

Box S1: Survey Instrument, Follow up.

1st Follow-up Survey: An Assessment of Anxiety Levels and Stressors in Health Care Providers during the COVID 19 Pandemic

1. Have you had direct patient care contact **since April 1**? Yes _____ No _____(if no, skip to 6)

2. Have you suspected COVID-19 virus infection in any of the patients that you have seen **since April 1**?
Yes_____ No_____ (if no, skip to question 6)

3. Approximately how many patients have you suspected of having COVID-19? _____

1-5 6-10 11-20 21-50 51-100 101 -200 201-500 > 500

4. What % of these patients that you suspected of having COVID-19 received the swab test for COVID-19? (*by this we mean the test specifically for COVID – not the tests for other pathogens*) _____(0-100%)

5. Approximately how many of these patients tested positive for COVID-19

1-5 6-10 11-20 21-50 51-100 101 -200 201-500 > 500

6A. Please check the most appropriate answer:

- I have not been tested for COVID-19 by swab test.
- I have been tested for COVID-19 by swab test and it (at least one test) was positive.
- I have been tested for COVID-19 by swab test and it was negative.

6B. Please check the most appropriate answer:

- I have not been tested for COVID-19 by blood (serologic) test.
- I have been tested for COVID-19 by blood (serologic) test and it was positive.
- I have been tested for COVID-19 by blood (serologic) test and it was negative.

7. If you have not had the serologic test for past exposure to COVID-19, have you wanted to have it?

Yes No Unsure

7a. If yes, check all that apply

- I have had mild symptoms that could have been COVID-19
- I would like to be able to tell my family and friends that I have been tested
- I believe that all health care workers should be screened/tested in this way
- It would help me prepare for the next weeks to months
- My friends and family have requested this
- It would help relieve my anxiety/stress
- Other _____

7b. If no or unsure, check all that apply

- I don't believe the test is accurate enough
- Serology testing does not tell me enough about my true immunity to COVID-19
- My test results could be used negatively against me
- Knowing my results would increase my anxiety/stress
- Testing is inconvenient

Other _____

8. **Over the past week**, how much has the COVID-19 pandemic affected your stress or anxiety levels (circle one)?

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

9. To what extent are you experiencing the following worries and concerns about COVID-19?
Provide a number for each statement using the 1-7 scale below:

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

I worry that I may be secondarily exposing family members or others because of my work
I worry that my income over the next several months will be impacted by changes in hospital or ED volumes and shortcomings in income at the medical center.
I worry that colleagues and staff at my medical center will be furloughed or let go because of medical center income loss
I worry about my fulfillment with my work given the change in delivery of ED care (mask and faceshields) that is less personal, and with minimal patient contact.
I worry that I will not be able to adequately care for my dependents (children, elderly and others), given my clinical duties.
I worry that patients with unclear diagnoses are exposing others in the community.

I worry that changes in the prehospital and hospital care for cardiac arrest, respiratory failure and critically ill patients in the era of COVID-19 are not best practices given efforts to mitigate exposure and risk to healthcare providers.

I worry that others at home or elsewhere are afraid to come in contact with me because I'm a health care provider

I worry that we are having to send patients home without a clear diagnosis

I worry that our ED, clinic, or hospital is not prepared enough for a surge in cases.

I worry that we will not have enough staffing as co-workers are quarantined

I worry that the relaxing of social distancing is going to lead to a large second wave of cases.

I worry that the personal protective equipment (PPE) is unavailable or inadequate

I worry about the well-being of co-workers who have been diagnosed with COVID-19

I worry that we are not able to accurately diagnose COVID-19 cases quickly enough

I worry that I might have to undergo quarantine and will not be able to work

10. Have you changed your behavior with friends and family **as a result of your ongoing risk of exposure as a healthcare worker** during the pandemic? Yes No Unsure

11. If yes, what have you done? (Check all that apply)

- I have decreased my signs of affection (hugging, kissing) with romantic partner(s)
- I have decreased my signs of affection (hugging, kissing) with my family and friends
- I have decreased my activities like food preparation for family and friends
- I have decreased dependent care that involves my direct contact
- I wear gloves or a mask around the home
- I have discussed risks of my potential exposure as a health care worker with family and friends

12. How much do you believe that your friends and family are treating you differently **as a result of your work and potential exposure to COVID-19?**

1	2	3	4	5	6	7
Not at all			Somewhat			Extremely

13. If you believe that your friends and family are treating you differently, how? (check all that apply)

- They are showing less affection towards me
- They are reluctant to be in close contact with me
- They have avoided activities with me that they used to do
- They have expressed concerns about my health
- They have expressed concerns about their potential exposure because of me
- Other _____

14. To what extent do you agree or disagree with the following statements:

1	2	3	4	5	6	7
Strongly disagree	Disagree	Somewhat disagree	Neither disagree nor agree	Somewhat agree	Agree	Strongly agree

Knowing my prior exposure and immunity to COVID-19 by serologic (blood) testing would decrease my anxiety.

I have adequate access to personal protection equipment (PPE).

I can order tests for patients suspected of having COVID-19 at my discretion.

I have an accurate estimate of my risk for getting COVID-19 from my work as a health care provider.

I can easily take leave from work to care for myself and my family members.

I can easily request and obtain COVID-19 testing for myself.

I have easily available rapid turnaround testing for COVID-19 for my patients.

Communication about changes in COVID-19 protocols has been clear over the past month.

I can easily get childcare for my children and assistance for my other dependents so that I can continue to work

15. **Over the past week**, to what extent are you experiencing severe, ongoing job stress where you feel emotionally exhausted, burned out, cynical about your work, and fatigued even when you wake up?

1	2	3	4	5	6	7
Not at all			Somewhat			Very much

16. **Over the past week:**

a) How much sleep have you gotten per night, on average, this week? _____ (# of hours)

b) How much trouble have you had falling asleep or staying asleep over the past week?

1	2	3	4	5	6	7
No trouble at all			Some trouble			Extreme trouble

c) How rested have you felt upon awakening, on average, this week?

1	2	3	4	5	6	7
Not at all rested			Somewhat rested			Fully rested

17. **Over the past week**, have you

a) had nightmares related to the pandemic or thought about the pandemic when you did not want to?

Yes No

b) tried hard not to think about the pandemic or gone out of your way to avoid situations that reminded you of it? Yes No

c) been constantly on guard, watchful, or easily startled? Yes No

d) felt numb or detached from people, activities or your surroundings? Yes No

e) felt guilty or unable to stop blaming yourself or others for the effects of the pandemic or any problems the pandemic may have caused? Yes No

18. Any other comments or issues regarding COVID-19 pandemic related anxiety?

Table S1: Demographics and responses to the initial survey for all subjects who completed the initial survey, as well as those who did and did not complete the follow-up survey.

Respondent characteristics		All respondents of initial survey ⁷ (n = 426)	Completed follow-up survey (n = 262)	Did not complete follow-up survey (n = 164)	p value ^c
Age, median (IQR)		35 (31 - 43)	35 (30 - 44)	35 (25 - 41)	
Age range, years		(26-75)	(26-69)	(27-75)	
Female n (%)		192 (45.1)	129 (49.2)	63 (39.1)	
Physician training level n (%)	Faculty	236 (55.4)	149 (56.9)	87 (53.1)	
	Fellow	19 (4.5)	9 (3.4)	10 (6.1)	
	Resident	168 (39.4)	104 (39.7)	64 (39.0)	
Race and Ethnicity n (%)					
	African-American	14 (3.3)	8 (3.1)	6 (3.7)	
	Asian	77 (18.1)	42 (16.0)	35 (21.3)	
	Latinx	36 (8.5)	19 (7.3)	17 (10.4)	
	Native American	1 (0.2)	1 (0.4)	0	
	Pacific Islander	1 (0.2)	0	1 (0.4)	
	White	306 (71.8)	196 (74.8)	110 (67.1)	
Home living situation n (%)					
	Alone	62 (14.6)	37 (14.1)	25 (15.2)	
	With roommate(s)	47 (11.0)	23 (8.8)	24 (14.6)	
	With partner(s)	308 (72.3)	195 (74.4)	113 (68.9)	
	With child < 18 years	166 (39.0)	101 (38.5)	65 (39.6)	
	With adult > 70	9 (2.1)	2 (0.8)	7 (1.3)	
Initial survey items,^a median (IQR)					
How much has the COVID-19 pandemic affected your stress or anxiety levels in the workplace?		5 (4,6)	5 (4, 6)	5 (4, 6)	0.84
How much has COVID-19 pandemic affected your stress or anxiety level at home (outside of work)?		5 (4, 6)	5 (4, 6)	5 (4, 6.75)	0.43
I am being exposed at work and compromising my health.		5 (4, 6)	5 (4, 6)	5 (4, 7)	0.11
I worry that I may be secondarily exposing family members or others because of my work.		6 (4, 7)	6 (4, 7)	6 (5, 7)	0.07
Patients with unclear diagnoses are exposing others in the community.		5 (4, 7)	5 (4, 6)	6 (4, 7)	0.16
We are not able to accurately diagnose COVID-19 cases quickly.		6 (4, 7)	5 (4, 7)	6 (4, 7)	0.10
Personal protective equipment (PPE) is inadequate.		6 (4, 7)	5 (4, 7)	6 (4, 7)	0.02
I worry about the well-being of co-workers who have been diagnosed with COVID-19.		5 (4, 6)	5 (4, 6)	5 (4, 7)	0.27

I worry I might have to undergo quarantine and will not be able to work.	5 (3, 6)	5 (3, 6)	5 (4, 6)	0.70
We will not have enough staffing as co-workers are quarantined.	5 (3, 6)	5 (3, 6)	4.5 (3, 7)	0.89
I worry that others at home or elsewhere are afraid to come in contact with me because I'm a healthcare provider.	5 (3, 6)	4 (3, 6)	5 (3, 6)	0.14
We are having to send patients home without a clear diagnosis.	4 (3, 6)	4 (3, 6)	4 (2, 6)	0.86
PTSD score, ^b median (IQR)	2 (0, 3)	2 (0, 3)	2 (0, 3)	0.96
PTSD score ≥ 3 n (%) ^b	134/419 (32.0)	85/259 (32.8)	49/160 (30.6)	

^a Measured on a 1-7 Likert scale (1 = not at all, 4 = somewhat, and 7= very much).

^b Composite score of 5 items (score range 0 - 5).

^c Comparisons of median response scores in initial survey of those who completed and did not complete the follow up survey,

COVID-19, coronavirus disease 2019; IQR, interquartile range; PTSD, post-traumatic stress disorder.

**Table S2: High levels of stress (6 or 7 on 1-7 Likert scale) and PTSD items (≥ 3)
by sex and level of training (n = 259)**

	Male	Female
Stress and anxiety levels	n (%)	n (%)
	(95% CI)	(95% CI)
(Initial) How much has the COVID-19 pandemic affected your stress or anxiety levels in the workplace? (Score ≥ 6)	46/130 (35.4) (27.2 – 44.3)	65/128 (50.8) (41.8 – 59.7)
(Initial) How much has the COVID-19 pandemic affected your stress or anxiety levels at home (outside of work)? (Score ≥ 6)	43/130 (33.1) (25.1 – 41.9)	63/129 (48.8) (39.9 – 57.8)
(Follow up) Over the past week, how much has the COVID-19 pandemic affected your stress levels? (Score ≥ 6)	17/129 (13.2) (7.9 – 20.3)	25/129 (19.4) (13.0 – 27.3)
Initial survey, PTSD score ≥ 3	29/129 (22.5) (15.6 – 30.7)	55/127 (43.3) (34.5 – 52.4)
In follow up, PTSD score ≥ 3	21/125 (16.8) (10.7 – 24.5)	44/127 (34.7) (26.4 – 43.6)
	Resident	Faculty
	n (%)	n (%)
	(95% CI)	(95% CI)
Initial survey, PTSD score ≥ 3	47/113 (41.6) (32.5 – 50.7)	38/146 (26.0) (19.1 – 33.9)
In follow up, PTSD score ≥ 3	34/109 (31.2) (22.7 - 40.8)	32/146 (21.9) (15.5 - 29.5)

