INTRODUCTION

The COVID-19 pandemic caused severe and unforeseen strain to populations and health care systems across the globe. Health care professionals have unique experiences and stressors given their varying degrees of proximity to caring for patients infected by the virus. While there have been innumerable anecdotes about the negative effects and stressors caused by COVID-19 on health care professionals, research is just beginning to determine the extent on a broader scale.

Health care professionals have reported high levels of stress related to concerns about infecting others with COVID-19 while also managing limited supplies of personal protective equipment (PPE) and inadequate staffing. Additional documented stressors included emotional exhaustion and fatigue, staff shortages, and the uncertainty surrounding how long it would take to get the pandemic under control. Further, stress and anxiety surrounding the pandemic, how to care for patients, and how to keep healthy were widespread among health care workers, whether doing direct patient care or not. Interestingly, while some research shows that frontline health care workers had more stress and negative outcomes during the pandemic, other studies found that they fared better. This may be explained by potentially greater preparation among frontline staff (in terms of emotional and cognitive processes as well as concrete preparation in terms of possessing needed supplies and previously established training, policies, and procedures) for other health care crises.

ABSTRACT

Background: The COVID-19 pandemic brought unparalleled strain to the United States’ already overburdened health care workforce, and research is just beginning to shed light on its effects. This study sought to document health care provider stressors during the pandemic to inform prevention and intervention strategies to better support their well-being.

Methods: A one-time online survey was completed in July and August 2021 by Ohio health care professionals employed during the COVID-19 pandemic. We assessed for work and employment status changes and measured the severity of various work and home stressors among respondents who worked during the COVID-19 pandemic (N = 12,807).

Results: Over a quarter of respondents had a change in work setting, and 59% had an increase in their workload; 20% of respondents were furloughed, laid off, or unemployed at some point during the COVID-19 pandemic. Over 37% reported a negative financial impact. The work stressors causing the greatest concern were spreading the virus and insufficient communication from leadership. The primary home stressors were a lack of quality time with family and friends, being too tired when home from work to cook, do chores, etc, and being a supportive, present parent. At least half of the sample scored each of these as moderate, significant, or extreme stressors.

Conclusion: The COVID-19 pandemic caused unrelenting stress affecting Ohio health care professionals at work and at home. Prevention and early intervention programs and public policies are required to prevent burnout and better support health care worker well-being.

Keywords: Health personnel; Occupational stress; Psychological stress; Psychological burnout; COVID-19
Recent research local to Ohio includes a study of 785 Indiana-based physicians and administrators, 76% of whom reported significantly higher levels of stress during the pandemic. Primary stressors included fear of spreading the virus to their family members (82%), meeting productivity goals (65%), and potential salary reductions or furloughs (59%), while more than half reported having sufficient PPE. When assessing some symptoms of stress, researchers documented significant increases in participants’ reports of exhaustion, sleep problems, and anxiety.

In contrast, Northeast Ohio health care workers reported moderately high levels of well-being during the pandemic—perhaps higher than expected. A closer look at the data showed significant gender differences whereby males reported higher overall well-being, more hours of exercise, and decreased emotional concerns and tobacco use compared to females; but males also reported less positive thinking, more physical concerns, less social support, and more alcohol consumption than females.

In a similar approach, we surveyed Ohio health care professionals in July and August 2021 (N = 13,532) to gain a better understanding of the impact of the COVID-19 pandemic on their employment, finances, well-being, and stressors in the workplace and the home. Prior to this survey there had not been an examination of these factors across a broad range of health care related disciplines in Ohio. Whereas much previous research has focused on the experiences of nurses and physicians, this study expanded its reach to collect data from other licensed health care professionals as well, including but not limited to social workers, counselors, pharmacists, chiropractors, physical therapists, and chemical dependency professionals.

Three research questions guided the current study: (1) how were Ohio health care professionals’ employment and financial status affected by the COVID-19 pandemic, (2) what were the work-related experiences and stressors of Ohio health care professionals during the COVID-19 pandemic, and (3) what were the home-related experiences and stressors of Ohio health care professionals during the COVID-19 pandemic.

METHODS

Setting

In 2021, the Ohio Physicians Health Program, Inc. (OhioPHP), a nonprofit organization focused on advancing the health and well-being of health care professionals to improve patient care and safety, received a grant from the Federation of State Medical Boards Foundation to facilitate increased understanding of the influence of the pandemic on Ohio health care workers’ stress to improve health care providers’ well-being and patient outcomes. The OhioPHP commissioned a Central Ohio-based professional services firm with research and evaluation expertise in the areas of public health and human services to conduct an online survey and analyze the results.

Design

The OhioPHP and the evaluation firm co-created the COVID-19 survey for health care professionals. The survey, shown in the Appendix, consisted of 61 questions (56 multiple choice; 5 open-ended) developed after completing a literature review on health care specific workplace stressors, symptoms of burnout, and related tools. Questions specific to the COVID-19 pandemic were also added (eg, stressors related to spreading the virus, availability of personal protective equipment (PPE), and concerns about homeschooling). OhioPHP’s senior staff, its full board of directors, and medical director served as expert reviewers and beta tested and approved the survey before launch. The board consists of physicians, counselors, veterinarians, lawyers, and other health care professionals. Survey modifications were based on their recommendations. In addition to the focus on content, instrument length (as to not overburden respondents), ordering of items, and item clarity were also considered to increase survey validity. The survey was administered through an online survey platform.

Participants

The population of interest for the survey included Ohio health care professionals who belonged to the 13 OhioPHP licensing boards (Appendix, question 2), representing a wide range of license types and including chiropractors, psychologists, physical and occupational therapists, and various types of dental, veterinary, vision, medical, nursing, social work, counseling, and chemical dependency professionals. The State Board of Emergency Medical, Fire, and Transportation Services was the only board to not participate as members’ contact information are not publicly available as with other licenses. Some participants were dually licensed across more than one board. These individuals were instructed to complete the survey just once, using their primary license and identifying as a member of the corresponding board.

Due to differences and limitations in record keeping across the licensing boards, the exact population size of the Ohio health care professionals licensed by OhioPHP affiliated boards is unknown. However, OhioPHP records show that 490,707 emails were delivered to licensees inviting them to participate in the survey. Using this value as a proxy for the population, the survey response rate was 2.76%.

Procedures

The OhioPHP completed a public records request to obtain health care professionals’ emails from each licensing board and distributed the survey link via email. Additionally, many membership associations promoted the survey to their members. The email linked interested participants to an informed consent screen. Acknowledgment of participant rights, risks, benefits, and commencement of the survey served as confirmation of consent. The survey was conducted between July and August 2021, and 2 email reminders were sent after the initial invitation. The survey took approximately 15 minutes to complete.
Measures/Outcomes

For the purposes of this study, outcomes of interest relative to the experience of working during the COVID-19 pandemic were organized under the following categories: (1) work changes and employment and financial impact; (2) work experiences and stressors; and (3) home stressors. Employment status was established using the number of participants who reported being furloughed (temporary, unpaid time off, but still employed), laid off (temporary or permanent time off, no longer employed), and/or unemployed for any reason during the pandemic or not. Financial impact was determined by the number of participants who said they were negatively impacted financially because of furlough, forced time off, pay reduction, or other reason. Respondents were able to choose multiple responses. Work experiences included changes in work setting and workload. Participants were asked to rate all stressors on an ordinal scale: 0 (not a stressor); 1 (minimal stressor); 2 (moderate stressor); 3 (significant stressor); 4 (extreme stressor). Not applicable (NA) was also a response option.

The 10 work stressors included concern of spreading COVID-19; insufficient communication from leadership; insufficient PPE; working too many hours; job security/employment status; insufficient training; distress about how to effectively treat COVID-19 patients; inappropriate role designation; working at a new location; and witnessing a high number of deaths. The 9 home stressors were being too tired when home from work to cook, do chores, etc; loneliness; financial stress; worry and/or guilt about infecting household members; taking stress out on family/friends; lack of quality time with family/friends; family/friends not understanding the stress participants were under; inconsistent work hours/ coordinating schedules; and other family members having to take over responsibilities. An additional 4 stressors were asked of participants who said they had children living at home: being able to support children/being a present parent; lacking quality time with children; homeschooling; and childcare. Additionally, basic demographic data were collected categorically: licensing board affiliation, gender, age, race and ethnicity; annual household income; and whether individuals provided direct COVID-19 patient care.

Statistical Analysis

Data were cleaned and analyzed using IBM SPSS Statistics (Version 28). Duplicate surveys were identified where responses matched on every demographic variable, starting with the computer’s IP address. Cases were then reviewed manually to confirm. In total, 66 cases were removed from the dataset (less than 0.4% of cases). A final sample of 12,807, inclusive of those who reported working at some point during the pandemic, was used for analysis in this study.

Missing data ranged from 0.38% to 5.63% on variables of interest. Univariate descriptive statistics (eg, frequencies, percentages, median values) and tables were used to communicate highlights and trends in the data and allow for visual comparison across variables. Median values were reported instead of the mean as the ordinal responses were not normally distributed, stood alone, and were not part of a scale.9

RESULTS

Participants’ demographic data are provided in Table 1. Most identified as female (76.69%) and White (89.99%). Over two-thirds (69.71%) were between the ages of 35 and 64 years. Nearly half (47.72%) reported having children who lived with them at home. The largest number of participants were from the Ohio Board of Nursing, followed by the State Medical Board of Ohio. Respondents averaged 18.67 years of work experience (SD = 12.49) and just less than half (46.90%) reported being directly involved in COVID-19 patient care.

Changes in work, employment status, and financial status are detailed in Table 2. Over a quarter reported a change in work setting (eg, from in-person to remote work, partially remote, or relocation from department). Over three-quarters had a change in workload. While 17.56% reported a decrease in workload, 58.98% had an increase or significant increase in workload. Nearly one-fifth of the sample (19.97%) lost a job and over one-third (37.24%) were negatively impacted financially during the pandemic. In addition to those who reported financial strain via furlough, forced time off, and/or a reduction in pay, another 7.06% submitted “other” reasons including partners’ loss of income, having to care for family members who were unable to work, and leaving employment due to stress or fear of becoming ill.

Table 3 provides the median values for the top work and home stressors and the percentage of the sample who identified the stressor as significant or extreme. Among work stressors, concerns of spreading COVID-19 caused the highest levels of stress followed by insufficient communication from leadership (both had a median score of 2 (moderate stressor). Concerns about spreading the virus were a significant or extreme stressor for 41.23% of the sample and insufficient communication was a significant or extreme stressor for 28.64%. Insufficient PPE and working too many hours were the next highest reported work stressors. Over 25% of individuals also reported that insufficient PPE and working too many hours were significant or extreme stressors. The 2 work stressors causing the lowest levels of stress were inappropriate role designation and working at a new location. Lack of quality time with family and friends (38.71%), being too tired when home from work to cook, do chores, etc (33.71%), and family and friends not understanding the stress individuals were experiencing represented the most frequently reported significant and extreme home stressors; they all had a median of 2. The 2 top stressors among respondents with children were being able to support children/being a present parent (32.36%) and lack of quality time with children (30.98%). Other significant and extreme home and child-related stressors accounting for more than 25% of the sample included worry and/or guilt about infecting household members, taking stress out on family and friends, and
In this study, we examined Ohio health care professionals’ employment and financial status, and work and home-related stressors during the COVID-19 pandemic. More than half of Ohio’s health care professionals maintained employment and reported no negative financial impact. However, experiencing numerous work and home stressors simultaneously were very common. This is especially noteworthy as half the sample reported not providing direct COVID-19 patient care.

Study results point to a contrast between a smaller group of health care professionals who reported job loss or insecurity (ie, decreased hours, furlough) and a larger group who reported substantial increases in their workloads. Generally speaking, health care layoffs were common during the pandemic as revenue was dramatically reduced when nonemergency health care was placed on hold and patients were hesitant to seek care even when it was available. Additionally, a recent scoping review documented financial insecurity related to pandemic salary reductions, furloughs, and unemployment among health care providers as a major stressor. Contradicting much of the literature, furloughs, pay reductions, and financial insecurity were not commonly experienced by our sample. On the other hand, heavy workloads during the pandemic have been identified as a common cause of stress, burnout symptoms, and feeling generally overwhelmed for many providers worldwide. This finding was validated by our sample as workload increases were widespread and working too many hours was identified a top stressor. In preparing for future public health emergencies, strategies for offering unemployed or furloughed health care workers reassignment from nonessential services to areas in increased demand for providers should be considered.

In this study, the top work-related stressors were related to issues of basic safety. Concern about spreading the virus, insufficient PPE, and insufficient communication from leadership relate to protecting oneself and others and feeling supported by those in positions of power. Similar safety concerns (eg, resource adequacy and getting/spreading COVID-19) have been documented in the literature and may be particularly important to women in health care. Other research has shown that steady communication from leadership, in terms of providing acknowledgement of challenges, gratitude, support, and/or sharing good quality organizational information and updates on safety protocols, is fundamental to reduce workers’ stress and anxiety. Basic safety and

### Table 1. Sample Demographics (N = 12 807)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age category in years</strong></td>
<td></td>
</tr>
<tr>
<td>18–24</td>
<td>161 (1.26)</td>
</tr>
<tr>
<td>25–34</td>
<td>2038 (15.91)</td>
</tr>
<tr>
<td>35–44</td>
<td>2933 (22.90)</td>
</tr>
<tr>
<td>45–54</td>
<td>2952 (23.05)</td>
</tr>
<tr>
<td>55–64</td>
<td>3043 (23.76)</td>
</tr>
<tr>
<td>65 and older</td>
<td>1412 (11.03)</td>
</tr>
<tr>
<td>Prefer not to answer</td>
<td>158 (1.23)</td>
</tr>
<tr>
<td>Missing</td>
<td>110 (0.86)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>9822 (76.69)</td>
</tr>
<tr>
<td>Male</td>
<td>2572 (20.08)</td>
</tr>
<tr>
<td>Other</td>
<td>21 (0.16)</td>
</tr>
<tr>
<td>Prefer not to answer</td>
<td>180 (1.41)</td>
</tr>
<tr>
<td>Missing</td>
<td>212 (1.66)</td>
</tr>
<tr>
<td><strong>Race and ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>182 (1.42)</td>
</tr>
<tr>
<td>Asian</td>
<td>190 (2.26)</td>
</tr>
<tr>
<td>Black or African American</td>
<td>696 (5.43)</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>231 (1.80)</td>
</tr>
<tr>
<td>Native Hawaiian or Pacific Islander</td>
<td>41 (0.32)</td>
</tr>
<tr>
<td>White</td>
<td>11 525 (89.99)</td>
</tr>
<tr>
<td>Other</td>
<td>140 (1.09)</td>
</tr>
<tr>
<td><strong>Annual household income</strong></td>
<td></td>
</tr>
<tr>
<td>Below $20 000</td>
<td>230 (1.80)</td>
</tr>
<tr>
<td>$20 000-$40 000</td>
<td>1226 (9.57)</td>
</tr>
<tr>
<td>$40 001-$80 000</td>
<td>3407 (26.60)</td>
</tr>
<tr>
<td>$80 001-$120 000</td>
<td>2899 (22.64)</td>
</tr>
<tr>
<td>Above $120 000</td>
<td>3858 (30.12)</td>
</tr>
<tr>
<td>Prefer not to answer</td>
<td>1078 (8.42)</td>
</tr>
<tr>
<td>Missing</td>
<td>109 (0.85)</td>
</tr>
<tr>
<td><strong>Professional board</strong></td>
<td></td>
</tr>
<tr>
<td>Ohio State Chiropractic Board</td>
<td>61 (0.48)</td>
</tr>
<tr>
<td>Ohio State Dental Board</td>
<td>452 (3.53)</td>
</tr>
<tr>
<td>Ohio Veterinary Medical Licensing Board</td>
<td>582 (4.54)</td>
</tr>
<tr>
<td>Ohio Vision Professionals Board</td>
<td>150 (1.17)</td>
</tr>
<tr>
<td>State Medical Board of Ohio</td>
<td>2661 (20.78)</td>
</tr>
<tr>
<td>Ohio Board of Nursing</td>
<td>3982 (31.09)</td>
</tr>
<tr>
<td>Ohio Board of Pharmacy</td>
<td>1417 (11.06)</td>
</tr>
<tr>
<td>Ohio Counselor, Social Worker, and Marriage and Family Therapist Board</td>
<td>1234 (9.64)</td>
</tr>
<tr>
<td>Ohio Occupational Therapy, Physical Therapy, and Athletic Trainers Board</td>
<td>1099 (8.58)</td>
</tr>
<tr>
<td>Ohio State Board of Psychology</td>
<td>126 (0.98)</td>
</tr>
<tr>
<td>Ohio Speech and Hearing Professionals Board</td>
<td>242 (1.89)</td>
</tr>
<tr>
<td>Ohio Chemical Dependency Professionals Board</td>
<td>552 (4.31)</td>
</tr>
<tr>
<td>Other</td>
<td>27 (0.21)</td>
</tr>
<tr>
<td>Missing</td>
<td>222 (1.73)</td>
</tr>
<tr>
<td><strong>Years of experience</strong></td>
<td></td>
</tr>
<tr>
<td>0–5</td>
<td>2068 (16.15)</td>
</tr>
<tr>
<td>6–10</td>
<td>2287 (17.86)</td>
</tr>
<tr>
<td>11–15</td>
<td>1788 (13.96)</td>
</tr>
<tr>
<td>16–20</td>
<td>1518 (11.85)</td>
</tr>
<tr>
<td>21–25</td>
<td>1373 (10.72)</td>
</tr>
<tr>
<td>26–30</td>
<td>1284 (10.03)</td>
</tr>
<tr>
<td>31 or more</td>
<td>2440 (19.05)</td>
</tr>
<tr>
<td>Missing</td>
<td>49 (0.38)</td>
</tr>
</tbody>
</table>

*Participants could choose multiple responses.*
Table 2. Work Changes, Employment Status, Financial Status (N = 12,807)

<table>
<thead>
<tr>
<th>Work changes</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in work setting</td>
<td>3531 (27.76)</td>
</tr>
<tr>
<td>Change in workload</td>
<td>9802 (76.54)</td>
</tr>
<tr>
<td>Significant increase</td>
<td>4052 (31.64)</td>
</tr>
<tr>
<td>Increase</td>
<td>3502 (27.34)</td>
</tr>
<tr>
<td>Neutral</td>
<td>2855 (22.29)</td>
</tr>
<tr>
<td>Decrease</td>
<td>1521 (11.88)</td>
</tr>
<tr>
<td>Significant decrease</td>
<td>727 (5.68)</td>
</tr>
<tr>
<td>Not applicable</td>
<td>77 (0.60)</td>
</tr>
<tr>
<td>Missing</td>
<td>73 (0.57)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment status</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lost job during pandemic*</td>
<td>2557 (19.97)</td>
</tr>
<tr>
<td>Furloughed</td>
<td>1165 (9.10)</td>
</tr>
<tr>
<td>Laid off</td>
<td>498 (3.89)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>1222 (9.54)</td>
</tr>
<tr>
<td>None of the above</td>
<td>10,210 (79.72)</td>
</tr>
<tr>
<td>Missing</td>
<td>40 (0.31)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Financial status</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative financial impact*</td>
<td>4769 (37.24)</td>
</tr>
<tr>
<td>Furloughed</td>
<td>849 (6.63)</td>
</tr>
<tr>
<td>Forced time off</td>
<td>1897 (14.81)</td>
</tr>
<tr>
<td>Pay reduction</td>
<td>1846 (14.41)</td>
</tr>
<tr>
<td>Other</td>
<td>904 (7.06)</td>
</tr>
<tr>
<td>None of the above</td>
<td>7702 (60.14)</td>
</tr>
<tr>
<td>Missing</td>
<td>336 (2.62)</td>
</tr>
</tbody>
</table>

*Participants could choose multiple responses.

Clear communication are, first and foremost, required for health care provider well-being and, secondarily, are needed to ensure good patient care.

Home stressors were also present for most respondents during the pandemic, and some were considered more severe than those specific to work. There was an inherent conflict between the desire to keep family and friends safe (ie, by not spreading the virus) and wanting to spend quality time with loved ones. Similarly, other researchers have also documented health care providers’ struggles related to work-life balance, the fear of exposing family, feeling emotionally exhausted, and neglecting personal and family needs.12-16 In our study, health care workers wanted more quality time with family and friends, yet were tired and also felt that family and friends misunderstood the stress they were under at work. In an extension of these findings, a scoping review of health care workers’ pandemic experiences summarized that for some, social and emotional connectedness to others served as a support, reduced anxiety, and provided encouragement for their work; for others, it was potentially harmful when family and friends rejected or stigmatized them out of fear that they would transmit the virus due to their increased exposure.17 It is important not to overlook the effect of home stressors on health care providers at work and how home and work stressors can exacerbate one another, particularly during an unrelenting pandemic.

Furthermore, study results show that health care professionals who were also parents carried additional psychological and logistical burdens. Respondents were concerned about not spending enough quality time with their children and challenged by navigating their learning needs. In a study of health care workers in Turkey who were also parents, parenting stress during COVID-19 was highest for those who had a school-aged child and for those with multiple children.18 Similarly, Canadian health care workers were strained by trying to work while having school-aged children whose education moved back and forth between in-person and virtual learning, and/or when children had to unexpectedly stay home because of exposure or required testing to rule out infection.19

Limitations

Limitations of the study include the use of a convenience sample and a very low response rate which precluded the generalization of the findings to the larger population of health care providers in Ohio. However, respondents were fairly representative of what we

Table 3. Top COVID-19 Pandemic Work and Home Stressors

<table>
<thead>
<tr>
<th>Stressor</th>
<th>n</th>
<th>Median*</th>
<th>Significant or Extreme %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spreading COVID-19</td>
<td>12,715</td>
<td>2</td>
<td>41.23%</td>
</tr>
<tr>
<td>Insufficient communication</td>
<td>12,571</td>
<td>2</td>
<td>28.65%</td>
</tr>
<tr>
<td>Insufficient personal protective equipment (PPE)</td>
<td>12,551</td>
<td>1</td>
<td>28.01%</td>
</tr>
<tr>
<td>Too many hours</td>
<td>12,420</td>
<td>1</td>
<td>27.28%</td>
</tr>
<tr>
<td>Home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of quality time with family/friends</td>
<td>12,496</td>
<td>2</td>
<td>38.71%</td>
</tr>
<tr>
<td>Too tired</td>
<td>12,724</td>
<td>2</td>
<td>33.17%</td>
</tr>
<tr>
<td>Family/friends don’t understand the stress</td>
<td>12,446</td>
<td>2</td>
<td>31.81%</td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being a supportive/present parent</td>
<td>6,078</td>
<td>2</td>
<td>32.36%</td>
</tr>
<tr>
<td>Lack of quality time with children</td>
<td>6,049</td>
<td>2</td>
<td>30.98%</td>
</tr>
</tbody>
</table>

*Scored on a 0 (not a stressor) to 4 (extreme stressor) scale.
know about the health care professional demographic in Ohio, which is heavily White and female.\textsuperscript{21,22} Additionally, the survey was cross-sectional and represents just one snapshot of experiences in time. It is likely that health care professionals may have rated the severity of stressors differently at other points during the pandemic. While the work and home stressors of interest in the study were compiled based on a literature search, it is possible that other stressors that were not included in our survey impacted individuals.

**PUBLIC HEALTH IMPLICATIONS**

This research study adds to the growing knowledge base about the impact of the COVID-19 pandemic on health care professionals and provides a glimpse into stressors affecting those in Ohio. Numerous preexisting stressors worsened, and others were brought to light. An application of the findings about work and home experiences and stressors has implications for individual health care workers, workplaces, professional organizations, and public policy. By preventing and ameliorating stressors and bolstering the mental health and well-being of health care workers, we can prevent burnout and improve patient safety and quality of care.

The literature is rich with individual-focused, self-care practices for health care workers to reduce stress and improve overall well-being. Good sleep, hygiene, exercise, mindfulness meditation, and cognitive behavioral therapy have shown effectiveness in reducing stress and burnout and improving psychological wellness for diverse populations, including health care professionals.\textsuperscript{23-25} The problem, however, is that many health care professionals do not utilize self-care activities because of lack of time and fatigue (both identified as prominent workplace stressors through our survey) and a lack of institutional support during work hours for these practices.\textsuperscript{26,27} Health care leadership and professional organizations need to model these behaviors, facilitate cultures that encourage self-care, and integrate regular opportunities for self-care during the workday.\textsuperscript{28}

In situations where burnout and mental health symptoms are severe, intervention beyond self-care may be required. In Ohio, a new tool has been introduced by the Ohio State Medical Association in partnership with OhioPHP to provide licensed health care professionals and students in the state with a free, fast, and confidential way to be screened and referred for emotional support. Through the Well-Being CARE (WellBeingCARE.org) service, health care professionals can anonymously complete a brief online screening and receive personalized recommendations from licensed mental health providers for local resources, including online and telehealth options.\textsuperscript{29}

While individual-level interventions are crucial, they remain inadequate to address the widespread stress affecting health care workers in general and, particularly, during a pandemic. Various intraorganizational changes are also needed. As insufficient communication at the workplace was a noteworthy stressor in our study, facilitating effective internal communication is important to decrease stress among workers, in addition to improving efficiency and effectiveness.\textsuperscript{15,30} Additionally, an easy to implement activity such as having hospital leaders provide daily COVID-19 updates can reduce workers’ stress.\textsuperscript{2} Health care workers desire rationales for protocol changes and inclusion in decision-making processes, and a lack of clear communication and collaboration between clinical and administrative staff can contribute to stress and burnout.\textsuperscript{18}

Other research-based recommendations for improving intraorganizational support and reducing stress for health care workers includes making time for camaraderie, developing a culture of teamwork, and providing recognition in terms of personal acknowledgement and financial remuneration.\textsuperscript{2,16} Building social support resources in the workplace via interprofessional health care teams, the creation of shared spaces and opportunities to discuss stressful issues, and the development of an inclusive, organizational culture can combat feelings of isolation and symptoms of stress and burnout.\textsuperscript{21} Such activities may have also provided validation to the many study respondents who reported that their stress was misunderstood by family and friends. Furthermore, research suggests that social integration and support are stress buffering and bolster the immune system, reducing the susceptibility to viruses like COVID-19.\textsuperscript{32,33}

Developing peer-driven support networks within organizations may also be helpful in reducing stress and supporting health care worker well-being.\textsuperscript{34} One program originating from Johns Hopkins University, Resilience in Stressful Events (RISE), emerged from staff requests and trains employees to give confidential support to each other surrounding stressful events to decrease the risk of burnout, self-doubt, and negative thoughts affecting health care workers.\textsuperscript{35} The RISE program, which has been replicated by over 30 hospitals in the United States, has shown promising effects. Nurses who used RISE reported being more resilient than those who had not used the program, 65% felt better after utilizing it, and 80% of nurse leaders found that it created a safe and nonjudgmental space to discuss job concerns.\textsuperscript{36} A similar program called YOU Matter has been employed at Nationwide Children’s Hospital (NCH) in Columbus, Ohio. Since 2013, NCH has been training staff peers and offering individual and group support which is now available 24 hours a day.\textsuperscript{37} Moreover, NCH has provided guidance to over 35 hospitals to initiate their own programs.\textsuperscript{38} These strategies and others may be further supported by the appointment of leadership whose sole purpose is to promote a healthy workplace culture and ensure staff well-being. In 2011, The Ohio State University was the first university in the United States to hire a chief wellness officer and has since shown positive returns on the investment in terms of health care spending, morale, and job and patient satisfaction.\textsuperscript{39}

Lastly, there is a weighty role for public policy in increasing support for health care worker well-being. This would require a shift from chiefly focusing on treatment and intervention post-exposure to an emphasis on public health and prevention. Policies
should incorporate flexible schedules to support workers’ personal needs and ensure that individuals who must stay home when they are sick do not have to fear job loss or loss of income.\textsuperscript{40} Since the COVID-19 pandemic, health care workers have been advocating for clear and strengthened policies regarding evidence-based guidelines for staff testing, infection prevention, illness and return to work protocols, and protected time for breaks at work and time away from work.\textsuperscript{41} Pandemic-related policy changes should also consider placing limitations on hours worked, allowing for additional paid time off, hazard pay, safeguarding adequate staffing and patient-clinician ratios, and funding best practices and clearinghouses focused on health care worker well-being.\textsuperscript{42} Such policies may help reduce or remove the primary stressors of spreading illness, inadequate PPE, insufficient communication from leadership, and working too many hours as identified by workers in the current study.

Conclusion

As the peak of the COVID-19 pandemic appears to be behind us, time has come to examine its longer-term sequela which include the psychological burden of Ohio’s health care professionals. As expected, Ohio health care workers’ stress was magnified at work and at home during the pandemic. These stressors are important to monitor as they can lead to burnout and physical and mental health problems. Furthermore, if left unaddressed they can negatively impact patient care and result in resignation from the health care workforce. Supporting health care professionals’ well-being through interventions at all levels (eg, individual, interpersonal, community, organizational) is vital for individual and population health now as well as for preparing for the next pandemic.

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REFERENCES


Ohio Physicians Health Program COVID-19 Response and Supports Survey

Welcome Screen
Welcome to the Ohio Physicians Health Program COVID-19 Response and Supports Survey. This survey will ask you about your well-being during COVID-19 and your experience with accessing supports for wellness, mental health, and substance use as a health care professional during the pandemic. The purpose of this study is to gather the perspectives of professionals working across disciplines on the types of supports needed and the type of infrastructure that needs to be in place so that these supports can be easily accessed. Your insights will not only benefit the current system of support for health care professionals, but also better equip Ohio for future crises.

The Ohio Physicians Health Program (OPHP) provides a compassionate, supportive, and safe environment for health care professionals to receive confidential services to improve their health and well-being. Our goal is to improve physicians and other health care professionals’ self-care and promote their well-being and resilience as caregivers of patients. The OPHP has partnered with the evaluation team at Mighty Crow to design this survey and analyze the results. This survey is being funded through a grant from the Federation of State Medical Boards.

Your input is greatly appreciated. Your answers will help inform OPHP and its partners as we work to improve supports and services for health care professionals.

Purpose of the survey: The Ohio Physicians Health Program is conducting a survey across health professionals on supports needed during the COVID-19 pandemic as well as prior to the pandemic. This survey will ask you about your experience with accessing supports for wellness, mental health, and substance use as a health care professional during the pandemic, as well as prior to the pandemic. The purpose of this study is to gather the perspectives of professionals working across disciplines on the types of supports needed and the type of infrastructure that needs to be in place so that these supports can be accessed without stigma.

What you will be asked to do: You’ll be asked to complete an online survey about what supports you may have wanted or needed and types of supports you may have accessed. You will also be asked about the infrastructure in place to gain access to these supports and the stigma you may have experienced.

Total time required: Approximately 15 minutes.

Incentives: This survey does not include a paid incentive. Your participation is voluntary and without compensation from OPHP.

Confidentiality: All efforts will be made to keep the information provided confidential. The survey will not ask you for your name at any time. Any report of this survey that is made available to the public will not include your name, your organization’s name, or any other information by which you or your organization could be identified. We will work to make sure that no one sees your survey responses outside of OPHP or the evaluation team at Mighty Crow.

15. Gender Identification:
   a. Male
   b. Female
   c. Prefer not to say
   d. Other

16. Race/Ethnicity (choose as many as you like):
   a. American Indian or Alaskan Native
   b. Asian
   c. Black or African American
   d. Hispanic or Latino
   e. Native Hawaiian or Pacific Islander
   f. White
   g. Other

17. Which of the following best describes your household income last year (before taxes and deductions)?
   a. Below $20,000
   b. $20,000-$40,000
   c. $40,001-$60,000
   d. $60,001-$120,000
   e. Above $120,000
   f. Prefer not to answer

18. Please select your age group:
   a. 18-24
   b. 25-34
   c. 35-44
   d. 45-54
   e. 55-64
   f. 65+
   g. Prefer not to answer

This first set of questions asks about your employment status during the pandemic and prior to the pandemic.

19. Were you employed at any point during the pandemic?
   a. Yes
   b. No

20. If you did, how many times did you experience each of these events when you were employed (choose as many as you like):
   a. Unemployed
   b. Furloughed
   c. Laid off
   d. None of the above

21. Were you employed prior to the pandemic?
   a. Yes
   b. No

Voluntary Participation: Your participation in this survey is completely voluntary. There is no penalty or loss of benefits to which you are otherwise entitled for not participating.

Risks and Benefits: The benefits to participation in this survey include providing your perspective to OPHP about the supports and services needed by health care professionals. Your participation informs OPHP’s efforts to better advocate for the needs of health care professionals. We do not anticipate any adverse consequences to you for participating. If, however, you begin to feel a sense of stress or a change in your well-being, we encourage you to contact OPHP’s confidential services by emailing them at info@OPHP.org or calling 614-841-9600. You can also access the Crisis Text Line at 741741. Again, your personal information will be confidential, and answers will be aggregated. The risks associated with an information breach via the internet are minimal and unlikely.

Contact with Questions: If you have any questions about your participation, please contact Gretchen Clark Hammond, PhD, MSW, LSW, LCDCII, TTS at ghammond@mgfycrow.com. Clicking “I accept” below indicates your consent to participate in this study.

Demographics
We are collecting basic demographic data to track our response rate to the survey. While we ask you to provide this information, all results will be kept confidential and will be aggregated in reports. This means that the answers you provide will never be tied directly to you, your organization, or your position, but rather will be presented as general categories and themes we have observed through completion of this survey.

Now, in any point in the survey you can use the arrows at the bottom right of your screen to move forward or scroll backward with you cursor to return to a previous question and adjust your answer.

2. Which health care licensing board certifies your license? (Choose from dropdown)
   a. Ohio State Chiropractic Board
   b. Ohio State Dental Board
   c. Ohio Veterinary Medical Licensing Board
   d. Ohio Vision Professionals Board
   e. State Medical Board of Ohio
   f. Ohio Board of Nursing
   g. Ohio Board of Pharmacy
   h. Ohio Counselor, Social Worker, and Marriage and Family Therapist Board
   i. Ohio Occupational Therapy, Physical Therapy, and Athletic Trainers Board
   j. Ohio State Board of Psychology
   k. Ohio Speech and Hearing Professionals Board
   l. Ohio Chemical Dependency Professionals Board
   m. Ohio Department of Mental Health and Addiction Services (Peer Support Specialist)
   n. Other

3. You indicated you are certified by the XXX Board. What is your license type? (Choose as many as you like)
   a. [List of license types]
   b. Other

Q3-12 recur for each license type. Respondent only answers the one relevant to their selection in Q2.

13. Position/Title in the Organization:

14. Years of Experience in the field

22. If you were employed prior to the pandemic but not during the pandemic, was that situation of your own choosing? (Only ask if people say “no” to 19 and “yes” to 21)
   a. Yes
   b. No

The following set of questions asks about barriers from work during and prior to the pandemic.

23. During the pandemic, how often have you felt emotionally drained from your work?
   a. Never
   b. A few times a year or less
   c. Once a month or less
   d. A few times a month
   e. Once a week
   f. A few times a week
   g. Every day
   h. NA (I did not work during the pandemic)

24. Prior to the pandemic, how often did you feel emotionally drained from your work?
   a. Never
   b. A few times a year or less
   c. Once a month or less
   d. A few times a month
   e. Once a week
   f. A few times a week
   g. Every day
   h. NA (I did not work prior to the pandemic)

26. Prior to the pandemic, how often did you feel that you didn’t really care what happens to some patients?
   a. Never
   b. A few times a year or less
   c. Once a month or less
   d. A few times a month
   e. Once a week
   f. A few times a week
   g. Every day
   h. NA (I did not work prior to the pandemic)
27. During the pandemic, how often have you felt you have accomplished many worthwhile things in your job? 
   a. Never 
   b. A few times a year or less 
   c. Once a month or less 
   d. A few times a month 
   e. Once a week 
   f. A few times a week 
   g. Every day 
   h. NA (I did not work during the pandemic) 

28. Prior to the pandemic, how often did you feel you accomplished many worthwhile things in your job? 
   a. Never 
   b. A few times a year or less 
   c. Once a month or less 
   d. A few times a month 
   e. Once a week 
   f. A few times a week 
   g. Every day 
   h. NA (I did not work prior to the pandemic) 

The following set of questions asks about your well-being during and prior to the pandemic: 

29. During the pandemic, how often have you felt down, depressed, or hopeless? (Note: no NA option) 
   a. Not at all 
   b. Several days 
   c. More than half the days 
   d. Nearly every day 

30. Prior to the pandemic, how often have you felt down, depressed, or hopeless? (Note: no NA option) 
   a. Not at all 
   b. Several days 
   c. More than half the days 
   d. Nearly every day 

31. During the pandemic, have you had any thoughts of suicide? (Note: no NA option) 
   a. Never 
   b. Some thoughts of death 
   c. Some thoughts of suicide 
   d. Some attempt at suicide 

32. Prior to the pandemic, did you ever have thoughts of suicide? (Note: no NA option) 
   a. Never 
   b. Some thoughts of death 
   c. Some thoughts of suicide 
   d. Some attempt at suicide 

33. During the pandemic, have you been concerned about your own alcohol consumption or substance abuse? (Note: no NA option) 
   a. Yes 
   b. No 
   c. Sometimes 

34. Prior to the pandemic, were you concerned about your own alcohol consumption or substance abuse? (Note: no NA option) 
   a. Yes 
   b. No 
   c. Sometimes 

35. Have you had changes in alcohol consumption or substance use since the COVID-19 pandemic began? (Note: no NA option) 
   a. Significant decrease 
   b. Decrease 
   c. No change 
   d. Increase 
   e. Significant increase 

This next set of questions will ask you about the impact of the COVID-19 pandemic on your work and home life: 

36. Were you negatively impacted financially due to COVID-19? (Choose as many as apply) 
   a. No 
   b. Furlough 
   c. Forced to take time off 
   d. Pay reduction 
   e. Other 

37. How has your workload changed due to COVID-19? 
   a. Significant decrease 
   b. Decrease 
   c. Neutral 
   d. Increase 
   e. Significant increase 
   f. NA (I did not work during the pandemic) 

38. Were you directly involved in COVID-19 patient care? 
   a. Yes 
   b. No 
   c. No but I have potential exposure (i.e., cafeteria, same floor, patient rooms) 
   d. NA (I did not work during the pandemic) 

39. Has your work setting changed? 
   a. No 
   b. From on-site to remote 
   c. Partially remote 
   d. Relocated from primary department 
   e. From remote to on-site 
   f. NA (I did not work during the pandemic) 

40. How affected were you by the following work-related stressors PRIOR to COVID-19 Pandemic? 
   (Each rated on a scale from: Not a Stressor, Minimal Stressor, Moderate Stressor, Significant Stressor, Extreme Stressor, NA (I did not work prior to the pandemic).) 
   a. Insufficient communication from leadership 
   b. Working too many hours 
   c. Job security/employment status 
   d. Inappropriate role designation 
   e. Working at a new location 
   f. Witnessing high number of deaths 

41. How affected were you by the following work-related stressors DURING the COVID-19 Pandemic? 
   (Each rated on a scale from: Not a Stressor, Minimal Stressor, Moderate Stressor, Significant Stressor, Extreme Stressor, NA (I did not work during the pandemic).) 
   a. Concerns spreading COVID-19 
   b. Insufficient communication from leadership 
   c. Insufficient PPE 
   d. Working too many hours 
   e. Job security/employment status 
   f. Insufficient training 
   g. Difficulties about how to effectively treat COVID-19 patients 
   h. Inappropriate role designation 
   i. Working at a new location 
   j. Witnessing high number of deaths 

42. During the pandemic how CONCERNED have you been about exposing the people you live with to COVID-19? 
   (Each rated on a scale from: Not a Concern, Minimal Concern, Moderate Concern, Significant Concern, Extreme Concern, NA) 
   a. Exposing my child 
   b. Exposing my older adult family 
   c. Exposing my spouse or partner 
   d. Exposing my roommate 

43. Among how much have these stressors impacted you during the COVID-19 pandemic? 
   (Each rated on a scale from: Not a Stressor, Minimal Stressor, Moderate Stressor, Significant Stressor, Extreme Stressor, NA) 
   a. I am too tired when I get home to cook, do chores, etc. 
   b. Loneliness 
   c. Financial stress 
   d. Worry and/or guilt about infecting household members 
   e. Taking stress on my family and friends 
   f. Lack of quality time with family and friends 
   g. My family and friends don’t understand the stress I’m under 
   h. Inconsistent work hours/coordinating schedules 
   i. Other family member(s) needing to take over my responsibilities
51. If you did not seek assistance, please indicate how much each of the following was an obstacle to seeking assistance. (Each rated on a scale from: Not an Obstacle, Minimal Obstacle, Moderate Obstacle, Significant Obstacle, Extreme Obstacle) (Note: no NA option) (Only answered by people who said “no” to Q49).
   a. Cost of counseling or treatment
   b. Did not know where to turn for support
   c. Time commitment
   d. Fear of being committed/taking medicine
   e. Confidentiality concerns
   f. Insufficient health insurance coverage
   g. Negative opinion from family, friends, community
   h. Faith in effectiveness of counseling or treatment
   i. Negative impacts to my job position
   j. Fear of regulatory board taking/restricting license

52. What type of support do you wish you had? (Choose as many as apply) (Note: no NA option) (Only answered by those who said “no” to Q49).
   a. Emotional support from coworkers
   b. Emotional support from my supervisor or boss
   c. Emotional support in general from the work setting
   d. Emotional support from family and/or friends
   e. Other types of emotional support

53. Does your workplace offer a program to address mental health concerns (ie, changes to mood, anxiety, burnout, depression, and/or substance abuse)? This is typically referred to as an Employee Assistance Program (EAP). (Note: no NA option)
   a. Yes
   b. No
   c. Not sure

54. How likely are you to participate in such a program? (Note: no NA option) (Only answered by those who say “Yes” to Q53).
   a. Very unlikely
   b. Neither unlikely or likely
   c. Very likely

55. Please indicate what might be improved or needed in order for you to access this program. (open text response) (Only answered by people who say “Very unlikely” to Q54).

56. Does your state professional organization offer a program to address mental health concerns (ie, changes to mood, anxiety, burnout, depression and/or substance abuse)? This is typically referred to as a Professional Health Program. (Note: no NA option)
   a. Yes
   b. No
   c. Not sure

57. How likely are you to participate in such a program? (Note: no NA option) (Only answered by those who say “Yes” to Q56).
   a. Very unlikely
   b. Neither unlikely or likely
   c. Very likely...