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Supporting the Health Care Workforce: Lessons Following the COVID-19 Pandemic

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Executive Summary

The Centers for Disease Control and Prevention (CDC) launched Project Firstline to address existing gaps in infection prevention and control (IPC) practices and ensure that all health care workers and allied health professionals nationwide have access to relevant IPC education. Understanding that effective IPC relies on a resilient and well-trained workforce, the American Hospital Association (AHA) partnered with NORC at the University of Chicago as part of this initiative to investigate the current health care workforce issues facing hospitals and their impacts on IPC. Through an extensive literature review as well as focus groups and interviews with a diverse set of stakeholders, this research aims to shine a spotlight on the interplay between workforce shortages and their implications for staff training and onboarding, recruitment and retention, infection prevention and control, mental health and well-being, and workplace violence, particularly since the onset of the COVID-19 pandemic. Emerging in the context of an already struggling health care labor market, the pandemic both exacerbated existing workforce problems and engendered new concerns and stressors within the field. A concerted effort must be made at all levels — from individual hospitals and educational institutions to national organizations and government agencies — to address the short- and long-term impacts of these challenges. Therefore, this paper offers recommendations informed by the research findings to help strengthen the health care workforce.

Figure 1: Summary of Recommendations

Introduction

In 2020, the Centers for Disease Control and Prevention (CDC) launched Project Firstline, a collaborative of diverse health care and public health partners that aims to provide engaging, innovative and effective infection control trainings for millions of front-line U.S. health care workers, as well as members of the public health workforce.[1] As part of Project Firstline, the CDC, in partnership with the American Hospital Association (AHA) and the League for Innovation in the Community College, implemented a Community College Collaborative to enhance infection control content in community colleges' existing curricula and advance the future health care workforce's knowledge and practice of infection prevention.[2]

Successful IPC requires a sufficient number of well-trained health care workers with the knowledge, skills, capacity and clear understanding of team roles to execute IPC protocols. The onset of the COVID-19 pandemic posed multiple challenges to these prerequisites, such as staffing shortages, obstacles to

[1] Centers for Disease Control and Prevention. (n.d.). Project Firstline. Available at: https://www.cdc.gov/infectioncontrol/pdf/projectfirstline/PFL-FactSheet-508.pdf.

[2] For the purposes of this paper, we use the term "health care workforce" as defined in Title 42 of the United States Code, which includes "all health care providers with direct patient care and support responsibilities."

effective onboarding and orientation for incoming workers, and mental stress and exhaustion, among others. The AHA has produced a host of data-driven resources and research to support the health care workforce but expressed an interest in exploring the specific interplay between workforce challenges and their effects on critical facets of hospital operations, including IPC, and the strategies that hospitals and health systems have implemented to mitigate these effects. Additionally, these learnings and recommendations can then inform and guide community colleges and other training environments to better support students that will be entering the healthcare workforce.

To this end, the AHA partnered with NORC at the University of Chicago (NORC) and provided guidance, oversight, and support in conducting a two-part study on workforce issues: 1) a literature review and an environmental scan (jointly referred to "literature review"), which informed and were followed by 2) focus groups and in-depth interviews (jointly referred to henceforth as "focus groups"). As COVID-19 begins to form part of the "new normal," this white paper examines ongoing health care workforce challenges, the strategies hospitals have implemented to address them and recommendations to support the field.

Background

Prepandemic Workforce Issues. Even before the onset of the COVID-19 pandemic, workforce issues — low morale, burnout, staffing shortages and others — were already pervasive within the health care sector. An aging workforce portended a potential exodus of retiring professionals, with roughly 45% of physicians greater than 55 years of age in 2019 and the average age of a registered nurse at 50 years old in 2018.[3,4] Survey data collected from 2013 to 2014 found that 53% of the surveyed clinicians and health care staff members reported burnout, and nearly one-third of clinicians and 41% of staff were no longer working in the same health system two to three years post survey.[5] Another study forecast that a majority of states would experience widespread nursing shortages by 2030.[6]

Current State Workforce Issues. The pandemic exacerbated these existing workforce challenges while also giving rise to COVID-specific fears, trauma and immensely difficult working conditions for health care staff. The consequences are alarming: A 2020 study found that one in five physicians and two in five nurses say they will likely leave their practice within two years.[7] The same study found that burnout, fear of exposure, COVID-related anxiety and/or depression and workload were all predictors of intent to

[3] Sinsky CA, Brown RL, Stillman MJ, Linzer. COVID-related stress and work intentions in a sample of US health care workers. *Mayo Clin Proc Innov Qual Outcomes*. 2021;5(6):1165-1173. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8651505/.

[4] Department of Health and Human Services; Health Resources and Services Administration; National Center for Health Workforce Analysis. Brief summary results from the 2018 National Sample Survey of Registered Nurses. 2019. Available at: https://data.hrsa.gov/DataDownload/NSSRN/GeneralPUF18/nssrn-summary-report.pdf.

[5] Willard-Grace R, Knox M, Huang B, Hammer H, Kivlahan C, Grumbach K. Burnout and health care workforce turnover. *Ann Fam Med*. 2019; 17(1): 36-41. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6342603/.

[6] Juraschek SP, Zhang X, Ranganathan, Lin VW. United States registered nurse workforce report card and shortage forecast. *Am J Med Qual*. 2019;34(5):473-481.

[7] Sinsky, C. A., Brown, R. L., Stillman, M. J., & Linzer, M. (2021). COVID-related Stress and Work Intentions in a Sample of US Health Care Workers. *Mayo Clinic Proceedings: Innovations, Quality & Outcomes*, *5*(6), 1165-1173.

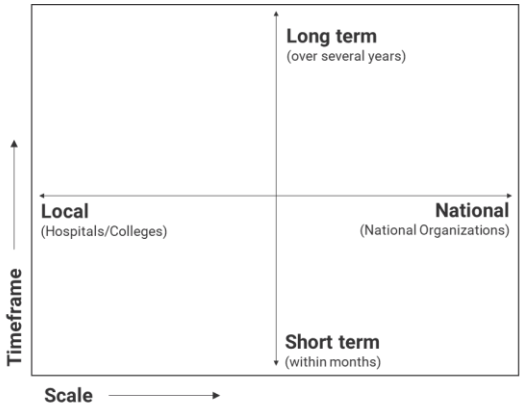
leave the field. A shrinking workforce not only decreases the availability of health care professionals today but also impacts the long-term forecast for qualified health personnel. The American Association of Colleges of Nursing (AACN) notes that drops in doctoral and master's nursing programs in 2021 signal concerning trends about the ability of nursing schools to meet demand, as a shortage of nursing school faculty imposes limits on program enrollment.[8]

Findings and Recommendations

This white paper examines health care workforce challenges in five key areas:

1. Training and onboarding
2. Recruitment and retention
3. Infection prevention and control
4. Mental health and well-being
5. Workplace violence

Figure 2: Categorization of Recommendations



Below, we briefly describe the impacts of workforce challenges in each key area; a summary of current strategies, tools, and partnerships that organizations have implemented to address them; and recommendations for further action. Our recommendations range from smaller-scale actions that can be implemented by hospitals and/or colleges to larger-scale solutions that states and/or national organizations can pursue through provision of policy, guidance and funding. As illustrated in Figure 2, we have categorized each recommendation based on two dimensions: 1) our estimated timeframe[9] for how quickly the recommendations can be implemented (short-, mid- and long-term) and 2) the scale[10] at which we think the solution should be implemented (local/hospital, state and/or national level).

Training and Onboarding

Challenges

This paper defines training and onboarding as a spectrum of health care education — from early interest and involvement in health care settings to higher educational attainment to training as a hospital employee. The COVID-19 pandemic introduced a host of obstacles at various stages of this trajectory, such as fewer in-person learning opportunities, pauses in preceptor and nurse residency programs, and

[8] American Association of Colleges of Nursing. Fact sheet: nursing shortage. Available at: https://www.aacnnursing.org/news-information/fact-sheets/nursing-shortage.

[9] Timeframe is defined as the time in which the benefits of the recommendation will materialize and has been divided into short-, mid- and long-term solutions. A short-term solution is one that addresses the immediate problem, whereas a long-term solution aims to resolve the underlying cause of a problem.

[10] A recommendation at the micro level can be applied at the hospital and/or college level, whereas a macro-level solution may require national coordination. Immediate recommendations can be implemented without the need for infrastructure or changes in policy, whereas long-term recommendations require coordination among state and national organizations and governments.

a shift to virtual platforms that were not customary and entailed a steep learning curve. The subsequent challenges — limited availability of training and new hires with less preparation than their predecessors — will require collaborative efforts among hospitals and educational institutions, aided by state and federal agencies, to address them.

Shortage of Preceptors, Faculty and Clinical Sites. Although the pandemic has spurred interest in health care careers (as evidenced by the 17% and 3% increases in applications to medical and nursing programs, respectively), concern about the limited capacity of clinical training sites and lack of faculty is mounting.[11] In fact, many medical schools and nursing programs report limiting enrollment due to these shortages. A 2020 survey from the Association of American Medical Colleges (AAMC) found that "50% of respondents reported limited capacity at established training sites as a factor for limiting enrollment."[12] Similarly, an AACN report revealed that more than 90,000 qualified applicants were turned away from nursing programs in 2021.[13] Most focus group participants also reported shortages of preceptors and formal mentors, with one participant lamenting that the "number of good preceptors is declining because the job feels like a burden" for those who have been on the front lines of addressing the pandemic since March 2020. Burnout and capacity issues were widely cited as reasons for preceptor shortages. One focus group participant commented that the scarcity of preceptors was so dire that some students found themselves paying for preceptors in order to complete their clinical hours.

> *"Some of the new graduate nurses are finding that they are not prepared so they feel overwhelmed – and we have limited resources to support them."*
>
> *– Registered nurse at a suburban community hospital*

Underprepared Entry-level Workforce. Health care students also faced a shift to virtual classes and increased use of simulations during the pandemic, missing the in-person training and interpersonal interactions that would have occurred in a classroom setting. Nearly all focus group participants expressed concern about the impact on the entry-level workforce, including gaps in soft skills and lowered retention of knowledge and skill sets necessary to succeed in their roles. One focus group participant pointed to a lack of certain skills in incoming nurses, stating that "they were in simulated labs or didactic only, so we're getting a lot of people that have some basic skill deficits, like how to put in a peripheral IV." Another stressed that hospitals need to "teach our caregivers how to think critically" — a long-standing critique of incoming staff members that precedes the pandemic. Several focus group participants echoed this sentiment specifically in the context of reduced in-person interactions needed to inculcate these critical thinking skills and the ability to view the whole patient, even though they may take years of experience to develop.

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[11] Association of American Medical Colleges. 2021 fall applicant, matriculant, and enrollment tables. Dec. 2021. Available at: https://www.aamc.org/media/57761/download.

[12] Association of American Medical Colleges. AAMC Medical school enrollment survey: 2020 results. Oct. 2021. Available at: https://www.aamc.org/media/9936/download.

[13] American Association of Colleges of Nursing. Reimagining nursing education; 2022 annual report. Available at: https://www.aacnnursing.org/Portals/42/Publications/Annual-Reports/2022-AACN-Annual-Report.pdf.

Strategies and Recommendations

Ensuring that the new learners and incoming health care workers are well-trained remains a high priority in the pandemic era and will require a multipronged approach. Increasing formal mentorship opportunities, evaluating and adjusting training practices and incorporating soft-skill training into hospital training are three effective strategies to address certain workforce-related challenges related to training and educating new learners.

Recommendation #1	**Timeframe** **Short- to medium-term**
Identify opportunities to grow preceptorship and mentorship programs	**Scale** Local

To foster a strong incoming workforce, hospitals and health systems should continue to proactively seek pathways to increase participation in preceptorships and other mentoring programs.

One way to achieve this goal is through **educational collaborations**. Collaborative efforts to enhance curricula and share educational best practices were apparent throughout the literature, as well as in some focus groups. In a detailed report by the Office of the Assistant Secretary for Planning and Evaluation (ASPE) and the RAND Corporation, "improving and broadening curricula" through partnership between community colleges and health care delivery organizations was listed as a method for improving the quality of training.[14]

For example, the Health Professions Pathways (H2P) Consortium has brought together nine community colleges in five states to share best practices in training nursing aides, community health workers, medical assistants, nursing assistants and other health care professionals through programs such as stackable credentials, which allow the sequential achievement of certificates, degrees or licenses that can support career advancement and reduce duplication in traditional educational pathways. Notably, the only focus group participant to report reduced rates of healthcare-acquired infections (HAIs) during the past two years gave credit to their education department, noting that they "never deviated from onboarding practices" and continued to maintain a strong, active partnership with their local community college.

Preceptorships, nurse residency programs and other formal mentorships also can serve as successful strategies for both preparing incoming health care workers and indirectly aiding with their retention. A 2019 analysis found that the one-year retention rate for nurses who participated in a residency program

[14] Assistant Secretary for Planning and Evaluation; Department of Health and Human Services. Strengthening the entry-level health care workforce: finding a path. Dec. 2020. Available at: https://www.aspe.hhs.gov/sites/default/files/migrated_legacy_files//200076/strengthening-the-EHCW-Report.pdf.

was higher than the national average.[15] Most focus group participants agreed that their in-house nurse residency and mentorship programs generated numerous benefits for incoming staff as they transition from school to employment by providing them with on-site training, a better understanding of workplace communication practices and professional support.

Facing a shortage of preceptors, hospitals and other stakeholders have implemented creative strategies aimed at strengthening these programs. For example, Maryland authorized an income tax credit for individuals who served as an uncompensated preceptor in certain health care workforce shortage areas. Eligible health professionals who function as a preceptor for a minimum of three distinct rotations (a total of 300 preceptor hours) within a taxable year receive tax credit certificates of $1,000 per rotation.[16] A focus group participant noted that their health system's preceptorship program is designed to sustain itself by training participants to become preceptors themselves in the future.

Recommendation #2	**Timeframe**
Study the impact of remote and hybrid training methods on knowledge retention and skill set development and adjust accordingly	**Short-term**
	Scale
	Local

With the onset of the pandemic and intermittent suspension of in-person instruction, states approved health care students to engage in remote learning or training at alternative clinical sites. Two focus group participants mentioned that this has led to increased attendance for certain training sessions, such as general HR onboarding and orientation. However, other focus group participants noted that student "hands-on experience is missing since everything was done in simulation" and expressed that "new staff that were in school during COVID have skill deficits due to lack of clinical rotations." A senior director of patient safety for a large private hospital expressed concerns that simulation-only training will impact the overall quality of care for years to come, and another stated that improving virtual learning by utilizing virtual reality has the potential to improve off-site training when in-person training is not feasible.

The collective conversation suggests that a hybrid approach to training — utilizing either in-person or virtual as appropriate — could allow hospital teams to remain agile, optimize resources and be responsive to different learning styles. Rather than dismissing virtual training, hospitals can investigate current practices and determine the training modality that optimizes outcomes for a given content area.
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[15] Asber SR. Retention outcomes of new graduate nurse residency programs: an integrative review. *J Nurs Adm*. 2019;49(9):430-435.
[16] Maryland Department of Health; Office of Population Health Improvement. Income tax credit for preceptors: Available at: https://health.maryland.gov/pophealth/Pages/taxcredit.aspx.

Recommendation #3	Timeframe
Enhance hospital-based trainings concerning communication, leadership qualities and other soft skills	Short-Medium term
	Scale
	Local

In a fast-paced clinical setting, it is essential that health care workers understand how to take the initiative when appropriate, ask questions when needed and clearly communicate with each other and their patients. Focus group participants broadly noted that many incoming health care workers lacked these essential soft skills, which could lead to miscommunication, interpersonal tension and even decreased quality. Hospital education departments can support new staff members by ensuring that soft skills are an integral part of training and onboarding. Collaborating with academic institutions on this endeavor may also facilitate greater emphasis on the skill sets that health care systems currently need and ensure that soft-skill best practices are consistently applied from the educational setting to the practice setting.

Recruitment and Retention

Challenges

The COVID-19 pandemic emerged at a time when the supply of health care workers was already maldistributed nationally, experiencing growing shortages and forecast to fall significantly short of meeting national demand in the near future. Health systems dealing with massive COVID-19 case surges increasingly relied on temporary measures, such as contracted workers and one-time relief funding, to weather the storm. Long-term revitalization of the health care workforce must involve creative strategies and investment to retain clinicians and to stabilize the industry.

Mounting Shortages. The U.S. health workforce continues to struggle with staffing shortages and maldistribution of health professionals. The demand for registered nurses (RNs) and physicians is projected to grow faster than supply between 2020 and 2035. Nationwide, there is a projected shortage of 78,610 full-time equivalent (FTE) RNs and 57,259 FTE physicians in 2025.[17,18] Although the research cited nursing and physician data in this paper, similar trends are prevalent for many other allied health professions — from lab technicians to therapists, nutritionists, behavioral health specialists and persons working in environmental services. Without a sufficient number and distribution of health professionals

[17] Health Resources & Services Administration; National Center for Health Workforce Analysis. Nurse workforce projections, 2020-2035. Nov. 2022. Available at: https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/Nursing-Workforce-Projections-Factsheet.pdf.

[18] Health Resources & Services Administration; National Center for Health Workforce Analysis. Physician workforce: projections, 2020-2035. Nov. 2022. Available at: https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/Physicians-Projections-Factsheet.pdf.

across specialties, the country will have difficulty in meeting rapidly evolving population health care needs, particularly as health care professionals themselves retire.

Several surveys indicated that health care professionals' intent to leave peaked during the pandemic. The 2022 American Organization for Nursing Leadership (AONL) COVID-19 Longitudinal Study found that 13% of nurse leaders intended to leave the profession, with the leading reasons being lack of work-life balance and burnout/exhaustion.[19] Compounded with a shortage of faculty to train incoming health care students, the health care workforce contends with both an impending exodus of clinicians and a supply of incoming health care workers that is unlikely to meet demand in the coming years.

Temporary, Contractor and Volunteer Nurses (Travel Nurses). Staffing shortages during the pandemic resulted in increased use of temporary health care staff, such as contract travel nurses, who were often paid at much higher rates than existing staff nurses. Although the use of contract nurses helped to meet immediate staffing demands, focus group participants noted that it resulted in several new challenges, such as higher turnover and operating costs, staff member redeployments, and maintaining Magnet status.

Interstate Flexibilities. Countering these challenges is one federal policy that emerged from the COVID-19 pandemic and enabled any licensed or certified health care provider to practice their discipline fully and to prescribe, dispense or administer COVID-19 vaccines in any other state or U.S. territory.[20] Even before the COVID-19 pandemic, there were national efforts underway to enact reciprocity through compacts to allow physicians and nurses to work across state lines. The Interstate Medical Licensure Compact (IMLC) offers an expedited pathway for physicians to obtain a medical license in each of the 37 participating states that are members.[21] Similarly, the Nursing Licensure Compact (NLC) is an agreement between states that gives nurses the ability to practice in 39 participating states.[22]

Strategies and Recommendations

The findings revealed a number of strategies implemented by stakeholders across the organizational spectrum with varying degrees of success.

Virtual Nursing. Other technological solutions aim to deliver care in a more efficient manner while preserving quality. One such model is virtual nursing, which involves nurses supporting bedside care staff and their patients via monitors, either in the hospital or from a remote location. The use of virtual nursing has allowed hospitals to augment the capacity of health care workers. For instance, in the

[19] American Organization for Nursing Leadership. Longitudinal nursing leadership insight study. Available at: https://www.aonl.org/resources/nursing-leadership-covid-19-survey.
[20] Department of Health and Human Services. HHS amends PREP Act Declaration to increase workforce authorized to administer COVID-19 vaccines. Available at: https://www.hhs.gov/about/news/2021/01/28/hhs-amends-prep-act-declaration-increase-workforce-authorized-administer-covid-19-vaccines.html#:~:text=The%20U.S.%20Department%20of%20Health,authorized%20by%20the%20U.S.%20Food.
[21] Interstate Medical Licensure Compact. Participating states. Available at: https://www.imlcc.org/participating-states/.
[22] National Council of State Boards of Nursing. Nurse licensure compact (NLC). Available at: https://www.ncsbn.org/compacts/nurse-licensure-compact.page.

Louisiana-based Ochsner Medical Center virtual nurse program, the virtual nurse supports the bedside nurse by monitoring patient lab work and communicating discharge information to the patient, thereby freeing the bedside nurse for direct patient care and reducing the administrative burden.[23] According to focus group participants, virtual nurse programs have helped with staffing shortages and have reduced full-time employee costs.

Telehealth. At the onset of the pandemic, uptake of telehealth soared as patients sought ways to access care safely and navigate lockdown restrictions. Telehealth visits are more focused and therefore shorter on average than in-person visits and can allow physicians to care for more patients without increasing physician time or the need for additional staff members. Telehealth also increases accessibility to patients in rural areas.[24] The chief systems nurse for a nonprofit health system spoke of patients' increased accessibility to specialists in acute care settings via telehealth, especially in rural areas in Alaska and Montana. The success of telehealth has prompted some organizations to keep and expand these programs beyond the end of the public health emergency, even when such programs were implemented as stop-gap solutions to address the pandemic. One focus group participant mentioned that their health system has "been able to almost double their capacity with patients being seen for follow-up in their clinics because of the telehealth visits that they've implemented."

Reducing administrative burden through technology and enhancing recruitment and retention efforts by assessing staffing needs were found to be effective strategies that hospitals and health systems can undertake to deal with staffing shortages.

Recommendation 1: **Identify and implement technologies that automate or streamline processes (where appropriate) and reduce administrative burden, while ensuring buy-in from and training for end users (local/medium-term)**

Digital solutions aimed at reducing administrative tasks (e.g., filling out intake forms) to allow more time and capacity for patient care[25,26] were found to be effective. For example, the literature review and focus group participants alluded to using tools such as electronic health records (EHR) to automate the prior-authorization process. One focus group participant indicated that their organization worked hard to invest in a well-rounded, integrated EHR system that promotes efficiency and "minimizes clicking" for bedside staff; however, another participant noted the difficulty of transitioning to a new EHR system.

The findings show that hospitals have also experimented with digital solutions for scheduling employee shifts, with mixed results. Although scheduling automation tools have the potential to optimize staffing

[23] Vizient. Healthcare leaders turn to tech to address clinical workforce challenges. Available at: https://newsroom.vizientinc.com/en-US/releases/healthcare-leaders-turn-to-tech-to-address-clinical-workforce-challenges.
[24] California Telehealth Resource Center. 5 ways telehealth can improve health care workforce retention. Available at: 5 Ways Telehealth Can Improve Health Care Workforce Retention - California Telehealth Resource Center (caltrc.org).
[25] American Hospital Association. Surveying the AI health care landscape. Available at: Market_Insights_AI-Landscape.pdf (aha.org).
[26] Deloitte. Technology and the workforce of the future; the future of work in health care Available at: Health Care Technology and the Future of Work | Deloitte US.

patterns, one focus group participant noted that the technology limited nurses' autonomy by restricting their ability to provide input into their own schedules.

When assessing potential technologies, hospital systems should examine the gaps and improvement areas within existing systems, ensure interoperability across systems and collaborate with end users to ensure that new tools serve to streamline rather than complicate processes. The last point is of particular importance: Focus group participants and the literature emphasize that new technology, though well-intentioned, can often create additional layers of unnecessary work or be overly prescriptive for nurses and other health care workers. Pilot programs and extensive training and testing for those interacting with the potential tools are recommended.

Recommendation 2: **Redouble efforts to understand staffing patterns and factors impacting health care workforce retention and attrition (local/short- to medium-term)**

The COVID-19 pandemic has irrevocably shifted the way people think about work, and hospitals and health systems will need to remain creative in their approaches to strengthen recruitment and retention efforts. Understanding both national employment trends and each hospital's specific workforce demographics, needs and perceptions of the working environment can aid hospital leadership in identifying innovative, complementary strategies. Hospital leadership would benefit from examining past and current staffing patterns to predict future workforce needs, gathering information from existing staff through surveys or focus groups to better understand the array of factors that contribute to retention or attrition, and testing new approaches (e.g., float pools mentioned by one focus group participant, or housing supports offered to health care workers to retain staff[27]) to maximize investments in recruitment and retention efforts. The AHA has released several resources with tools and best practices to support the health care workforce, including:

- Strengthening the Health Care Workforce: Strategies for Now, Near and Far
- Well-Being Playbook 2.0: A COVID-19 Resource for Hospital and Health System Leaders

Infection Prevention Control (IPC)

Challenges

In the years leading up to the pandemic, the United States saw widespread reductions in healthcare-associated infections. Data from the National Healthcare Safety Network (NHSN) showed significant declines in national standardized infection ratios (SIRs) between 2015 and 2019 for several HAIs, including central line-associated bloodstream infections (CLABSIs), catheter-associated urinary tract infections (CAUTIs) and *Clostridioides difficile* infection (CDI) laboratory-identified events.[28]

[27] American Hospital Association. Workforce solutions: recruitment and retention strategies in the wake of the COVID-19 pandemic. Available at: https://www.aha.org/guidesreports/2022-06-29-workforce-solutions-recruitment-and-retention-strategies-wake-covid-19.

[28] Weiner-Lastinger LM, Pattabiraman V, Konnor RY, et al. The impact of coronavirus disease 2019 (COVID-19) on healthcare-associated infections in 2020: A summary of data reported to the National Healthcare Safety Network. *Infect Control Hosp Epidemiol*. 2022;43(1):12-25. Available at: https://www.cambridge.org/core/journals/infection-

However, the early stages of the pandemic catalyzed considerable setbacks to this progress. Studies analyzing NHSN data found consistently higher SIRs for several infection types between 2020 and 2021 compared to the pre-pandemic era, particularly for CLABSIs and ventilator-associated events (VAEs).[29,30] In 2020, some hospitals saw CLABSIs increase by as much as 400%.[31] Most focus group participants also reported spikes in rates of HAIs early in the pandemic. This has prompted greater urgency and efforts to improve infection control and prevention practices and to better understand extenuating factors, such as workforce challenges, and their impact on HAI rates.[32,33]

Altered Prevention Practices. Several factors contributed to increased rates of HAIs, including changes to certain infection prevention practices during the pandemic.[34] Nursing practices such as reusing personal protective equipment (PPE) or grouping tasks for patients to minimize use of PPE led to more tasks being performed with potential for poor hand hygiene compliance or failing to disinfect surfaces. Hospitals also found themselves grappling with uncertainty about best care pathways, with the University of Iowa IPC program experiencing a 500% increase in consultation calls compared to the pre-COVID era. Infection preventionists reported lack of clarity and conflicting guidance as key challenges to IPC practices.[35] One study of 78 hospitals showed a 51% increase in CLABSIs and noted a likely correlation to pandemic-induced modifications of prevention practices, from less universal decolonization to keeping intravenous pumps in hallways.[36] Some focus group participants also reported

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control-and-hospital-epidemiology/article/impact-of-coronavirus-disease-2019-covid19-on-healthcareassociated-infections-in-2020-a-summary-of-data-reported-to-the-national-healthcare-safety-network/8197F323F4840D233A0C62F4726287E1.

[29] Ibid.

[30] Lastinger LM, Alvarez CR, Kofman A, et al. Continued increases in the incidence of healthcare-associated infection (HAI) during the second year of the coronavirus disease 2019 (COVID-19) pandemic. *Infect Control Hosp Epidemiol*. 2022;20:1-5. Available at: https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/continued-increases-in-the-incidence-of-healthcareassociated-infection-hai-during-the-second-year-of-the-coronavirus-disease-2019-covid19-pandemic/6521FF7F27B97AD5B21BA4B8EA9888A4.

[31] McMullen KM, Smith BA, Rebmann T. Impact of SARS-CoV-2 on hospital acquired infection rates in the United States: Predictions and early results. *Am J Infect Control*. 2020;48(11):1409-1411. Available at: https://www.ajicjournal.org/article/S0196-6553(20)30634-9/fulltext#%20.

[32] Gardam MA, Lemieux C, Reason P, et al. Healthcare-associated infections as patient safety indicators. *Healthy Pap*. 2009;9(3):8-24.

[33] Toccafondi G, Di Marzo F, Sartelli M, et al. Will the COVID-19 pandemic transform infection prevention and control in surgery? Seeking leverage points for organizational learning. *Int J Qual Health Care*. 2021;33(Suppl 1):51-55. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7802066/.

[34] Lastinger, et al. 2022. Available at: https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/continued-increases-in-the-incidence-of-healthcareassociated-infection-hai-during-the-second-year-of-the-coronavirus-disease-2019-covid19-pandemic/6521FF7F27B97AD5B21BA4B8EA9888A4.

[35] Impact of COVID-19 on an infection prevention and control program, Iowa 2020-2021
Alsuhaibani M, Kobayashi T, McPherson C, et al. Impact of COVID-19 on an infection prevention and control program, Iowa 2020-2021. *Am J Infect Control*. 2022;50(3):277-282. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8731683/.

[36] Fakih MG, Bufalino A, Sturm L, et al. Coronavirus disease 2019 (COVID-19) pandemic, central-line–associated bloodstream infection (CLABSI), and catheter-associated urinary tract infection (CAUTI): The urgent need to refocus on hardwiring prevention efforts. *Infect Control Hosp Epidemiol*. 2021;19:1-6. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8007950/.

that the pandemic impacted routine multidisciplinary rounds in which health care workers determined whether to remove central lines, noting that "the fidelity of those rounds or even the fact of whether they were happening or not broke down for a while," given the higher volume and acuity of patients during COVID-19 surges. For many organizations, the urgency of managing COVID-19 issues and patient care simply reduced the capacity to undertake and monitor certain IPC practices unrelated to the coronavirus.

Staffing Issues. As new coronavirus variants emerged and hospitalizations increased, hospitals faced unprecedented surges in demand coupled with dire staffing shortages. Facing high exposure from caring for COVID-19 patients, many health care workers got sick and had to be quarantined, further exacerbating shortages. In fact, more than 389,380 health care personnel had contracted COVID-19 by February 2021, increasing caseloads of acutely ill patients for on-duty clinicians.[37] This unprecedented working environment and lack of systemic support precipitated extremely challenging situations for health care workers, often requiring them to execute detailed IPC practices in a state of physical, mental and emotional exhaustion and distress.

This myriad of challenges often prompted the necessary relocation of nurses with less experience in high-risk central line and CLABSI prevention to critical care areas, which also contributed to higher infection rates.[38] In addition, some hospitals relied more heavily on temporary staff from traveling nurse agencies as they struggled with staffing shortages. Studies have found that the use of agency nurses was significantly associated with increased HAI levels.[39] Agency staff may lack specific training, be unfamiliar with ward routine and infection prevention strategies, and may not have established relationships with coworkers that impact communication, thereby contributing to higher HAI rates. Focus group participants corroborated these findings, saying that they "might not be as familiar with the practices in terms of keeping the line sterile or changing dressings."

Strategies and Recommendation

Training and multidisciplinary protocols were two commonly cited evidence-based strategies to reduce the incidence of HAIs. It is worth noting that electronic hand hygiene monitoring systems, automatic sterilization and disinfection tools and HAI surveillance systems also were researched, but there was an insufficient number of studies that met our research parameters to demonstrate such technologies' effectiveness in reducing HAIs.

Multidisciplinary Approaches for HAIs. Several studies showed success with implementing a multidisciplinary approach to reduce certain HAIs. One Ohio hospital developed a nurse-driven catheter removal protocol that reduced the SIR of CAUTIs during the same period when CAUTIs were increasing

[37] https://journals.lww.com/ajnonline/fulltext/2021/03000/the_toll_of_covid_19_on_health_care_workers.6.aspx
[38] https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/healthcareassociated-infections-during-the-coronavirus-disease-2019-covid19-pandemic/81E1C620D606E0E5C4874C2A6598DACB
[39] https://www.ajicjournal.org/article/S0196-6553(22)00136-5/fulltext#seccesectitle0004

nationally.[40] Other studies focused on central-line protocols have shown similar multidisciplinary teams, strategies and checklists have led to statistically significant reductions in CLABSIs during the pandemic.[41,42] Although a couple of focus group participants mentioned that their organizations embedded multidisciplinary rounds and tools into their IPC practices, they implied that the usefulness of such measures decreases as staffing shortages increase and staff capacity is absorbed by other priorities, noting that "even a checklist is not perfect because if people are too busy to do the checklist, it's worthless."

***Ongoing Standardized Training*.** Most focus group participants noted that ongoing education remains a crucial pillar of their organizations' IPC strategies. One focus group participant reported that their hospital's education department provides structured education for incoming staff such that they "were able to maintain rates of HAIs and CAUTIs." Another focus group participant noted that training sessions presenting unrelated topics in rapid succession produced knowledge retention issues, which led their hospital to bundle training topics — such as combining CLABSIs into the sepsis campaign — with much greater success. Other focus group participants highlighted the importance of continuing education to improve IPC practices, while cautioning against overreliance on virtual on-demand trainings for such purposes, calling them ineffective and warning that they could lead to the perception that IPC trainings are not critical and can be completed while multitasking.

Recommendation 1: **Develop a psychologically safe culture for staff to ask questions about safety issues and error-reduction strategies (local/medium- to long-term)**

Fostering an organizational culture that meets health care workers where they are and provides a comfortably environment for questioning can be an effective strategy to improve IPC.

> *"You have to create a psychologically safe culture within the workplace and in your facility so that people feel safe coming to you."*
>
> *– Chief Medical Officer of a multisite health system*

Hospitals and health systems must prioritize a leadership strategy and training approach that enables health care workers to openly share their IPC questions and concerns. Entry-level health care workers — many of whom might have missed the in-person education obtained by more experienced peers — may be particularly uncomfortable or, as one focus group participant noted, "may not have the sort of confidence to approach a physician" with an IPC-related question. A focus group participant commenting on the importance of communication to team dynamics stated, "I think with

[40] Whitaker, A., Colgrove, G., Scheutzow, M., Ramic, M., Monaco, K., & Hill Jr, J. L. (2022). Decreasing Catheter-Associated Urinary Tract Infection (CAUTI) at a Community Academic Medical Center Using a Multidisciplinary Team Employing a Multi-Pronged Approach During the COVID-19 Pandemic. American Journal of Infection Control.
[41] Welter, A., & Villanueva, J. (2022). CLABSI Reduction Strategy: Utilizing Weekly Rounds with an Interdisciplinary Team. *Pediatric Quality & Safety*, *7*, e611.
[42] Hamza, W. S., Hamed, E. A. T. M., Alfadhli, M. A., & Ramadan, M. A. M. (2022). A Multidisciplinary Intervention to Reduce Central Line-Associated Bloodstream Infection in Pediatrics and Neonatal Intensive Care Units. *Pediatrics & Neonatology*, *63*(1), 71-77.

communications we do have to get back to the basics of talking to each other. ... So, you do need to teach everybody … it's safe to speak up and you're not going to get your head ripped off or you're not going to get embarrassed." It will take training at all levels to cultivate a working environment that offers safety and a nonpunitive approach to communication.

Mental Health and Well-being

Challenges

Long before the COVID-19 pandemic, clinicians often faced unbalanced workloads and administrative burdens, such as prior authorizations and substantial documentation demands, that contributed to low morale and a disconnect from their core professional mission: to care for patients.[43] Burnout and threats to staff mental health are not new phenomena in the health care field, but the prolonged period of uncertainty and occupational stress stemming from the pandemic escalated these issues to concerning new levels.

Burnout. Physician burnout, for example, spiked significantly during the COVID-19 pandemic. The American Medical Association (AMA) surveyed 2,400 U.S. physicians for a two-year period to evaluate the prevalence of burnout and satisfaction with work during the COVID-19 pandemic. It found a significant increase in physician distress, with 62.8% of physicians reporting at least one symptom of burnout compared with 38.2% in 2020.[44] Similarly, a longitudinal study found that four in 10 nurses who intended to leave the workforce indicated burnout and exhaustion as the primary reason.[45] Employee burnout led to broader ramifications for the entire U.S. health care system, overall job performance and productivity, as well as for quality of care, medical errors and costs. [46] Consequently, hospitals have suffered from staff attrition, reports of lower job satisfaction and high turnover.

Stress, Anxiety, Depression and Post-Traumatic Stress. At the start of the COVID-19 pandemic, one in five health care workers reported symptoms of depression and anxiety.[47] The enduring stress, workload increases, lack of PPE and overwhelming patient mortality witnessed at the bedside led some front-line workers to develop anxiety and post-traumatic stress.[48] Although the severity and uncertainty of the pandemic appear to be declining, health care workers continue to deal with hospitalization surges and the mental health fallout from more than two years of prolonged stress and traumatic work. The United

[43] The average physician spent approximately 15 hours per week obtaining 30 prior authorizations for patients. https://www.aha.org/system/files/media/file/2019/10/Market_Insights_AI-Landscape.pdf
[44] https://www.mayoclinicproceedings.org/article/S0025-6196(22)00515-8/fulltext#%20
[45] American Organization for Nursing Leadership.(2022). Longitudinal Nursing Leadership Insight Study. https://www.aonl.org/resources/nursing-leadership-covid-19-survey
[46] Dyrbye, L. N., et. al. (2017). Burnout Among Health Care Professionals: A Call to Explore and Address this Underrecognized Threat to Safe, High-Quality Care. *NAM Perspectives*.
[47] Pappa, S., Ntella, V., Giannakas, T., Giannakoulis, V. G., Papoutsi, E., & Katsaounou, P. (2020). Prevalence of Depression, Anxiety, and Insomnia Among Healthcare Workers During the COVID-19 Pandemic: A Systematic Review and Meta-Analysis. *Brain, Behavior, and Immunity*, *88*, 901-907.
[48] DeLucia, J. A., Bitter, C., Fitzgerald, J., Greenberg, M., Dalwari, P., & Buchanan, P. (2019). Prevalence of Post-traumatic Stress Disorder in Emergency Physicians in the United States. *Western Journal of Emergency Medicine*, *20*(5), 740.

States relies on health care workers to care for the public in times of need, yet these same workers are often not afforded the resources, time or freedom from stigma to access care for themselves. Although some health care workers have sought mental health care and counseling, studies have shown that health care workers are more likely not to seek treatment due to the stigma connected with mental illness and concerns about losing their license or position if they report their mental health issues.[49]

Strategies and Recommendations

To combat these challenges, hospitals and health systems have expanded efforts to create safer work environments that support mental health and nurture staff well-being. The literature and focus groups revealed an array of strategies that hospitals and health systems have employed to reduce burnout and address mental health needs among their teams. Mental health and well-being interventions should be tailored to each hospital's unique circumstances and staff needs. The findings demonstrate that a leadership-supported, staff-informed plan, along with proactive strategies to reduce the stigma of utilizing mental health resources, can serve as a foundation on which hospitals can foster an organizational culture that prioritizes staff members' health and wellness.

Recommendation 1: **Develop a leadership-supported protocol informed by internal assessments and best practices to address trauma and burnout among staff (local/short- to medium-term)**

It is important for staff members to see that management recognizes workforce burnout and post-traumatic stress as serious issues warranting investments of time, effort and funds. Several focus group participants emphasized that hospital leaders must initiate the conversation with staff, not only to discuss strategic efforts to improve mental health and well-being but also to share how the pandemic has impacted them personally, which can facilitate a more open and transparent dialogue with staff members. Hospitals would benefit from designating or hiring an executive to be accountable for conducting internal evaluations of current mental health and wellness initiatives, inviting staff to honestly share their occupational stressors and implementing a plan that makes mental health, well-being and morale a high priority.[50,51] The literature substantiates the effectiveness of systems-based and leadership-supported models for addressing workforce issues such as burnout and moral distress among clinicians.[52,53] In particular, regular communication between hospital managers and staff members was cited by both focus group participants and peer-reviewed studies as a critical component to mitigating stressors among health care staff. Leadership's acknowledgment of workforce issues followed by

[49] Mehta, S. S., & Edwards, M. L. (2018). Suffering in Silence: Mental Health Stigma and Physicians' Licensing Fears. *American Journal of Psychiatry Residents' Journal*, *13*(11), 2-4.
[50] American Hospital Association. (June 2022). Strengthening the Health Care Workforce: Strategies for Now, Near and Far. https://www.aha.org/guidesreports/2022-06-21-strengthening-health-care-workforce-strategies-now-near-and-far
[51] Kishore, S., Ripp, J., Shanafelt, T., Melnyk, B., Rogers, D., Brigham, T., ... & Dzau, V. (2018). Making the case for the chief wellness officer in America's health systems: A call to action. *Health Affairs Blog*, *10*, 1377.
[52] Restauri, N., & Sheridan, A. D. (2020). Burnout and Posttraumatic Stress Disorder in the Coronavirus Disease 2019 (COVID-19) Pandemic: Intersection, Impact, and Interventions. *Journal of the American College of Radiology*, *17*(7), 921-926.
[53] National Academies of Sciences, Engineering, and Medicine. 2019. Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being. Washington, DC: The National Academies Press. https://doi.org/10.17226/25521

meaningful action and open lines of communication can slow the decline in trust and morale that can accompany the sense of feeling overlooked, unappreciated and under-resourced.[54]

A number of technological innovations and digital interventions aimed at improving mental health and wellness emerged during the pandemic and could be considered for application. A comprehensive meta-analysis sought to discover whether any digital mental health interventions and mobile apps had been designed during the pandemic and their level of efficacy in supporting health care workers' mental health and well-being.[55] The study showed inconclusive results among these digital interventions due to the short time frame to study their efficacy, health care workers' high attrition rates from the studies and their general reluctance to participate in mental health and well-being interventions as part of the evaluation. The opinions shared by focus group participants regarding the effectiveness of digital mental health tools also were mixed. One focus group participant endorsed their health system's utilization of a web-based platform that prompted health care workers to answer a set of questions and led them to resources tailored to their mental health needs based on the responses. Yet, resources are only as beneficial as the extent to which they are used, and other focus group participants cited low participation and uptake of digital tools to address mental health and wellness.

Peer support interventions also are being adopted in workplace settings to address mental health challenges. Although there is limited published evidence on the effectiveness of these interventions for clinicians in the aftermath of COVID-19, the existing research indicates a strong correlation between social support and self-reported mental health and well-being, including the reduction of burnout among health care workers.[56] For example, researchers at the University of Minnesota Medical Center implemented a psychological resilience intervention adapted from a U.S. Army peer-support model ("Battle Buddies"), with early evidence suggesting that such strategies are highly scalable, easy to implement and beneficial to participants.[57] Yale University and Yale New Haven Health System also adapted a peer support model similar to Battle Buddies, integrating this evidence-based tool into a holistic, tiered support system for their health care staff members.[58] Focus group participants also underscored the importance of feeling supported in the workplace, both among colleagues and from management, such that front-line teams "feel that leadership is part of the same effort and can better understand why they are being asked to do more." One focus group participant from a large hospital system reported that 2,000 individuals formed a core group that would reach out to check on staff,

[54] Restauri, N., & Sheridan, A. D. (2020). Burnout and Posttraumatic Stress Disorder in the Coronavirus Disease 2019 (COVID-19) Pandemic: Intersection, Impact, and Interventions. Journal of the American College of Radiology, 17(7), 921-926.

[55] Robins-Browne, K., et.al. (2022). Interventions to Support the Mental Health and Well-being of Front-line Healthcare Workers in Hospitals During Pandemics: An Evidence Review and Synthesis. *BMJ Open*, *12*(11), e061317.

[56] D'Alessandro, A. M. et.al. (2021). Healthcare Workers and COVID-19-Related Moral Injury: An Interpersonally-Focused Approach Informed by PTSD. *Frontiers in Psychiatry*, *12.*

[57] Albott, C. S., Wozniak, J. R., McGlinch, B. P., Wall, M. H., Gold, B. S., & Vinogradov, S. (2020). Battle Buddies: Rapid Deployment of a Psychological Resilience Intervention for Health Care Workers During the Coronavirus Disease 2019 Pandemic. *Anesthesia and Analgesia*.

[58] Krystal, J. H., Alvarado, J., Ball, S. A., Fortunati, F. G., Hu, M., Ivy, M. E., ... & Mayes, L. C. (2021). Mobilizing an Institutional Supportive Response for Healthcare Workers and Other Staff in the Context of COVID-19: The Yale Experience. *General Hospital Psychiatry*, *68*, 12-18.

including hospital leaders. Some participants also mentioned the use of peer care programs that pair two staff members together to help monitor one another for changes in mental health similarly to the Battle Buddies framework discussed in the literature.

Some health care organizations are incorporating support from spiritual and mental health professionals into their workplace mental health programs. Currently, there is little peer-reviewed research on the measurable impact of support from trained professionals on health care workers' mental health and well-being during the pandemic. For example, NYC Health + Hospitals leveraged its existing Behavioral Health Services group (consisting of 230 providers, including psychiatrists, psychologists and social workers) to offer group and individual counseling sessions to staff members.[59] Similarly, chaplains already integrated into Stony Brook University Hospital care teams developed a spiritual care hotline to support and comfort staff members. Despite the lack of published evidence, anecdotal evidence from focus group participants emphasized the high value of these services, particularly when provided in-person. One focus group participant serving as a health care educator and emergency medical technician stated that their college was lucky to have mental health clinicians on staff whose services are actively and regularly utilized by students. Another focus group participant reported that integrating chaplains into multidisciplinary rounds to provide staff with additional support and encouragement has been a very well-received strategy.

Recommendation 2: **Implement proactive strategies to destigmatize and remove the perceived risk of the use of mental health resources among health care staff members (local/short- to medium-term)**

Even when effective mental health resources are available, hospitals and health systems must ensure that health care staff know how to access them and understand that they will not face professional repercussions as a result. Focus group participants and the literature cite fear and stigma as major deterrents to health care staff members' accessing the resources they need. Although hospitals cannot change state medical board licensing questions pertaining to mental health diagnoses that do not impact a provider's ability to perform, they can examine and alter their own internal policies and procedures to remove inadvertent barriers to mental health care access. Health care organizations should assess, identify and address aspects of their credentialing process, learning environment and organizational culture that may discourage health care staff from accessing needed mental health care resources.[60] Subsequently, hospitals and health systems should make concerted efforts to provide transparent information and education about the benefits and safety of accessing mental health resources.

[59] Gupta, S., Cantor, J., Simon, K. I., Bento, A. I., Wing, C., & Whaley, C. M. (2021). Vaccinations Against COVID-19 May Have Averted Up To 140,000 Deaths in The United States: Study Examines Role of COVID-19 Vaccines and Deaths Averted in the United States. *Health Affairs*, *40*(9), 1465-1472.

[60] National Academies of Sciences, Engineering, and Medicine. 2019. Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being. Washington, DC: The National Academies Press. https://doi.org/10.17226/25521

Workplace Violence

Background and Challenges

Violence against health care workers was not a part of the original scope of this white paper. However, the focus group interviews revealed that violence in the workplace had become an increasingly difficult challenge facing health care workers, warranting further research. When asked about the mental health and well-being of the health care workforce, many focus group participants noted anecdotally that the threat of intentional injury had noticeable and serious impacts on workers' mental health, sense of safety and ultimately patient care. Therefore, we found it relevant for inclusion in this white paper, especially given the heightened polarization of science and health care that has compounded the general prevalence of incivility experienced by front-line staff.

Increasing Violence against Health Care Workers. Violence against health care workers, particularly incidents perpetrated by patients or their family members, is highly prevalent in the health care field. In 2020, the U.S. Bureau of Labor Statistics reported that 20,050 private industry workers experienced workplace violence that resulted in days away from work. Of these, 76% were perpetrated against health care and social-assistance workers.[61] According to a fact sheet published by the AHA, the prevalence of physical violence and verbal abuse experienced by nurses during the COVID-19 pandemic was 44% and 68%, respectively.[62] Similar statistics have also been reported for physicians, with 47% reporting incidents of physical assault.[63] A study found that nonphysical violence can lead to compassion fatigue and dampen job motivation.[64] Several participants also mentioned workplace violence as a factor leading to stress and anxiety; health care workers want to feel supported by a working environment and community in which they feel safe to fulfill their duties. Furthermore, 50% of physicians reported that patients had actually been physically harmed during altercations.[65] Focus group participants echoed most of the findings from the literature, affirming that safety in the workplace is a priority for both health care workers and patients, with one noting that "if staff is not safe, then patients are not safe either."

Underreporting of Violent Incidents. One of the challenges in reducing workplace violence is underreporting by hospital staff. One study found that 68% of staff members did not report violent incidents because they did not think that reporting would either change the outcome or result in any

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[61] U.S. Bureau of Labor Statistics. (n.d.). *Table 4 Number of nonfatal occupational injuries and illnesses involving days away from work by industry and selected events or exposures leading to injury or illness, private industry, 2020*. https://www.bls.gov/iif/nonfatal-injuries-and-illnesses-tables/case-and-demographic-characteristics-table-r4-2020.htm

[62] American Hospital Association. (2022). *Factsheet: Health Care Workplace Violence and Intimidation, and the Need for a Federal Legislative Response*. https://www.aha.org/fact-sheets/2022-06-07-fact-sheet-workplace-violence-and-intimidation-and-need-federal-legislative

[63] American Journal of Managed Care. (May 12 2019). *Violence Against Healthcare Workers: A Rising Epidemic*.https://www.ajmc.com/view/violence-against-healthcare-workers-a-rising-epidemic

[64] Copeland, D., & Henry, M. (2018). The relationship between workplace violence, perceptions of safety, and professional quality of life among emergency department staff members in a level 1 trauma centre. *International emergency nursing*, *39*, 26-32.

[65] American Journal of Managed Care. (May 12 2019). *Violence Against Healthcare Workers: A Rising Epidemic*.https://www.ajmc.com/view/violence-against-healthcare-workers-a-rising-epidemic

meaningful changes to workplace policies. Furthermore, an alarming 76% of nurses viewed violence as part of their job.[66] Reporting of violent incidents is crucial because it can provide information about the circumstances under which the violent incidents take place, revealing opportunities for intervention and potential prevention.

Strategies Recommendations

Focus groups and the literature produced an array of interventions that hospitals had tested — from increased security presence with body cameras to bringing canines into the hospital — to deter violence against health care workers.[67]

Recommendation 1: **Regularly evaluate, update and promote awareness of the organization's plan to address workplace violence (local/short-term)**

Both the literature and focus group participants highlighted the important role of hospital and health system leadership in spearheading plans to reduce violence against health care workers. One focus group participant emphasized that "it is high priority from the senior leaders in our hospital to address the mental health of our caregivers, and the work around workplace violence is going to be very important." Another participant stated that their health system conducted a "safety environment assessment to figure out how to make caregivers feel safe." This participant also discussed assessing, every six months, how many times leadership connected with the caregivers they oversee to establish a sense of support and trust between caregivers and leadership. One recent study in the literature found that peer and leadership support creates a safer environment and reduces harmful events.[68] In another study, communicating the importance of violence reporting to staff through five-minute education in-service interventions was successful in increasing the proportion of staff members who understood the ramifications of not reporting violent incidents from 68% to 76%.[69] The AHA has developed a framework for building a safer workplace that similarly highlights the importance of education and training, data collection and accountability with leadership at the center.[70]

Focus group participants discussed instituting policies regarding patient-on-employee violence; "while we had [harassment] policies from staff member to staff member, we did not have anything for our staff

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[66] Buterakos, R., Keiser, M. M., Littler, S., & Turkelson, C. (2020). Report and prevent: A quality improvement project to protect nurses from violence in the emergency department. *Journal of emergency nursing*, *46*(3), 338-344.

[67] Association of American Medical Colleges.(August 13, 2022). *Threats against health care workers are rising. Here's how hospitals are protecting their staff*.https://www.aamc.org/news-insights/threats-against-health-care-workers-are-rising-heres-how-hospitals-are-protecting-their-staffs

[68] Okundolor, S. I., Ahenkorah, F., Sarff, L., Carson, N., Olmedo, A., Canamar, C., & Mallett, S. (2021). Zero staff assaults in the psychiatric emergency room: impact of a multifaceted performance improvement project. *Journal of the American Psychiatric Nurses Association*, *27*(1), 64-71.

[69] Buterakos, R., Keiser, M. M., Littler, S., & Turkelson, C. (2020). Report and prevent: A quality improvement project to protect nurses from violence in the emergency department. *Journal of emergency nursing*, *46*(3), 338-344.

[70] American Hospital Association.(2022). *AHA Comments on the OPPS and ASC Payment System Proposed Rule for CY 2023*. https://www.aha.org/system/files/media/file/2021/10/building-a-safe-workplace-and-community-framework-for-hospitals-and-health-systems.pdf

to appropriately respond to racism [and other harassment] from their patient[s]. We created a policy to address those issues, and we have seen a significant improvement in our staff's well-being." According to the Occupational Safety and Health Administration (OSHA), one of the best measures that health care employers can take to protect employees is to establish a zero-tolerance policy toward workplace violence.[71] The AHA has similarly endorsed a zero-tolerance framework, developed by AONL and the Emergency Nurses Association, that covers all forms of violence and prioritizes adopting policies and procedures that must be observed by staff members and patients alike.[72]

Ensuring that health care workers are adequately trained and aware of available resources has been found to be very important; a recent meta-analysis found that multipronged approaches combining training, policy changes, environmental adaptations such as exit points and placement of panic buttons, and other strategies demonstrated efficacy in reducing rates of violent incidents.[73] Such approaches should address each possible stage of workplace violence — mitigation, recognition, response, reporting, investigation and post-incident support, among others — and incorporate ongoing communication with and education for health care workers.

For more information, please see the following AHA resources:

- Workforce and Workplace Violence Prevention
- Strengthening the Health Care Workforce: Strategies for Now, Near and Far (Chapter 3: Workplace Violence Prevention)

Recommendation 2: **Leverage platforms to advocate for legislation that would protect health care workers from assault and intimidation (state, national/short- to medium-term)**

Protecting the safety of health care workers will require efforts beyond the four walls of the hospital. In fact, when asked what support hospitals need from national associations and government agencies, one focus group participant responded that action to stop workplace violence was the primary need. The U.S. Surgeon General's 2022 advisory notes that "protecting health workers from workplace violence must be prioritized by all institutions and communities, and must be supported by legislation."[74] In 35 states and Washington, D.C., public health officials are already legally protected against harassment or assault while carrying out their duties, and several states already have legislation in place or have recently put forth bills to extend protections to public health care workers.[75] States without these protections can look to existing legislation to develop and pass state laws protecting health care workers, while Congress can seek to enact legislation that would provide health care workers with an

[71] U.S. Department of Labor Occupational Safety and Health Administration. (n.d.) *Workplace Violence*. www.osha.gov/healthcare/workplace-violence

[72] American Organization for Nursing Leadership.(2022). *AONL & ENA Guiding Principles Mitigating Violence in the Workplace*. https://www.aonl.org/system/files/media/file/2022/10/AONL-ENA_workplace_guiding_principles.pdf

[73] Somani, R., Muntaner, C., Hillan, E., Velonis, A. J., & Smith, P. (2021). A systematic review: effectiveness of interventions to de-escalate workplace violence against nurses in healthcare settings. *Safety and health at work*, *12*(3), 289-295

[74] US Department of Health and Human Services. (2022). *Addressing Health Worker Burnout: The U.S. Surgeon General's Advisory on Building a Thriving Health Workforce.* https://www.hhs.gov/sites/default/files/health-worker-wellbeing-advisory.pdf

equal level of protection already codified under law for airline employees, such as the Safety from Violence for Healthcare Employees Act.

Conclusion

The goal of this white paper is to inform the AHA, the CDC, and health care and educational stakeholders about emerging trends in the health care workforce, its evolving impact on infection prevention and control and how the COVID-19 pandemic has altered the goal of patient safety. We are grateful to the many colleagues who offered their time to talk with us and share sometimes difficult experiences with our researchers. It is clear from these discussions that hospitals are in the midst of reflection on these issues. We hope that the recommendations — some of which can be accomplished via Project Firstline, some of which must be pursued via other initiatives — will be helpful under the ongoing health care workforce challenges and the new stresses that health care workers are experiencing.

Appendix A: Methods

Literature Review: The purpose of the literature review and environmental scan ("e-scan") was to better understand the evolution of workforce challenges in light of the COVID-19 pandemic, their impact on hospitals and the strategies that hospitals have implemented to mitigate their effects. The literature review included both peer-reviewed and grey literature:

- The peer-reviewed literature primarily offered insights into pre-pandemic health care workforce issues, as well as evaluative studies on interventions related to infection prevention and health care workforce mental health both before and during the pandemic.
- The grey literature primarily provided insight into new issues and challenges exacerbated by the COVID-19 pandemic, their impacts on crucial aspects of hospital staffing and operations, and the strategies employed to address the immediate and longer-term workforce needs.

To address the research aims, we reviewed 146 articles, both peer-reviewed (41) and grey publications (105). Peer-reviewed articles were published between January 2019 and October 2022, in the United States, Canada, or the United Kingdom, and in acute-care hospital settings (i.e., primary care excluded).

Focus Groups: The purpose of the focus groups was to gather input from hospital leaders, risk managers, preceptors, core nursing staff and service-line leaders to inform the field about the following topics:

- The strategies, tools, digital solutions and partnerships used by hospitals to address workforce challenges and their impact on staff training, recruitment, retention, IPC and mental health and well-being
- The support that hospitals need from external entities and partners — academic institutions, national organizations like the AHA and government agencies like the CDC — to take a holistic approach to mitigate health care workforce issues on a systemic level

Focus groups were conducted both in person and virtually with 14 stakeholders in total. The AHA and NORC collaborated in developing a discussion guide with core focus group questions and corresponding prompting subquestions informed by the literature review and e-scan. Given the range of participant professions, initial core questions were slightly modified to ensure relevance to the focus group attendees. Focus group protocols were approved by CDC's STARS review process, a research ethics board.

In September 2022, NORC and the AHA attended the American Society for Health Care Risk Management (ASHRM) 2022 Annual Conference in Boston, Massachusetts. In total, seven attendees participated across two focus group sessions. After the ASHRM conference, virtual focus groups with another seven participants were held from September to October 2022. Due to scheduling issues, some focus groups involved a single participant, effectively serving as an in-depth interview. Generalized titles and employers of participants are included in the table below.

NORC staff facilitated and took detailed notes from the live and virtual focus groups.. In addition, all focus group sessions were audio-recorded and transcribed to expand on and assure accuracy of live note taking. Transcripts from each focus group were synthesized into key takeaways, which were then

combined into key themes across all focus groups. Select quotations were also extracted from the transcripts.

Demographics of Focus Group Participants

Participant	Role	Description of Organization
A	EMS instructor	Community college in a Southern state
B	Senior director of patient safety	Large private health care system (142 hospitals)
C	Chief system nurse	Not-for-profit health care system (150 hospitals and 120,000 caregivers)
D	Registered nurse	Suburban community hospital in a Southern state (350 beds)
E	Medical director of patient safety	Midwestern hospital (350 beds)
F	Clinical risk manager	Health system consisting of 2,200 care sites
G	Director risk management	Teaching hospital system with 10 hospitals
H	Clinical risk management	Large hospital system with 100+ hospitals
I	Director of risk management and legal department	Health system covering rural areas in MD, PA and WV with 3,000 employees and 500 medical staff members
J	Risk manager	Children's hospital in PA
K	Quality director	Has worked in several health systems
L	Director of risk management	Teaching hospital in Arizona