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RESEARCH ARTICLE



## Covid-19 Impacts on Florida's Healthcare Professionals

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### ABSTRACT

This study described how COVID-19 impacted employment, telehealth usage, and interprofessional collaboration. A cross-sectional survey was deployed in June 2020 to healthcare professionals in Florida. Job status was uniquely separated by profession, with more nurses and medical doctors reported having no effect, and more mental health counselors transitioned to telehealth. Over a third of rehabilitation providers reported being furloughed. Over forty percent of providers had no training in telehealth, yet 33.1% reported an increase in usage. Interprofessional interactions are lower across professions during the pandemic, compared with before. This study shows the need for additional training on telehealth and interprofessional collaboration.

### KEYWORDS

telehealth usability; job status; healthcare impacts

### What is known on this topic/What this study adds.

#### A. What is known on this topic:

1. COVID-19 has impacted the employment (e.g., overworked, furloughed, laid-off) of healthcare workers
2. Various healthcare services have been either temporarily closed or transitioned to virtual care delivery due to COVID-19 related precautions
3. While work demands have varied, there is little known about the positive or negative influences on interprofessional collaborative practices

#### B. What this study adds:

1. Job status (i.e., continued care, furlough, laid off) and care delivery (e.g., halted services, transition to telehealth) are unique to each different profession within healthcare
2. COVID-19 led to a spike in many providers transitioning to telehealth; however, many healthcare professionals simultaneously report little/no telehealth training
3. The pandemic and its ripple of repercussions should be an alert that educators and

policymakers need to revisit telehealth training and implementation of online collaborative practices for healthcare professionals.

### Introduction

The 2019 contagious respiratory coronavirus disease (COVID-19) has placed substantial stress on healthcare providers as they struggle to avoid contracting the virus, provide continued care for their patients and protect their own families at home from possible exposure. The novel severe acute respiratory coronavirus (SARS-Cov-2) that emerged in December 2019 in Wuhan, China, has since spread globally claiming over 917,000 lives with 55% of the fatality rate being in the Americas as of September 2020. On March 11, 2020, the World Health Organization (WHO) has declared COVID-19 as a global pandemic, and in response to the spread of the virus, all 50 states have declared states of emergency (World Health Organization (WHO), 2020). Currently, the U.S. is leading the world with the highest number of infected individuals with over 4.8 million confirmed and raising (Hopkins 2020).

While all 50 states have been impacted by COVID-19, Florida is in the top ten of the cumulative number of COVID-19 cases (Stephanie et al. 2020). In Florida, as of early September 2020, there were nearly 650,000 positive cases of COVID-19, comprising 10% of the total US case-load (Centers for Disease Control and Prevention 2020). Several counties within Florida reflect a higher burden of disease relative to total medical resources available (Miller et al. 2020). This burden directly impacts Florida healthcare providers as they are in dire need of both financial and physical resources to combat COVID-19. In addition, older adults account for 74% of all COVID-19 related deaths and as high as 75% in five counties in Florida. The combination of higher than normal costs for the acquisition of personal protective equipment and an increased number of health providers testing positive has created a strain on the health care workforce Forsythe et al., 2020. Frontline healthcare providers have been reporting increased symptoms of anxiety and depression related to burnout, as well as fatigue and chronic concern for lack of personal protective equipment (PPE) (Shaukat, Ali, and Razzak 2020).

### **Healthcare-Economic**

Allied health care providers have also felt the stressful repercussions from the virus due to the growing number of furloughs from healthcare organizations across the nation, with many hospitals furloughing between 1,000 to 3,000 employees at a time (Harris and Schneider 2020). In April 2020 alone, the U.S. Bureau of Labor Statistics reported that 1.4 million healthcare workers nationwide, primarily from ambulatory settings, lost their jobs due to economic constraints caused by the pandemic (U.S. Department of Labor 2020). Some furloughs have been deemed temporary, yet for some providers, a layoff or pay-cut has become detrimental to their professional stability and wellbeing as a healthcare employee.

Governments quickly realized the impact COVID-19 is having on health services. Dr. David Cutler, an applied economics professor at Harvard University wrote that “COVID-19 has

created an economic crisis alongside a health care crisis” (Cutler 2020). Health care has been relatively resistant to experiencing a recession. The demand for care is relatively consistent; however, this pandemic has created a surge in the need for care in select health care delivery specialties, forcing other non-urgent or elective care to halt or transition to telehealth (Oh and Reis 2012). For example, the uncertainty, restrictions, and change associated with the COVID-19 pandemic has resulted in decreased utilization of outpatient services such as physical and occupational therapy (Leite, Lindsay, and Kumar 2020) while at the same time creating an increased need for virtual psychological services to address the emotional responses and psychosocial effects experienced by some individuals (Pfefferbaum and North 2020; Natasha, Mansoor, and Junaid 2020).

### **Healthcare-Telehealth**

Even with the slowdown or in some cases halting of elective surgeries (Fu et al. 2020; Elster, Potter, and Chung 2020; Donley, Chen, and Borrero 2020), millions of individuals with chronic diseases or non-COVID-19 illnesses still required access to care (Bloem, Dorsey, and Okun 2020; Stachura et al. 2019; Lu, Chi, and Chen 2014). Telehealth seemed to be the solution of choice for many health care providers. Prior to the COVID-19 pandemic, some health care providers used telehealth to provide quality care to patients with chronic conditions through synchronous consultations or examinations, or asynchronous follow-up care (Rifkin et al. 2013; Margolis et al. 2013; Chaplin et al. 2020).

Over the past decade, modern information and communication technology has increasingly influenced the delivery of health care. One such example is the use of telehealth to deliver care to patients who might not be in the same location as the provider. COVID-19 has created the need for “social distancing” (Lewnard and Lo 2020; Ferguson et al. 2020) to slow the spread of the virus, thus reducing the ability to provide in-person health care services. This forced distancing made telehealth an ideal modality to deliver necessary care (Calton, Abedini, and Fratkin

2020). However, most organizations and professions were not telehealth ready before the pandemic, causing staff resistance and lack of utilization of this technology within the interprofessional setting when it was needed most (Smith et al. 2020). For telehealth to be effective during the current COVID-19 and future health care crises, we must understand how it is being utilized and integrated into evolving models of care.

### **Healthcare-Interprofessional**

Prior research has suggested that interprofessional teams can improve patient outcomes (Rifkin et al. 2013; Margolis et al. 2013; Chaplin et al. 2020). The COVID-19 pandemic has led to limited interprofessional collaboration and strained planning efforts across healthcare professions (Natale et al. 2020). Various health professions continue to be fraught with uncertainty regarding their health and workplace practices. Interprofessional teams and collaborative practices have been disrupted with social distancing and virtual work measures as response efforts are shifted to the growing pandemic. Restrictive guidelines have altered the traditional ways teams conduct their work, resulting in disjointed efforts and challenging work alternatives that limit the job capabilities of healthcare workers nationally (Sy et al. 2020).

Just one of many challenges arising from the pandemic is maintaining staffing levels for the various specialties in an organization when furloughs and shortages plague the market. This lack of staffing is becoming a hindrance to the adoption of telemedicine programs that are currently relying on virtual consultations to limit unnecessary exposure to non-front-line providers (Watts and Abraham 2020; Hollander and Carr 2020). For many health professionals and organizations during this time, training and accreditation for telemedicine practices and initiatives are hard to provide when staff members are already overworked, quarantined, or otherwise furloughed (Smith et al. 2020; Scott et al. 2020). Therefore, this study aimed to describe the impact of COVID-19 on Florida health professionals' attitudes and practices. This paper descriptively captures a snapshot on COVID-19

impacted healthcare worker's profession, employment, telehealth usage, and interprofessional collaboration in the early months of the pandemic.

## **Methods**

### **Study and Instrument Design**

This study was a cross-sectional online survey. Survey questions were derived from several previous surveys used in healthcare services and telemedicine (Langbecker et al. 2017; Parmanto et al. 2016). The survey expanded on previous surveys by asking additional questions about experiences before COVID-19 and during COVID-19. This survey was reviewed and revised among the research team for clarity of the questions, flow of the survey, and appropriateness of survey questions in relation to the research question. The final web-based survey consisted of 17 questions. Four questions were to understand provider practices and level of patient engagement. Nine questions were aimed to address the use of telehealth before and during COVID-19. The remaining four questions collected demographic information used for analyses. This survey was created and disseminated with Qualtrics<sup>TM</sup>. At the beginning of the survey, participants acknowledged a statement of consent in this anonymous survey. This study was deemed exempt by the University of North Florida Institutional Review Board (IRB).

### **Source of Participants**

The sample in this study was healthcare professionals who were licensed in Florida. The following healthcare providers were selected to participate in the study: medical doctor, osteopathic physician (collectively physician), advanced practice registered nurse, registered nurse (collectively nurse), physician assistant, registered dietitian, physical therapist, occupational therapist, psychologist, licensed mental health counselor, and licensed social worker. Professions were selected based on the most common providers to be on a multidisciplinary healthcare team. Professionals' contact information was gathered from the open-access Florida Healthcare Practitioner Data Portal (Florida Health 2020). A total of 399,660 surveys were distributed in June

2020, including an initial email and one follow-up email, one week apart. There were 6,231 surveys started and 4,348 completed, indicating a 70% completion rate of those who opened the survey.

### Data Analysis

All data summaries were performed using the SAS software Version 9.4 (SAS Institute 2013). Descriptive statistics were generated on a subpopulation of the survey participants (N = 3,006) who provided direct patient care during the COVID-19 pandemic. For the economic, telehealth, and interprofessional components of the survey, the summary was provided at both the overall level and by profession.

## Results

### Demographics

Among the 3,006 individuals in the final sample, 52.3% were female, 14.9% were male, and 32.6% didn't answer the question. The majority of the participants were white (57.1%), followed by not reported (35.2%), and all the rest of ethnicities combined (American Indian or Alaskan Native, Asia, African American or Black, Native Hawaiian, and Hispanic or Latino) were less than 10%. Regarding the primary profession, 47.0% were nurses, followed by medical doctors (14.5%), and each of the rest professions contributes 3.0 to 6.5% in the sample. About half (49.2%) of the participants have been licensed for more than 21 years, with each of the rest category (0–5 years, 6–10 years, 11–15 years, and 16–20 years) represent about 12% in the sample (Table 1).

### Healthcare-Economic

While most of the participants (84.2%) provided direct patient care for more than two days per week, their job status was changed in a variety of ways. 44.5% of the survey participants reported “no effect”, followed by “transition to telehealth” (21.7%), and “furloughed” (17.8%). 2.6% of the participants experienced being laid off and 13.0% reported “other” – from more work to resigned.

**Table 1.** Participants' demographic characteristics, N = 3006.

	N (%)
Gender	
Male	448 (14.9%)
Female	1573 (52.3%)
Non-Binary	4 (0.1%)
No Response	981 (32.6%)
Ethnicity	
American Indian or Alaskan Native	18 (0.6%)
Asian	71 (2.4%)
African American or Black	143 (4.8%)
Native Hawaiian or Other Pacific Islander	1 (0.0%)
White	1716 (57.1%)
No Response	1057 (35.2%)
Primary Profession	
Physician	437 (14.5%)
Nurse	1412 (47.0%)
Social Worker	158 (5.3%)
Licensed Mental Health Counselor	194 (6.5%)
Licensed Psychologist	111 (3.7%)
Registered Dietitian	90 (3.0%)
Physician Assistant	108 (3.6%)
Physical Therapist	133 (4.4%)
Occupational Therapist	93 (3.1%)
No Response	270 (9.0%)
Experience as a licensed Provider	
0-5 years	396 (13.2%)
6-10 years	358 (11.9%)
11-15 years	359 (11.9%)
16-20 years	383 (12.7%)
21+ years	1479 (49.2%)
No Response	31 (1.0%)
Level of engagement in direct patient care	
<1 day per week	153 (5.1%)
1-2 days per week	321 (10.7%)
>2 days per week	2532 (84.2%)

When the changes in job status were further examined by profession, it showed some differences. The top three professions reporting “no effect” were nurse (55.0%), registered dietitian (43.3%), and medical doctor (43.2%); the top three professions reporting “transition to telehealth” were licensed psychologist (75.7%), licensed mental health counselor (69.1%), and social worker (60.1%); and the top three professions reporting “furloughed” were occupational therapist (37.6%), physical therapist (36.8%), and physician assistant (30.6%). In addition, social workers had the highest rate of being laid off (12.7%) (Table 2).

### Healthcare-Telehealth

Most of the survey participants (41.0%) had no telehealth training of any kind, 29.2% had informal instruction or minimal formal training, and 12.3% had moderate to extensive formal training. On the other hand, compared with before the pandemic, 33.1% of participants reported an



**Table 2.** Impact of COVID-19 on participants' job status by profession, N = 3006.

Status Change Due to COVID						
	No effect N (%)	Furloughed N (%)	Transition to Telehealth N (%)	Laid off N (%)	Other N (%)	No Response N (%)
Overall	1,339 (44.5%)	533 (17.8%)	639 (21.7%)	110 (2.6%)	360 (13.0%)	23 (0.4%)
Physician	189 (43.2%)	91 (20.8%)	113 (25.9%)	8 (1.8%)	33 (7.6%)	3 (0.7%)
Nurse	777 (55.0%)	251 (17.8%)	95 (6.7%)	41 (2.9%)	240 (17.0%)	8 (0.6%)
Social Worker	36 (22.8%)	6 (3.8%)	95 (60.1%)	20 (12.7%)	1 (0.6%)	0 (0.0%)
Licensed Mental Health Counselor	38 (19.6%)	8 (4.1%)	134 (69.1%)	4 (2.1%)	9 (4.6%)	1 (0.5%)
Licensed Psychologist	20 (18.0%)	2 (1.8%)	84 (75.7%)	5 (4.5%)	0 (0.0%)	0 (0.0%)
Registered Dietitian	39 (43.3%)	13 (14.4%)	31 (34.4%)	7 (7.8%)	0 (0.0%)	0 (0.0%)
Physician Assistant	43 (39.8%)	33 (30.6%)	15 (13.9%)	5 (4.6%)	11 (10.2%)	1 (0.9%)
Physical Therapist	36 (27.1%)	49 (36.8%)	18 (13.5%)	8 (6.0%)	21 (15.8%)	1 (0.8%)
Occupational Therapist	35 (37.6%)	33 (37.6%)	11 (11.8%)	1 (1.1%)	10 (10.8%)	1 (1.1%)
Unknown	126 (46.7%)	47 (17.4%)	43 (15.9%)	11 (4.1%)	35 (13.0%)	8 (3.0%)

**Table 3.** Description of telehealth training and usage across health care professions, N = 3006.

	Telehealth Training			No Response N (%)
	No training of any kind N (%)	Informal instruction only /Minimal formal training N (%)	Moderate/Extensive formal training N (%)	
Overall	1233 (41.0%)	877 (29.2%)	369 (12.3%)	527 (17.5%)
Physician	124 (28.4%)	175 (40.0%)	58 (13.3%)	80 (18.3%)
Nurse	750 (53.1%)	282 (20.0%)	100 (7.1%)	280 (19.8%)
Social Worker	27 (17.1%)	73 (46.2%)	43 (27.2%)	15 (9.5%)
Licensed Mental Health Counselor	23 (11.9%)	90 (46.4%)	64 (33.0%)	17 (8.8%)
Licensed Psychologist	16 (14.4%)	53 (47.7%)	29 (26.1%)	13 (11.7%)
Registered Dietitian	31 (34.4%)	28 (31.1%)	19 (21.1%)	12 (13.3%)
Physician Assistant	33 (30.6%)	51 (47.2%)	12 (11.1%)	12 (11.1%)
Physical Therapist	67 (50.4%)	44 (33.1%)	8 (6.0%)	14 (10.5%)
Occupational Therapist	51 (54.8%)	24 (25.8%)	7 (7.5%)	11 (11.8%)
Unknown	111 (41.1%)	57 (21.1%)	29 (10.7%)	73 (27.0%)
	Telehealth usage during Covid-19 compared to before pandemic			No Response
	My use of telehealth decreased	My use of telehealth has not changed	My use of tele health increased	
Overall	80 (2.7%)	1361 (45.3%)	996 (33.1%)	569 (18.9%)
Physician	10 (2.3%)	159 (36.4%)	189 (43.2%)	79 (18.1%)
Nurse	46 (3.3%)	749 (53.0%)	310 (22.0%)	307 (21.7%)
Social Worker	1 (0.6%)	45 (28.5%)	94 (59.5%)	18 (11.4%)
Licensed Mental Health Counselor	6 (3.1%)	45 (23.2%)	127 (65.5%)	16 (8.2%)
Licensed Psychologist	2 (1.8%)	30 (27.0%)	66 (59.5%)	13 (11.7%)
Registered Dietitian	3 (3.3%)	32 (35.6%)	40 (44.4%)	15 (16.7%)
Physician Assistant	3 (2.8%)	48 (44.4%)	44 (40.7%)	13 (12.0%)
Physical Therapist	2 (1.5%)	76 (57.1%)	36 (27.1%)	19 (14.3%)
Occupational Therapist	2 (2.2%)	57 (61.3%)	22 (23.7%)	12 (12.9%)
Unknown	5 (1.9%)	120 (44.4%)	68 (25.2%)	77 (28.5%)

increase and 45.3% reported no change in telehealth usage.

When we look at the telehealth responses by profession, the variations were high. More than half of the nurses (53.1%), occupational therapists (54.8%), and physical therapists (50.4%) had no training on telehealth. In contrast, more than a quarter of licensed mental health counselors (33.0%), social workers (27.2%), and licensed psychologists (26.1%) received moderate to extensive formal training. Furthermore, the three professions with the most training also reported the highest percentages of increased usage in

telehealth, while the top three professions with no training reported the highest percentages of 'no change' in telehealth usage (Table 3).

### Healthcare-Interprofessional

It is observed that the number of high-frequency interprofessional team interactions (>3 interactions per day) dropped from 41.5% (6 months prior to the pandemic) to 33.6% (during the pandemic), while the number of responses in the lower frequency categories was slightly increased indicating that fewer team interactions took place during the

**Table 4.** Impact of COVID-19 on participants by health profession, N = 3006.

	Team Weekly interaction about patient care 6 months Pre-Pandemic					
	No interaction per week	<1 interaction per week	>1 interaction per week	1-2 interactions per day	>3 interactions per day	No Response
Overall, N(%)	210 (7.0%)	317 (10.5%)	376 (12.5%)	334 (11.1%)	1246 (41.5%)	523 (17.4%)
Medical Doctor	19 (4.3%)	51 (11.7%)	73 (16.7%)	63 (14.4%)	153 (35.0%)	78 (17.8%)
Nurse	98 (6.9%)	114 (8.1%)	100 (7.1%)	132 (9.3%)	688 (48.7%)	280 (19.8%)
Social Worker	17 (10.8%)	24 (15.2%)	26 (16.5%)	23 (14.6%)	53 (33.5%)	15 (9.5%)
Licensed Mental Health Counselor	19 (9.8%)	40 (20.6%)	49 (25.3%)	26 (13.4%)	44 (22.7%)	16 (8.2%)
Licensed Psychologist	4 (3.6%)	29 (26.1%)	34 (30.6%)	12 (10.8%)	19 (17.1%)	13 (11.7%)
Registered Dietitian	3 (3.3%)	5 (5.6%)	14 (15.6%)	10 (11.1%)	46 (51.1%)	12 (13.3%)
Physician Assistant	10 (9.3%)	16 (14.8%)	19 (17.6%)	15 (13.9%)	36 (33.3%)	12 (11.1%)
Physical Therapist	6 (4.5%)	12 (9.0%)	24 (18.0%)	19 (14.3%)	59 (44.4%)	13 (9.8%)
Occupational Therapist	5 (5.4%)	4 (4.3%)	9 (9.7%)	11 (11.8%)	53 (57.0%)	11 (11.8%)
Unknown	29 (10.7%)	22 (8.1%)	28 (10.4%)	23 (8.5%)	95 (35.2%)	73 (27.0%)
<b>Team interaction about patient care during Pandemic</b>						
Overall	236 (7.9%)	346 (11.5%)	422 (14.0%)	367 (12.2%)	1009 (33.6%)	626 (20.8%)
Medical Doctor	22 (5.0%)	58 (13.3%)	77 (17.6%)	67 (15.3%)	130 (29.7%)	83 (19.0%)
Nurse	98 (6.9%)	99 (7.0%)	138 (9.8%)	149 (10.6%)	586 (41.5%)	342 (24.2%)
Social Worker	14 (8.9%)	37 (23.4%)	26 (16.5%)	25 (15.8%)	38 (24.1%)	18 (11.4%)
Licensed Mental Health Counselor	25 (12.9%)	42 (21.6%)	53 (27.3%)	17 (8.8%)	34 (17.5%)	23 (11.9%)
Licensed Psychologist	7 (6.3%)	35 (31.5%)	24 (21.6%)	18 (16.2%)	12 (10.8%)	15 (13.5%)
Registered Dietitian	6 (6.7%)	9 (10.0%)	12 (13.3%)	20 (22.2%)	27 (30.0%)	16 (17.8%)
Physician Assistant	15 (13.9%)	14 (13.0%)	22 (20.4%)	8 (7.4%)	36 (33.3%)	13 (12.0%)
Physical Therapist	19 (14.3%)	13 (9.8%)	30 (22.6%)	15 (11.3%)	36 (27.1%)	20 (15.0%)
Occupational Therapist	5 (5.4%)	8 (8.6%)	15 (16.1%)	12 (12.9%)	40 (43.0%)	13 (14.0%)
Unknown	25 (9.3%)	31 (11.5%)	25 (9.3%)	36 (13.3%)	70 (25.9%)	83 (30.7%)

pandemic. The decrease happened across almost all professions except for physician assistants, whose percentage remained the same (Table 4).

Besides the quantity of team interactions before and during the pandemic, the satisfaction on both frequency and quality of the interprofessional interactions were also assessed by the survey participants. The percentage of satisfied participants on frequency dropped from 64.1% (6 months prior to the pandemic) to 54.3% (during the pandemic); and on quality, satisfaction dropped from 63.8% (6 months prior to the pandemic) to 53.1% (during the pandemic). The 10% decrease in satisfaction, for both frequency and quality of interprofessional care interactions, provides evidence of the negative impact of the COVID-19 pandemic on interprofessional care interactions. In addition, the team interactions are consistently lower across all professions during the pandemic, compared with before the pandemic (Table 5).

Statistical analysis was conducted to further explore the satisfaction data. It was discovered that, besides the timing (6 months prior to the pandemic or during pandemic), the healthcare profession was another significant factor in satisfaction. Compared with during pandemic, the satisfaction on frequency and quality of interprofessional team interactions were 72% and 92%

higher at 6 months prior to the pandemic. Compared with nurse, social worker and licensed mental health counselor had a significantly higher satisfaction on both frequency and quality of interprofessional team interactions, while other professions had no significant differences.

## Discussion

It was evident that among Florida healthcare providers, COVID-19 had profession-specific impacts on job status, telehealth usage, and interprofessional practices. While a little less than half of the healthcare professionals did not experience a change in job status, there were secondary impacts from the pandemic such as the transition to telehealth and severed interprofessional collaborations. Changes to how and where health care is provided created new opportunities for telehealth and virtual technologies while at the same time highlighting important gaps in health care providers' training in the effective use of these tools. In addition, the pandemic tested the progress of Florida's health care system toward providing interprofessional collaborative care. Instead of increasing the level of collaboration to find innovative solutions to workforce and patient care issues, the pandemic appears to have

**Table 5.** Impact of COVID-19 on participants' delivery of care, N = 3006.

	6 Months Pre-Pandemic N (%)	During Pandemic N (%)
Satisfaction on frequency of interprofessional care interactions		
Strongly disagree	134 ( 4.5%)	144 ( 4.8%)
Disagree	48 ( 1.6%)	143 ( 4.8%)
Somewhat disagree	104 ( 3.5%)	212 ( 7.1%)
Neither agree nor disagree	264 ( 8.8%)	337 (11.2%)
Somewhat agree	312 (10.4%)	341 (11.3%)
Agree	985 (32.8%)	857 (28.5%)
Strongly agree	627 (20.9%)	437 (14.5%)
No Response	532 (17.7%)	535 (17.8%)
Satisfaction on quality of interprofessional care interactions		
Strongly disagree	104 ( 3.5%)	131 ( 4.4%)
Disagree	47 ( 1.6%)	142 ( 4.7%)
Somewhat disagree	98 ( 3.3%)	189 ( 6.3%)
Neither agree nor disagree	229 ( 7.6%)	319 (10.6%)
Somewhat agree	321 (10.7%)	355 (11.8%)
Agree	995 (33.1%)	824 (27.4%)
Strongly agree	602 (20.0%)	418 (13.9%)
No Response	610 (20.3%)	628 (20.9%)

reinforced traditional professional silos and raised questions about the effectiveness of interprofessional education efforts. The findings from our study lack the granularity needed to fully understand the reasons for these issues but does point to the heterogeneous nature of health care providers in Florida. Understanding how the COVID-19 pandemic affected different sectors of the Florida health care workforce is important as we begin to recover from this current crisis and better prepare for health care crises in the future.

### Healthcare-Economic

Our data indicates that rehabilitation providers experienced a higher rate of being furloughed compared to other Florida healthcare providers. One reason for this finding is likely the relatively high proportion of these providers working in settings that experienced a decrease in utilization during the COVID-19 pandemic. Workforce data shows 30–60% of rehabilitation providers practice in outpatient facilities or school systems (American Occupational Therapy Association 2020; American Physical Therapy Association 2019). Social workers in the sample evidenced the highest rate of being laid off in response to COVID among mental health providers. This may be because of the disparate levels of training/education one might have as a social worker. These bachelor-level social workers, as compared to other graduate-level healthcare professionals, may have been more vulnerable to being laid-off. While a majority of healthcare professionals

overall had no changes with their job status, the second majority transitioned from in-person care to telehealth.

### Healthcare-Telehealth

Across all health professions, training is little to none when it comes to telehealth. Within some professions (e.g., RN, OT, PT), over half of respondents identify with having no training in telehealth. This brings to light not only the gaps in training, but also questions the comfort and confidence in abilities, or lack thereof, to perform health services using telehealth.

Mental health professionals in Florida evidenced the highest rates of transitioning to telehealth during the pandemic, with approximately two-thirds of these professionals indicating such. One reason for the greater shift to telehealth among mental health professionals may be the higher levels of telehealth training reported by these individuals. The simplest explanation for this may lie in the sense that these fields (psychology, mental health counseling, social work) offer more “talk therapy” than do other health professionals. Nearly all the fundamental tasks of these fields (e.g., assessment, diagnosis, conceptualization, treatment planning, and therapy) can be done without ever needing to physically touch the client. Telehealth in these fields has been discussed since the 1990s, leading to a proliferation of training and certificates in telemental healthcare (Harper 1999; Nickelson 1998; Skinner and



Zack 2004; Stamm 1998). The primary benefit of providing telemental health care is increasing access to traditionally hard-to-reach communities, both geographically and culturally. This is further compounded by Florida's generally poor mental healthcare availability, the state ranks 4<sup>th</sup> in the United States for unmet mental health needs (Kaiser Family Foundation 2019).

In contrast to most other healthcare providers' rather large increase in telehealth use from COVID-19, Florida physical and occupational therapists generally reported no change in telehealth use. One reason for this finding may be that the Center for Medicare and Medicaid Services (CMS), and subsequently many other payers, did not reimburse for telehealth services from all providers prior to the COVID-19 pandemic. As a result, many of these providers lacked the knowledge and experience to provide services via telehealth which is consistent with our results on prior telehealth training. In April 2020, CMS waived restrictions on the types of providers eligible for reimbursement for services provided via telehealth (Centers for Medicare and Medicaid Services 2020). This change not only creates an excellent opportunity for providers to demonstrate the value of telehealth but also points to considerable education gaps that must be rapidly filled to take full advantage of the opportunity (Lee 2020). Research has shown implementation of telehealth interprofessional education can help accomplish two birds with one stone, equipping professionals to understand how to use telehealth and how that medium is a viable option to work with other professionals (Begley et al. 2019; Lackie et al. 2020).

### **Healthcare-Interprofessional**

The COVID-19 pandemic had an overall negative effect on interprofessional collaboration in Florida as indicated by the decline in the number of interprofessional interactions accompanied by a drop in satisfaction for both the frequency and quality of interprofessional collaboration. This may be in part due to the reduced number of facilities operating in-person, compounded with the drastic decline in patient appointments in some settings. Regardless of the reason, the trend toward decreased interprofessional interactions

among healthcare providers raises questions about the progress made toward a collaborative practice-ready health care workforce that is ready to respond to changing health care needs (World Health Organization (WHO), 2020). For example, were there missed opportunities to incorporate providers such as physical therapists, dietitians, or mental health counselors into nontraditional roles that help improve efficiencies and reduce overload (Leite, Lindsay, and Kumar 2020; Block, Smith, and Sudore 2020). Research has shown implementation of telehealth interprofessional education can help accomplish two birds with one stone, equipping professionals to understand how to use telehealth and how that medium is a viable option to work with other professionals.

Block, Smith, and Sudore (2020) identified the lack of advanced care planning as a barrier to rapid COVID-related care in older adults and suggests that allied healthcare professionals with reduced caseloads due to COVID-19 could conduct these conversations either in-person or using telehealth technologies. Other opportunities include participating as part of the healthcare team by taking on roles in screening, triage, and patient education, or examining patients within one's scope of practice and making referrals for the appropriate consultations (Pugh et al. 2020; Saxon, Gray, and Oprescu 2014). The apparent turn away from interprofessional interaction in the face of a healthcare crisis is concerning. However, the fact that healthcare providers were not as satisfied with this decrease level of interprofessionalism provides hope. This may indicate that the reasons for the decline were more structural (e.g., policy, proximity, payment) as opposed to being reflective of provider preference. Further research into the reasons for decreased interprofessional practice during the COVID-19 pandemic is warranted and can help prepare our healthcare system for a more interprofessional collaborative response to future crises.

### **Implications**

Based on the findings from this study, we offer several recommendations aimed toward reducing inequities in telehealth capability among different healthcare professions and improving the healthcare system's response to future healthcare crises.

First, the identified profession-based differences in knowledge, experience, and access to telehealth suggest that a one-size-fits-all approach to telehealth training and implementation will yield underwhelming results. Each profession seems to have unique expectations of and experiences with telehealth. Systems designed to facilitate the deployment of telehealth should be mindful of these idiosyncrasies.

Second, all health professions education programs should include training on the use of telehealth. Our findings show that professions with prior training in the use of telehealth were able to make this transition more easily than those without, and that these professions were less likely to be furloughed during the pandemic. While we lack the data to draw a causal link between these observations, it is possible that rehabilitation providers in settings such as school systems could have continued to provide rehabilitation services to students via telehealth if properly trained prior to the pandemic. This not only offers security to the health professional but also provides predictability and consistency in care delivery.

As a third recommendation, we suggest that health system and public health administrators develop disaster response plans that leverage the overlap in skill sets among many healthcare professions to strategically redeploy the healthcare workforce in ways that optimize surge response and minimize furloughs. This should include a national strategy that includes the ability to practice telehealth across state lines, providing a rapid and cost-effective surge in available healthcare professionals to not only respond to disasters but also manage routine care while local healthcare professionals tend to more immediate needs. Such a strategy should also include permanent removal of reimbursement and regulatory restrictions that limit the use and innovation of telehealth (e.g., Department of Health and Human Services) (OCR announces notification of enforcement discretion for telehealth remote communications during the COVID-19 Nationwide Public Health Emergency 2020). Furthermore, new reimbursement models should be developed that are responsive to future innovations in telehealth and virtual technologies that improve access to high-quality healthcare.

## Limitations

As with any study, several limitations need to be addressed. Primarily, this study was limited to providers who are licensed in Florida, so the results may not be generalizable to other care providers in other states or countries. On the other hand, some providers responded to the survey who reside and practice outside of Florida; they may also have dual licensure in another state. Further, professionals' main practice area was asked on the survey without a follow-up question on sub-specialty. Without a breakdown of sub-specialties, there may be a high degree of variation that could have explained differences among and between professions. There was a less than optimal response rate (~1% of total emails sent). While online surveys typically have low response rates, it is also thought that since many emails are work-related, there are workplace security issues in place to prevent these individuals from clicking external links. With that said, a sample size of greater than 3,000 participants was sufficient to establish statistical significance. Lastly, due to the fast-changing pandemic environment, the paper focused on describing the emerging impact of COVID-19 on health professionals working and providing care in Florida, thus the study findings are limited and do not go into depth as to how these work-related changes impacted patient care.

## Conclusion

This study sheds light on how COVID-19 impacted an array of healthcare professionals, all in different capacities. The impact not only was seen for the providers themselves but also the care that they were able to deliver to their patients (e.g., in-person consultations vs. telehealth). The easing of restrictions has resulted in a return in volume for many clinics, but the effect on job status and job future is still unknown.

## Disclosure of Potential Conflict of Interest

The authors declare no conflict of interest.

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