IMPACT OF COVID-19 ON HEALTHCARE PROFESSIONALS

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Executive Summary

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>About the Team</td>
<td>2</td>
</tr>
<tr>
<td>Focus of Study</td>
<td>4</td>
</tr>
<tr>
<td>Background</td>
<td>4</td>
</tr>
<tr>
<td>Aims</td>
<td>4</td>
</tr>
<tr>
<td>Methodology</td>
<td>4-7</td>
</tr>
<tr>
<td>Recruitment Process and Study Procedures</td>
<td>4</td>
</tr>
<tr>
<td>Participants</td>
<td>5</td>
</tr>
<tr>
<td>Questionnaire</td>
<td>5</td>
</tr>
<tr>
<td>Findings</td>
<td>8-19</td>
</tr>
<tr>
<td>Worry</td>
<td>8</td>
</tr>
<tr>
<td>Mental Health</td>
<td>14</td>
</tr>
<tr>
<td>Worries and concerns related to working directly with COVID-19</td>
<td>17</td>
</tr>
<tr>
<td>Relationship between COVID-19 Measures and Mental Health</td>
<td>18</td>
</tr>
<tr>
<td>Key Takeaways</td>
<td>20</td>
</tr>
<tr>
<td>Recommendations</td>
<td>22-24</td>
</tr>
<tr>
<td>Individual Level</td>
<td>22</td>
</tr>
<tr>
<td>Organizational Level</td>
<td>22</td>
</tr>
<tr>
<td>Policy Level</td>
<td>24</td>
</tr>
<tr>
<td>Limitations</td>
<td>24</td>
</tr>
<tr>
<td>Contact Information</td>
<td>25</td>
</tr>
</tbody>
</table>
ABOUT THE TEAM

CRECER RESEARCH TEAM
Challenging Racism and Empowering Communities Through Ethnocultural Research (CRECER) is a community-based participatory research team under the leadership of Dr. Marie Guerda Nicolas at the Department of Educational and Psychological Studies in the School of Education and Human Development at the University of Miami. We seek to create and sustain intervention programs in schools, neighborhoods and community centers to address issues that are often overlooked by society. Our overarching mission is to encourage community empowerment through the development and sustainability of holistic programs for youth, families, and organizations.

MARIE GUERDA NICOLAS, PHD
Dr. Guerda Nicolas, Professor in the Educational and Psychological Studies department at University of Miami, School of Education and Human Development. She obtained her doctoral degree in clinical psychology from Boston University. She completed her pre-doctoral training at Columbia University Medical Center and her postdoctoral training the New York State Psychiatric Institute/Columbia University, Department of Child Psychiatry.

MARIE O. ETIENNE, DNP, APRN, FNP, PNP, PHD (HON), PLNC
Marie O. Etienne, is a tenured full professor of Nursing at Miami Dade College (MDC) Benjamin Léon School of Nursing. Dr. Etienne entered the realm of academics at Miami Dade College since 1997. Her experience includes pediatrics, geriatrics, family practice, community health nursing, leadership and course developer of online teaching for the RN-BSN program at the College. She earned the Doctor of Nursing Practice degree from University of Miami in 2010. In May 2017, Dr. Etienne was bestowed an Honorary Doctor of Philosophy in Ministry by the South Florida Theological Seminary of South Florida for her outstanding ministries in the nursing profession and for her humanitarian work. Dr. Etienne is the 2007 recipient of the MDC Stanley G. Tate and Family Endowed Teaching Chair for Excellence in Academia.

SIDNEY COUPET, DO, MPH, MSC
Dr. Sidney Coupet is an Internal Medicine physician with over 10 years of experience providing primary care to ethnically and linguistically diverse patients using an innovative membership model called Direct Primary Care (DPC). Dr. Coupet is the Chief physician for Coupet Quality Clinic, the flagship center for SPARK Health which is located in Ft. Lauderdale, FL. Dr. Coupet obtained his medical degree at Lake Erie College of Osteopathic Medicine and received a Master of Public Health Research in Health Policy Management at the University of Pittsburgh. He completed his residency training in Internal Medicine at Geisinger Medical Center in Danville, PA. Dr. Coupet went on to do a fellowship at the University of Michigan as a Robert Wood Johnson Foundation Clinical Scholar where he received a Master in Health Services Research. Dr. Coupet has delivered multiple presentations at local and national health conferences and published numerous peer-reviewed scholarly papers focusing on global health.
Participants were recruited via flyers with a link to the online survey that were distributed to listservs of medical, nursing, and mental health associations, community health clinics, hospitals, long-term care facilities, health allied centers, and social media. After clicking the link for the online survey, participants were provided with a consent form indicating their willingness to take part in this study. Subsequently, participants then began the online survey comprised of the measures described above. The survey took approximately 5 – 10 minutes on average.

**QUESTIONNAIRES**

CRECER along with several consultants administered the three questionnaires to Health Care Professionals. The demographics questionnaire, professional stress questionnaire and the 12-Item General Health Questionnaire (GHQ-12).

**Demographic Questionnaire.** This questionnaire will assess participant age, sex, race, ethnicity, nativity, and occupation in addition to living and working conditions. Further, it will assess whether participants’ work directly involves the COVID-19 pandemic, by either working with patients or through research regarding prevention and treatment.

**Professional Stress Questionnaire.** Originally developed during the A/H1N1 influenza pandemic, this 20-item questionnaire (Goulia et al., 2010) assesses concerns about the pandemic, anxieties about perceived sufficiency of information regarding the pandemic, and intended behavior in the daily experiences of health care workers and whether these factors are associated with psychological distress.

**12-Item General Health Questionnaire (GHQ-12).** The GHQ-12 is a short screening instrument used to detect common psychiatric disorders including symptoms of anxiety and depression (Goldberg et al., 1997).

**PARTICIPANTS**

Participants consisted of self-identified Health Care Professionals

This report is based on a sample of 174 self-identify as Health Care Professionals (HCP) between the ages of 21-81 (mean age 45.75 +/- 14.51) who completed a survey on stressors, worries, support, and general health issues they experienced during COVID-19. The following section will present information on the participants’ identity, racial identity, and nationality, and information regarding participants’ career. All professionals are currently working.

**RECRUITMENT PROCESS AND STUDY PROCEDURES**

Current health care professionals providing services during the COVID-19 pandemic including, but not limited to physicians, physician’s assistants, nurses, mental health workers, and scientist/researchers were recruited to participate in this study.

Racially, individuals self-identified as: White, Not Hispanic 54%, Black, Not Hispanic, 27.6%, Hispanic, 11.5%, Asian, 4%, Biracial, 6% and Other, 1.7% (see Figure 1). Table 1 below shows the majority of HCPs were female and that the majority of the participants indicated they were born in the US.
PARTICIPANTS
Participants consisted of self-identified Health Care Professionals

Table 1. Demographics of self-identified Health Care Professionals

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<thead>
<tr>
<th>HCP Demographics</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
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<td>Female</td>
<td>78.7 %</td>
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<tr>
<td>Male</td>
<td>21.3 %</td>
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<tr>
<td>Born in the US</td>
<td>71.8 %</td>
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<tr>
<td>Born outside of the US</td>
<td>27%</td>
</tr>
</tbody>
</table>

Figure 1. Racial Identity of self-identified Health Care Professionals

Most participants (36.8%) are in the early stages of their career (1-10 years). Figure 2 displays participants’ reported career stage.

The majority of the sample identified as an allied health professional (42.5%), with mental health professionals making up 24.1% of the sample and DO/MDs making up 32.8% of the sample. Further, slightly more than half of the participants do not work in a hospital (59.8%) and do not work directly with COVID19 patients (65.5%). Figures 3-5 depict this information.

Figure 2. Career Stage

Figure 3. Profession

Figure 4. Work Setting

Figure 3. Exposure to COVID19
The following section will provide a brief overview of participant’s current experience with worry and mental health related to COVID-19. The first section of this overview will review participant worry related to COVID-19. The following section will then review changes in participants’ mental health related to the onset of the pandemic.

### Worry

94.8% of survey respondents are worried about the COVID-19 pandemic. Survey participants were asked to choose what they were most worried about related to the COVID-19 pandemic. “The risk that their family and relatives would be infected” was most frequently selected, however “the consequences of my functional ability regarding family, work, or social relationships,” “isolation from family and/or social environment,” and the danger of the disease were also all selected by the majority of participants.

Participants were asked to rate their degree of worry on a scale of 1 to 9 (1: I’m very little worried, 9: I’m very much worried). Most participants selected 7, indicating a high degree of worry across most of the sample.

Participants were asked to rate how at risk they feel they are for being infected by COVID-19 on a scale of 1 to 9 (1: I’m very little worried, 9: I’m very much worried). Most participants selected 5, indicating they neither feel at risk nor safe from a COVID-19 infection.

Participants were asked to rate the degree to which they feel being infected by COVID-19 would have major consequences on my health (1: strongly disagree, 9: strongly agree) Most participants selected 9, indicating participants felt a COVID-19 infection would have very major consequences on their health.

Participants were asked to rate the extent to which they believe the infection is difficult to treat (1: strongly disagree, 9: strongly agree). Most participants selected 9, indicating they believe the infection is very difficult to treat.
Participants were asked to rate how well prepared their department is for the COVID-19 pandemic (1: strongly disagree, 9: strongly agree). Most participants selected 7, indicating they feel their departments are somewhat prepared.

Participants were asked to rate the degree of which they think it would be important if there was a service offering psychological support regarding their concerns about the pandemic (1: strongly disagree, 9: strongly agree). Most participants selected 9, indicating they think it is very important that there is a service offering psychological support.

For the following questions, participants were asked if they feel they’ve received sufficient information on various dimensions of the COVID-19 pandemic. They rated the extent to which they feel they believe that they have heard sufficient information about that item on a scale of 1 to 9 (1: strongly disagree, 9: strongly agree). The items and participant responses are as follow:

1. COVID-19 Symptoms – 9. Participants feel as though the information they have received regarding COVID-19 symptoms is very sufficient.
2. COVID-19 Prognosis – 9. Participants feel as though the information they have received regarding COVID-19 prognosis is very sufficient.
3. COVID-19 Treatment – 5. Participants feel as though the information they have received regarding COVID-19 prognosis is neither sufficient nor insufficient. However, it should be noticed there was not a strong consensus for this question. Participants responded almost as frequently with a score of 7, or 9, with a less frequent but still sizable number of participants responding with a score of 3, 4, 6, and 8.
4. COVID-19 Infection Route – 9. Participants feel as though the information they have received regarding COVID-19 infection route is very sufficient.
5. COVID-19 Preventative Measures – 9. Participants feel as though the information they have received regarding COVID-19 preventative measures is very sufficient.
FINDINGS

Participants were asked to rate the degree to which they believe that their department provided clear information about the COVID-19 pandemic (1: strongly disagree, 9: strongly agree). Most participants selected 8, indicating they think it is their department has provided mostly clear information about the COVID-19 pandemic. However, it should be noted that 67 participants (38.5% of participants) did not respond to this question.

Participants were asked to rate the degree to which they believe that overall, the information they have heard about COVID-19 has been clear (1: strongly disagree, 9: strongly agree). Most participants selected 9, indicating overall the information they have received has been very clear. However, it should be noted that many participants selected scores ranging from 5-9.

After they have all the information they need about an infectious illness and its treatment, some people prefer not to get any more details, and others prefer to get additional information. Participants were asked to indicate their preference (1: no more details than needed, 5: as many details as possible). Most participants selected 5, indicating they want as many details as possible.

75.90% of participants have restricted social contacts because their work environment is considered “dangerous.”

21.8% of participants feel that their family members and friends avoid contact with them because they work in a “high-risk” environment.

20.1% of participants have been so concerned about COVID-19 that they would take a leave to avoid going to work.

Participants were asked to rate how possible would it be to avoid their duties in an emergency situation due to COVID-19 on a scale of 1-9 (1: strongly disagree, 9: strongly agree). Most participants selected 2. However, it should be noted that there was not a strong consensus across participants regarding this question.
Mental Health

On a scale of 1-4 (1 – Better than usual, 2 – Same as usual, 3 – Worse than usual, 4 – Much worse than usual), participants were asked to report if they have recently...

1. Been able to concentrate on what you are doing? – 2. Participants reported being able to concentrate the same amount recently.
2. Felt that you are playing a useful part in things? – 2. Participants reported feeling they are playing a useful part in things the same amount recently.
3. Felt capable of making decisions about things? – 2. Participants reported feeling they are capable of making decisions the same amount recently.
4. Been able to enjoy your normal day-to-day activities? – 3. Participants reported feeling their ability to enjoy normal day-to-day activities has been worse than usual.
5. Been able to face up to your problems? – 2. Participants reported feeling they have been able to face up to their problems the same amount recently.
6. Been feeling reasonably happy, all things considered? – 2. Participants reported feeling reasonably happy, all things considered the same amount recently.

On a scale of 1-4 (1 – Not at all, 2 – No more than usual, 3 – Rather more than usual, 4 – Much more than usual), participants were asked to report if they have recently...

1. Lost much sleep over worry? – 3. Participants reported losing sleep over worry more than usual.
2. Felt constantly under strain? – 3. Participants reported feeling constantly under strain more than usual.
3. Felt you couldn’t overcome your difficulties? – 2. Participants reported feeling they couldn’t overcome their difficulties any more than usual.
4. Been feeling unhappy or depressed? – 3. Participants reported feeling unhappy or depressed more than usual.
5. Been losing self confidence in yourself? – 1. Participants reported not losing self-confidence at all.
6. Been thinking of yourself as a worthless person? – 1. Participants reported not thinking of themselves as a worthless person at all.


WORRIES AND CONCERNS RELATED TO WORKING DIRECTLY WITH COVID19 PATIENTS BROKEN DOWN BY PROFESSION

Health Care Professionals

For this report, we identified HCPs as physicians (MD or DO). The majority of HCPs respondents (61.4%) do not work with COVID-19 patients, while 38.6% of the HCPs work with COVID-19 patients.

Healthcare professionals (MDs and DOs) working with COVID-19 patients are worried and concerned:

1. The risk of being infected.
2. Tervice offering psychological support regarding my concerns about the pandemic
3. Feeling that they are playing a useful part in things
4. Feeling reasonably happy, all things considered
5. Loosing much sleep over worry
6. Feeling constantly under strain

Allied Health Professionals (AHPs)

For this report, we identified AHPs were identified as physician’s assistants (PA), nurses (APNs, RN, CNMS, CRNAs etc), mental health workers, scientists/researchers, administrative staff and students. Fifty seven percent of the respondents are AHPs (57%) and do not work with COVID-19 patients, while out of those who responded (43%) are AHPs working with COVID-19 patients.

Allied Health Professionals working with COVID-19 patients are worried and concerned about:

1. The risk of being infected.
2. Hearing sufficient information about the following: COVID-19 Preventive Measures
3. The additional information they receive after having all the information they need about an infectious illness and treatment
4. Avoiding their duties in an emergency situation due to COVID-19
5. Feeling constantly under strain

FINDINGS

1. How you recently: Been able to face up to your problems?

2. How you recently: Felt constantly under strain?

3. How you recently: Felt you couldn’t overcome your difficulties?

4. How you recently: Been feeling unhappy or depressed?

5. How you recently: Been losing self confidence in yourself?

6. How you recently: Been thinking of yourself as a worthless person?
Mental Health Professional (MHP)
The majority of the MHPs (83.3%) do not work with COVID-19 patients, while (7%) of MHPs work with COVID-19 patients.

Mental Health Professionals are working with COVID-19 patients are worried and concerned that their department is well prepared for the COVID-19 pandemic.

RELATIONSHIP BETWEEN COVID-19 MEASURES AND MENTAL HEALTH

This section describes the relationship, or correlation, between different demographic information, COVID-19 related measures, and mental health. It is important to keep in mind that correlation does not equal causation, meaning that one cannot say one of these variables caused the other. Correlational analysis yielded three main takeaways:

Experience Matters.
Health care professionals who have been in the field less time have been losing confidence in themselves compared to HCPs with more experience, (r = -.23, p < .01)

More worry, more problems.
HCPs with a higher degree of worry believe...  
- ...that they have a HIGHER RISK OF CONTRACTING COVID-19, (r = .41, p < .01)  
- ...A COVID-19 DIAGNOSIS WILL RESULT IN MORE ADVERSE HEALTH OUTCOMES, (r = .46, p < .01)  
- ...COVID-19 IS DIFFICULT TO TREAT, (r = .38, p < .01)

Compared to their less worried peers, HCPs with a higher degree of worry suffer from more adverse psychosocial outcomes, such as:
- LOSING SLEEP over worry (r = .50, p < .01)  
- Feeling CONSTANTLY UNDER STRAIN (r = .401, p < .01)  
- Feeling like they COULD NOT OVERCOME DIFFICULTIES (r = .291, p < .01), and  
- FEELING UNHAPPY OR DEPRESSED (r = .31, p < .01).

Clear and Concise Communication is essential.
HCPs who believed their departments did not provide clear information about the COVID-19 pandemic have been feeling...
- UNABLE TO OVERCOME DIFFICULTIES (r = -.19, p < .05),  
- UNHAPPY AND DEPRESSED (r = -.27, p < .05),  
- LOST SELF-CONFIDENCE (r = -.23, p < .05), and  
- WORTHLESSNESS (r = -.25, p < .01).

Specifically, not hearing sufficient information about COVID-19 preventative measures was associated with recent feelings of
- POORER MOOD (r = -.18, p < .05) and  
- LOSING SLEEP over worry (r = -.26, p < .01).

This relationship does not exist for information regarding COVID-19 treatment nor infection route.

Lastly, HCPs who prefer to hear no more details than necessary are more able to enjoy their normal day-to-day activities (r = -.21, p < .05).
KEY TAKEAWAYS

1. Since the beginning of the pandemic, most professionals:
   - Have not been able to enjoy normal day-to-day activities
   - Have lost sleep over worry
   - Feel constantly under strain
   - Have been feeling unhappy or depressed

2. A majority of respondents to this survey are worried about:
   - COVID-19 generally
   - The consequences of a COVID-19 infection would have on their health
   - The difficulty of treating the disease

3. A majority of respondents to this survey:
   - Feel it is important to have psychological support regarding their concerns about the pandemic
   - Feel constantly under strain
   - Have been feeling unhappy or depressed
   - Are restricting social contacts because of their dangerous work environment

4. Health Care Professionals (HCPs) working with COVID-19 patients predicts worries and concerns about:
   - Being infected, feeling useful, feeling happy, ability to sleep, feeling under strain.
   - Feel constantly under strain

5. Allied Health Professionals (AHPs) working with COVID patients predicts concerns about:
   - Being infected, hearing sufficient information about COVID-19, the likelihood of avoiding duties in an emergency situation

6. Mental Health Professional (MHPs) working with COVID-19 patients predicts:
   - Concerns that their department is will prepared for the pandemic

7. Health care professionals who have been in the field less time have been losing confidence in themselves compared to HCPs with more experience, $r = -.23$, $p < .01$

8. Compared to their less worried peers, HCPs with a higher degree of worry suffer from more adverse psychosocial outcomes, such as:
   - Losing sleep over worry ($r = .50$, $p < .01$)
   - Feeling constantly under strain ($r = .401$, $p < .01$)
   - Feeling like they could not overcome difficulties ($r = .291$, $p < .01$)
   - Feeling unhappy or depressed ($r = .31$, $p < .01$)

9. Not hearing sufficient information about COVID-19 preventative measures was associated with poorer mood ($r = -.18$, $p < .05$) and losing sleep over worry ($r = -.26$, $p < .01$).
It is clear that the COVID-19 pandemic has had a palpable impact on health care professionals’ mental health. The following recommendations are based on the insights gathered from the data.

**INDIVIDUAL LEVEL**

1. Professionals that are experiencing sleep difficulties due to worry might benefit from sleep hygiene practices including:
   - Ensure the bedroom is only used only for sleeping or intimate activity
   - Develop a ritual or routine before going to bed
   - Avoid screens two to three hours before bed
   - Avoid stimulants such as caffeine or alcohol before bed

2. Professionals experiencing depressed mood or constant strain might engage self-care including but not limited to:
   - **For high stress moments:**
     - Journaling about the impact of stress on your emotions
     - Deep Breathing. Breath in for five seconds, hold your breath for five seconds, and exhale for five seconds. Repeat this multiple times.
     - Progressive muscle relaxation. Starting with your head, tense all the muscles you can in your face for a few seconds, then relax. Repeat this with all the muscles in your body moving down your neck all the way down to your toes.
   - **For long term self-care:**
     - Seek individual counseling or therapy
     - Adopt self-soothing practices such as meditation

**ORGANIZATIONAL LEVEL**

1. Provide stress management workshops that will have a positive impact on employees’ wellness.

2. Create a culture of caring by ensuring professionals feel able to voice concerns about their mental health without fear of putative repercussions. This may include:
   - The creation of an onsite support group
   - Implementation of policies that allow for “mental health days” (similar to “sick days”) in which overly stressed employees are granted time to engage in self-care
   - Provide employees the opportunity to provide feedback about the workplace with the ability to do so anonymously

3. Make sure people are not doing multiple shifts.

4. Improve patient to provider ratio.

5. Filter information to employees to avoid information overload.
   - However, this filtering should not censor information or degrade the quality of the information employees receive. Organizations employing individuals impacted by the pandemic should continue to provide clear and concise information to their employees about all aspects of the pandemic and its impact.
   - Organizations might choose to allow employees to “opt-in” to a newsletter containing the most up-to-date news.

6. Ensure adequate resources and material are immediately available. This should include:
   - Technology to provide telecare (e.g., the availability of tablets and other devices)
   - PPE
   - COVID Testing
   - Onsite Counseling
**RECOMMENDATIONS**

**POLICY LEVEL**

1. Increase funding to support mental health care initiatives for providers
2. Eliminate sources of stress that may be contributing to providers’ psychological burden such as financial stressors (e.g., student loans)
3. Increase access to all health care needs
   - Ensure insurance companies provide more ongoing and long-term mental health care
   - Ensure adequate health care is accessible both geographically and financially to prevent overwhelming individual organizations.

**LIMITATIONS**

The following limitations of this study should be noted. While a sample size of 174 participants was large enough to run statistical analysis, a sample of this size cannot be fully representative of the vast number of health care professionals working tirelessly across the nation. Further, this data is not stratified by specialty. Therefore, we are unable to distinguish between how individuals that specialize within the fields of mental health care, allied health care, and doctors of osteopathic medicine or doctors of medicine may be differentially impacted by COVID-19. Lastly, our data is also limited by all of our data being self-reported.

Future studies may go beyond exploring the psychological impact of COVID-19 on health care professionals and examine how the psychological impact itself might have implications regarding health care providers’ ability to engage with all aspects of their work. Further, future studies may explore the long-term impacts of the psychological stress on health care providers such as the possible development of PTSD or physiological consequences.

If you have questions specific to the study or about your rights as a research participant please contact:

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Individuals interested in completing this survey may find it by following this link:
https://umiami.qualtrics.com/jfe/form/SV_7VAaDnJqANlYuXvb or scanning the QR code. Your responses will be incorporated into future reports.