

### Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

**Supplementary Appendix**

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### **Acknowledgements**

We thank all Health Care Workers for disseminating this survey and their selfless acts during this pandemic.

We also like to extend our appreciation to the administrators of the following social groups for allowing us to share on their platform.

#### *Social Media (Facebook)*

COVID19 Physician and Healthcare Group  
EM DOC  
Young Black African American Doctors  
Nurse Solidarity COVID-19  
Hospice Nursing  
Physician Side Gigs  
Long Term Care Nursing  
Hospice Nursing  
FemInEm  
Progressive EM Docs  
Health Care Workers

#### *Social Media (WhatsApp)*

EM-COVID-19  
Highland Homies  
Scholars and Friends

### Survey Questions

Q1 You are being invited to participate in a survey assessing the risk of exposure to COVID-19, availability of testing, and psychosocial wellbeing amongst healthcare workers. This survey is being conducted for research purposes and requires only a few minutes of your time to complete with an electronic device. There are no risks to participating in the survey and your participation is completely voluntary. You may withdraw from the survey at any time. No identifiable information will be gathered and the information you provide will remain anonymous. Thank you for your time.

---

Q2 Are you an essential health worker who interacted with a COVID-19 patient in the past six months?

If so, please fill out this 5 minute survey to help us understand the resources and support you have/had in the past six months.

---

Q3 In the past six months have you taken care of COVID patients or suspected COVID patients?

Yes

No

---

Q4 What is your gender?

Male

Female

Other (Please specify): \_\_\_\_\_

Prefer not to answer

---

Q5 What is your age?

\_\_\_\_\_

---

Q6 What is your race or ethnicity? Please select all that apply:

- Caucasian
- Hispanic, Latino or Spanish
- Black or African American
- Asian American
- American Indian or Alaska Native
- Middle Eastern or North African
- Native Hawaiian or Other Pacific Islander
- Other race or ethnicity (please specify): \_\_\_\_\_
- 

Q7 What city and state do you work in?

\_\_\_\_\_

---

Q8 What is the zip code of your primary institution?

\_\_\_\_\_

---

Q9 What is your clinical setting? Please select all that apply:

- Academic Institution
  - Community Hospital
  - Pre-Hospital/Ambulance
  - Outpatient clinic
  - City Hospitals
  - For-profit institutions
  - Governmental Institution (VA, Federal Prisons...etc)
  - Long Term Care Facility/Skilled Nursing Facility (Non-Profit)
  - Long Term Care Facility/Skilled Nursing Facility (Commercial)
  - Other(s) (Please specify): \_\_\_\_\_
-

Q10 What's your role in the hospital?

- Physician-Attending
  - Physician- Resident
  - Physician-Fellow
  - Physician Assistant
  - Nurse Practitioner
  - General Nurse
  - Registered Nurse
  - Pharmacist
  - Emergency Medicine Services (e.g. EMT, paramedic)
  - Patient Tech/Nursing Assistant/Medical Assistant
  - Respiratory Therapist
  - Social Worker
  - Care Coordinator
  - Non-clinical (eg, clerical, administrative, information technology, secretarial, etc).
  - Other (please specify): \_\_\_\_\_
-

Q11 What is your specialty (for medical professionals)?

- Emergency Medicine
  - Anesthesiology
  - Family Medicine
  - Infectious Disease
  - Internal Medicine (Outpatient)
  - Internal Medicine (Inpatient)
  - Internal Medicine (Critical Care)
  - Internal Medicine (Other subspecialties)
  - Surgery (General)
  - Surgery (Other)
  - OB-GYN
  - Pediatrics
  - Palliative Care
  - Psychiatry
  - Other (please specify): \_\_\_\_\_
  - NA
-

Q12 In which setting did you practice in the past six months while taking care of COVID patients?

- Emergency Medicine
- ICU
- Inpatient hospital/Hospitalist
- Pre-hospital Setting
- Palliative Care Unit
- Outpatient Clinic
- Labor and Delivery
- Long term care facility/Nursing Home
- Operating Room
- Other(s) (please specify): \_\_\_\_\_

Q13 In your opinion, how frequently was **Personal Protective Equipment (PPE)** available at your primary institution?

- All of the time
- Most of the time
- Half of the time
- Rarely
- Never

Q14 In the past six months, did you receive training on how to wear PPE?

- Yes
- No

---

*Display This Question:*

*If In the past six months have you taken care of COVID patients or suspected COVID patients? = Yes*

Q15 Approximately how many COVID-19 patients did you treat in the past six months? (Please note: the number does not need to reflect only suspected and/or laboratory confirmed cases)

- 1 – 10
- 11-50
- 51-100
- Over 100
- NA (Did not treat any COVID patients)

---

*Display This Question:*

*If In the past six months have you taken care of COVID patients or suspected COVID patients? = Yes*

Q16 What percentage of your working hours put you in close contact with COVID Patients?

- Less than 25%
- 25-50% of the time
- Over 50% of the time
- NA (Did not treat any COVID patients)
-

Q17 Were you ever present during an aerosolizing procedure (intubation , BiPAP, nebulization etc....) with a confirmed COVID case or Person Under investigation (PUI) for COVID?

- Yes
- No
- Unsure
- NA (Did not treat any COVID patients)
- 

Q18 In the past six months (during the COVID outbreak), did you have COVID symptoms?

- Yes
- No
- Unsure
- 

*Display This Question:*

*If In the past six months (during the COVID outbreak), did you have COVID symptoms? = Yes*

*Or In the past six months (during the COVID outbreak), did you have COVID symptoms? =  
Unsure*

Q19 When did you first develop symptoms? Please specify the approximate mm/dd/yyyy:

---

*Display This Question:**If In the past six months (during the COVID outbreak), did you have COVID symptoms? = Yes**Or In the past six months (during the COVID outbreak), did you have COVID symptoms? =  
Unsure*

Q20 Please choose all symptoms that apply and/or specify if "other":

- Cough
  - Shortness of Breath
  - Fever/Chills
  - Fatigue
  - Headache
  - Sore throat
  - Muscle aches
  - Nausea, vomiting, diarrhea
  - Loss of smell
  - Loss of taste
  - Weight loss
  - Other (please specify): \_\_\_\_\_
-

Q21 The next set of questions pertain to COVID testing.

---

Q22 Did you receive COVID testing?

Yes

No

---

*Display This Question:*

*If Did you receive COVID testing? = Yes*

Q23 What kind of test(s) did you receive (select all that apply)? Please specify how many times you were tested for each in the text box.

PCR (Nasal swab and/or Oropharyngeal): \_\_\_\_\_

Antibody: \_\_\_\_\_

Neither: \_\_\_\_\_

Other (please specify test type(s) and how many times you were tested): \_\_\_\_\_

Unsure/Don't Know

---

*Display This Question:*

*If Did you receive COVID testing? = Yes*

Q24 Where did you receive the testing? (Please select all that apply):

- Department of Health
- Primary Institution (Employee Health, Workforce Health or other centers arranged by your institution)
- Primary Care Doctor
- Urgent Care Visit
- Emergency Department
- Other (please specify): \_\_\_\_\_

*Display This Question:*

*If Did you receive COVID testing? = Yes*

Q25 When were you first tested? Please specify the approximate mm/dd/yyyy:

\_\_\_\_\_

*Display This Question:*

*If Did you receive COVID testing? = Yes*

Q26 Did you ever test positive?

- Yes
- No
- Unsure/Don't Know

*Display This Question:*

*If Did you ever test positive? = Yes*

Q27 Which test(s) were positive? Select all that apply:

- PCR (Nasal swab or Oropharyngeal)
- Antibody
- Other (please specify): \_\_\_\_\_

Q28 The next set of questions pertain to COVID isolation practices.

Q29 In the past six months, while caring for COVID patients, did you isolate yourself from family members that you usually cohabit with?

- Yes
- No

Q30 What isolation mechanism/precautions did you take? Please select all that apply:

- Sent co-habitants (kids, partners, parents) away from home
- Moved into a different place or house temporarily
- Took all the necessary precautions (i.e. handwashing and physical distancing), and continued to live with the cohabitants
- Live alone so I did not need to self-isolate
- I did not take any precautions at home

Q31 If you tested positive or had symptoms of COVID, did any of your family members contract the disease from you?

- Yes
  - No
  - Unsure
  - NA
- 

*Display This Question:*

*If you tested positive or had symptoms of COVID, did any of your family members contract the disease = Yes*

Q32 Did your family member die from this disease?

- Yes
  - No
  - Unsure
- 

Q33 Did anyone in your family (both immediate/extended) die from COVID?

- Yes
  - No
- 

Q34 **The next set of questions pertain to COVID exposure.**

---

Q35 Did you have a coworker that contracted COVID?

- Yes
- No
- Unsure
- 

Q36 Do you know anyone in YOUR DEPARTMENT who is/was ADMITTED to the hospital because of COVID?

- Yes (please specify the number of individuals): \_\_\_\_\_
- No
- Unsure
- 

Q37 Do you know anyone in YOUR DEPARTMENT who DIED because of COVID?

- Yes (please specify the number of individuals): \_\_\_\_\_
- No
- Unsure
-

Q38 Over the last 2 weeks, how often have you been bothered by the following:

	Not at all	Several days	More than half the days	Nearly every day
Little interest or pleasure in doing things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling down, depressed or hopeless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling nervous, anxious or on edge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not being able to stop or control worrying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q39 I feel burned out from my work

- Never
- A few times a year or less
- Once a month or less
- A few times a month
- Once a week
- A few times a week
- Every day

Q40 We are interested in learning more about your experience(s) during COVID. We understand everyone's experiences might be different but we want to know if you were provided the necessary equipment and psychosocial support during this pandemic.

Feel free to tell us more here:

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Q41 If you are concerned that you or a family member may be infected with COVID-19 (Coronavirus Disease), please contact your primary care physician or local healthcare provider. Additionally, please refer to CDC's guidelines and resources [here](#).

If you need mental health support, please refer to the CDC's mental health guidelines and resources [here](#).

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Q42 If you have any questions/comments feel free to contact any of the investigators listed below:

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**Please click the arrow button to officially complete the survey**

End of Survey

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**Supplement Table 1: Checklist for Reporting Results of Internet E-Surveys (CHERRIES)**

Item Category	Explanation
Design	We conducted a cross sectional voluntary survey, using a convenience sample of US health care workers who worked during the COVID-19 pandemic.
IRB (Institutional Review Board) approval and informed consent process	<p><b>Approval:</b> The study was reviewed and deemed exempt from IRB approval by the Columbia University Irving Medical Center Institutional Review Board.</p> <p><b>Informed consent:</b> Informed consent information was displayed to participants on the welcome page of the survey. The welcome page stated the purpose of the survey, the 5-minute length, that the survey was voluntary and participants could withdraw at any time, that there were no risks to participating in the survey, no identifiable information would be gathered and the information provided would remain anonymous. Those who chose to continue were then asked eligibility questions: health care worker, interacted with COVID-19 patients in the last six months.</p> <p><b>Data Protection:</b> No personally identifiable information was collected.</p>
Development and pre-testing	Content of the survey was evaluated by an expert consensus panel of five board certified physicians, one epidemiologist with training in biostatistics, one medical student and one public health student, who also performed a narrative review of potential risk factors for COVID-19 infection risk (e.g. disease exposure, place of work environment, gender, race and more ) to evaluate for other missing questions to be included.
Recruitment process and description of the sample having access to the questionnaire	<p><b>Survey type:</b> Data was collected using an open survey.</p> <p><b>Contact mode:</b> Initial contact with participants was made on the Internet.</p> <p><b>Advertising:</b> The survey was disseminated using various Social Media Platforms (Facebook, Twitter, Instagram), and health care professional social media groups with a QR scan code and a link that directed participants into a HIPAA approved Qualtrics web survey</p>
Survey Administration	<p><b>Web/E-mail:</b> This was an electronic web survey using the Qualtrics platform. Captured responses were automatically recorded into a database.</p> <p><b>Context:</b> The survey was disseminated using various Social Media Platforms (Facebook, Twitter, Instagram), and health care professional</p>

	<p>social media groups with a QR scan code and a link that directed participants into a HIPAA approved Qualtrics web survey which required 5 minutes to complete. The survey was posted on Whatsapp groups and Facebook groups listed below. Moreover, the authors posted on their social media pages (Twitter, Facebook and instagram) and tagged healthcare workers.</p> <p>.</p> <p><b>Facebook Groups:</b> Nurse Solidarity COVID-19, Long Term Care Nursing, Hospice Nursing , Progressive EM Docs, physician side gigs</p> <p><b>WhatsApp Groups:</b> EM-COVID-19, highland homies, scholars and friends</p> <p><b>Mandatory/voluntary:</b> The survey was completely voluntary. Participants could withdraw from the survey at any time by exiting the browser.</p> <p><b>Incentives:</b> Survey participants did not receive incentives to participate in the survey.</p> <p><b>Time/Date:</b> Distribution and advertising of the survey began on May 14<sup>th</sup> 2020 and the survey was closed May 20<sup>th</sup> 2020.</p> <p><b>Randomization:</b> Randomization of items was not performed.</p> <p><b>Adaptive Questioning:</b> Adaptive questioning was used on some items, determining if additional questions were shown based on a survey response.</p> <p><b>Number of Items:</b> This was a 42-item survey with a maximum of 4 questions per page</p> <p><b>Number of screens:</b> 19 screens</p> <p><b>Completeness check:</b> Completeness was checked after survey completion.</p> <p><b>Review step:</b> Participants were able to go back to previous questions at any time before final submission and a progress bar was visible throughout the survey.</p>
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Response rates	<p><b>Unique site visitor:</b> Qualtrics assigns a unique response ID based on participant IP address. Qualtrics's anonymized response feature was enabled so participant IP addresses were not viewable by the research team.</p> <p><b>View rate:</b> Data not recorded.</p> <p><b>Participation rate:</b> Data not recorded.</p> <p><b>Completion rate:</b> There were 3083 total participants and 1,771 participants who completed the survey in its entirety. 2,040 participants completed at least 80% survey. Completion rate = 57.4%.</p>
Preventing multiple entries from same individual	<p><b>Cookies:</b> Cookies were not assigned.</p> <p><b>IP Check:</b> IP addresses were not recorded.</p> <p><b>Log file analysis:</b> Not used.</p> <p><b>Registration:</b> Not applicable.</p>
Analysis	<p><b>Handling of incomplete questionnaires:</b> We included data from all survey respondents who completed 80% or more of the survey. This was because 80% of data set answered the primary research question.</p> <p><b>Questionnaires with atypical timestamp:</b> No time frame cutoff specified.</p> <p><b>Statistical correction:</b> We acknowledge that this is a convenience sample in our limitations. Given the lack of population-level estimates of the composition of HCWs working during the COVID-19 pandemic, we did not have a sufficient population distribution to which we could weigh our sample.</p>

### Appendix References

1. Eysenbach G. Improving the quality of Web surveys: the Checklist for Reporting Results of Internet E-Surveys (CHERRIES). *J Med Internet Res* 2004;6:e34.