout Among Healthcare Workers in the COVID 19 Era: A Review of the Existing Literature." Frontiers in Public Health, October 29, 2021. https://doi.org/10.3389/fpubh.2021.750529.
- 17. "Impact of the COVID-19 Pandemic on the Hospital and Outpatient Clinician Workforce." Department of Health and Human Services Assistant Secretary for Planning and Evaluation, May 3, 2022. https://aspe.hhs.gov/reports/covid-19-health-careworkforce#:~:text=The%20COVID%2D19%20pandemic%20has,burnout%2C%20exhaustion%2C%20and%20trauma.
- 18. Elsevier. "Clinician of the Future: A 2022 Report." Elsevier Connect, March 15, 2022. https://www.elsevier.com/connect/clinician-of-thefuture.
- 19. "Post-COVID Conditions among Adult COVID-19 Survivors Aged 18-64 and ≥65 Years United States, March 2020-November 2021." Centers for Disease Control and Prevention, May 27, 2022. https://www.cdc.gov/mmwr/volumes/71/wr/mm7121e1.htm.
- 20. "National Health Expenditure Data." Center for Medicare & Medicaid Services, December 15, 2021. https://www.cms.gov/Research- $\underline{Statistics-Data-and-Systems/Statistics-Trends-and-Reports/National Health Expend Data/National Health Accounts Historical.}$

- 21. "Issue Brief: Medicare for All and the Future of America's Health Care Workforce." Partnership for America's Health Care Future, January 10, 2020. https://americashealthcarefuture.org/resources/issue-brief-medicare-for-all-and-the-future-of-americas-health-careworkforce/.
- 22. Kamal, Rabah, Nisha Kurani, Daniel McDermott, and Cynthia Cox. "How Prepared Is the US to Respond to COVID-19 Relative to Other Countries?" Peterson-KFF Health System Tracker, March 27, 2020. https://www.healthsystemtracker.org/chart-collection/how-preparedis-the-us-to-respond-to-covid-19-relative-to-other-countries/.
- 23. Sinsky, Christine A., Roger L. Brown, Martin J. Stillman, and Mark Linzer. "COVID-Related Stress and Work Intentions in a Sample of US Health Care Workers." Mayo Clinic Proceedings: Innovations, Quality & Outcomes vol. 5, no. 6, December 1, 2021: 1165–73. https://doi. org/10.1016/j.mayocpigo.2021.08.007.
- 24. Ibid.
- 25. Kane, Leslie. "Medscape National Physician Burnout & Suicide Report 2020: The Generational Divide." Medscape, January 15, 2020. https://www.medscape.com/slideshow/2020-lifestyle-burnout-6012460.
- 26. "Shortage Areas." Health Resources & Services Administration, May 25, 2022. https://data.hrsa.gov/topics/health-workforce/shortageareas
- 27. "Quick COVID-19 Primary Care Survey," Primary Care Collaborative and The Larry A. Green Center, April 9, 2021. https://static1.squarespace.com/static/5d7ff8184cf0e01e4566cb02/t/608025b52bcda1342b1296b5/1619010998067/ C19+Series+28+National+Executive+Summary.pdf.
- 28. Levine, David M., Jeffrey A. Linder, and Bruce E. Landon. "Characteristics of Americans with Primary Care and Changes Over Time, 2002-2015." JAMA Internal Medicine vol. 180, no. 3, December 16, 2019: 463-466. https://doi.org/10.1001/jamainternmed.2019.6282.
- 29. "Ouick COVID-19 Primary Care Survey: Series 35 Fielded February 25 March 1, 20222." Larry Green Center, 2022, https://www. squarespace.com/.
- 30. Kane, Leslie. "Medscape Physician Compensation Report 2020." Medscape, May 14, 2020. https://www.medscape.com/slideshow/2020compensation-overview-6012684.
- 31. "Shortage Areas." Health Resources & Services Administration, May 25, 2022. https://data.hrsa.gov/topics/health-workforce/shortage-
- 32. "Trends in the Utilization of Emergency Department Services, 2009-2018." Department of Health and Human Services Assistant Secretary for Planning and Evaluation, March 2, 2021. https://aspe.hhs.gov/sites/default/files/private/pdf/265086/ED-report-to-Congress.pdf.
- 33. Macinko, James, Barbara Starfield, and Leiyu Shi. "Quantifying the Health Benefits of Primary Care Physician Supply in the United States." International Journal of Health Services vol. 37, no. 1, January 1, 2007: 111-26. https://doi.org/10.2190/3431-g6t7-37m8-p224.
- 34. Hostetter, Jeffrey, Nolan Schwarz, Marilyn Klug, Joshua Wynne, and Marc D. Basson. "Primary Care Visits Increase Utilization of Evidence-Based Preventative Health Measures." BMC Family Practice vol. 21, no. 1, July 28, 2020. https://doi.org/10.1186/s12875-020-01216-8.
- 35. "AAMC Report Reinforces Mounting Physician Shortage." Association of American Medical Colleges, June 11, 2021. https://www.aamc. org/news-insights/press-releases/aamc-report-reinforces-mounting-physician-shortage#:~:text=According%20to%20new%20data%20 published, both %20 primary %20 and %20 specialty %20 care.
- 36. "Shortage Areas." Health Resources & Services Administration, May 25, 2022. https://data.hrsa.gov/topics/health-workforce/shortage-
- 37. Richesson, Douglas, and Jennifer Hoenig. "Key Substance Use and Mental Health Indicators in the United States: Results from the 2020 National Survey on Drug Use and Health." Substance Abuse and Mental Health Services Administration, October 2021. https://www. samhsa.gov/data/sites/default/files/reports/rpt35325/NSDUHFFRPDFWHTMLFiles2020/2020NSDUHFFR1PDFW102121.pdf.
- 38. Rosenblatt, Roger A., Fredrick M. Chen, Denise M. Lishner, and Mark P. Doescher. "The Future of Family Medicine and Implications for Rural Primary Care Physician Supply," University of Washington School of Medicine Department of Family Medicine, August 2020. https://depts. washington.edu/uwrhrc/uploads/RHRC_FR125_Rosenblatt.pdf.
- 39. Peter Jaret, "Attracting the Next Generation of Physicians to Rural Medicine," Association of American Medical Colleges, February 3, 2020. https://www.aamc.org/news-insights/attracting-next-generation-physicians-rural-medicine#:~:text=Rural%20areas%20offer%20 fewer%20opportunities,dissuade%20students%20from%20rural%20medicine
- 40. "Healthcare Access in Rural Communities," Rural Health Information Hub, last accessed May 26, 2022. https://www.ruralhealthinfo.org/ topics/healthcare-access.
- 41. "Rural Hospital Closures." The Cecil G. Sheps Center for Health Services Research at the University of North Carolina, January 11, 2022. https://www.shepscenter.unc.edu/programs-projects/rural-health/rural-hospital-closures/.
- 42. Neal, Anona, Bradley Custer, Marina Zhavoronkova, and Justin Schweitzer. "How to Ease the Nursing Shortage in America." Center for American Progress, May 23, 2022. https://www.americanprogress.org/article/how-to-ease-the-nursing-shortage-in-america/.

- 43. "2022 NSI National Health Care Retention & RN Staffing Report." NSI Nursing Solutions, Inc., March 2022. https://www.nsinursingsolutions .com/Documents/Library/NSI_National_Health_Care_Retention_Report.pdf.
- 44. Swanson, Erik. "The Financial Effects of Hospital Workforce Dislocation." Kaufman Hall, May 11, 2022. https://www.kaufmanhall.com/ insights/research-report/special-workforce-edition-national-hospital-flash-report?utm_source=agcy&utm_campaign=nhfrworkforce-report&utm_medium=pr&utm_term=220511.
- 45. Spetz, Joanne, and Ruth Given. "The Future of the Nurse Shortage: Will Wage Increases Close the Gap?" Health Affairs vol. 22, no. 6, November/December 2003. https://doi.org/10.1377/hlthaff.22.6.199.
- 46. Farmer, Blake. "Worn-out Nurses Hit the Road for Better Pay, Stressing Hospital Budgets and Morale." NPR, October 20, 2021. https:// www.npr.org/sections/health-shots/2021/10/20/1046131313/worn-out-nurses-hit-the-road-for-better-pay-stressing-hospital-budgetsand-moral.
- 47. Evans, Melanie. "Hospitals Look to Raise Treatment Costs as Nurses' Salaries Increase." The Wall Street Journal, May 8, 2022, https://www. wsj.com/articles/hospitals-look-to-raise-treatment-costs-as-nurses-salaries-increase-11652007602.
- 48. Gooch, Kelly. "South Dakota Health System Offers \$40K Signing Bonus to Nurses." Becker's Hospital Review, August 26, 2021. https:// www.beckershospitalreview.com/compensation-issues/south-dakota-health-system-offers-40k-signing-bonus-to-nurses.html?utm_ source=twitter&utm_medium=social.
- 49. Sable-Smith, Bram. "Bounties and Bonuses Leave Small Hospitals behind in Staffing Wars." Kaiser Health News, February 7, 2022, https:// khn.org/news/article/hospital-staffing-wars-bonuses-competition-for-health-workers/.
- 50. Topchik, Michael, Troy Brown, Melanie Pinette, Billy Balfour, and Kate De Luca. "The COVID-19 Pandemic's Impact on Rural Hospital Staffing: Vaccine Hesitancy and Nurse Staffing Shortages Jeopardize Access to Care." The Chartis Group, November 2021. https://email. chartis.com/hubfs/CCRH/Chartis%20Rural Vaccine%20Survey FNL%2011.16.21.pdf.
- 51. "Coronavirus in the U.S.: Latest Map and Case Count." The New York Times. The New York Times, May 26, 2022. https://www.nytimes.com/ interactive/2021/us/covid-cases.html.

EXPERTS WITH IMPACT™ About FTI Consulting FTI Consulting is an independent global business advisory firm dedicated to helping organizations

F T I

manage change, mitigate risk and resolve disputes: financial, legal, operational, political & regulatory, reputational and transactional. FTI Consulting professionals, located in all major business centers throughout the world, work closely with clients to anticipate, illuminate and overcome complex business challenges and opportunities. The views expressed herein are those of the author(s) and not necessarily the views of FTI Consulting, Inc., its management, its subsidiaries, its affiliates,

public accounting firm or a law firm. www.fticonsulting.com ©2022 FTI Consulting, Inc. All rights reserved.

or its other professionals. FTI Consulting, Inc., including its subsidiaries and affiliates, is a consulting firm and is not a certified