

Supplemental material

Item 1: Questionnaire

Survey Questions

1. Baseline Demographics

1. Gender
 - a. Male
 - b. Female
 - c. Prefer not to say

2. Age
 - a. Under 25
 - b. 25-34
 - c. 35-44
 - d. 45-54
 - e. 55-64
 - f. 65 or over
 - g. Prefer not to say

3. Ethnicity
 - a. Asian/ Asian British
 - b. Black/ African/ Caribbean/ Black British
 - c. White/Caucasian
 - d. Mixed/ multiple ethnic groups
 - e. Other (please specify)
 - f. Prefer not to say

4. Region of Employment
 - a. East Midlands
 - b. East of England
 - c. Greater London
 - d. Ireland
 - e. North East
 - f. North West
 - g. Northern Ireland
 - h. Scotland
 - i. South East
 - j. South West
 - k. Wales
 - l. West Midlands
 - m. Yorkshire and the Humber
 - n. Other
 - o. Prefer not to say

5. Are you a
 - a. Doctor
 - i. Consultant
 - ii. Clinician Scientist
 - iii. Speciality and Associate Specialist (SAS) Doctor

- iv. Specialty Registrar (staff grade)
 - v. Speciality registrar (in training)
 - vi. Clinical Research Fellow
 - vii. F2/IMT1/IMT2
 - viii. F1
 - ix. Other- - please specify
- b. Nurse
- i. Matron
 - ii. Sister/Charge Nurse
 - iii. Ward-based (senior staff nurse/staff nurse)
 - iv. Dialysis (senior staff nurse/staff nurse)
 - v. Home therapies (senior staff nurse/staff nurse)
 - vi. Transplant nurse/transplant co-ordinator?
 - vii. Research
 - viii. Other - please specify
- c. Physiotherapist
- d. Occupational Therapist
- e. Pharmacist
- f. Dietician
- g. Technician
- h. Lab manager/supervisor
- i. Lab scientist
- j. Patient
- k. Other - please specify
- l. Prefer not to say
6. Who do you live with? (Please tick all that apply)
- a. Alone
 - b. With spouse/partner
 - c. With child/children <18 years old
 - d. With child/children >= 18 years old
 - e. With parent(s)/Relatives
 - f. With friends/house mates
 - g. Other (please specify)
 - h. Prefer not to say
7. Are you a carer for an adult or child with a long term disability (i.e. someone you support with activities of daily living)?
- a. Yes
 - b. No
 - c. Unsure

2. Covid-19

1. Have you contracted Covid-19?

- a. Yes, I am currently infected
 - b. Yes, I had Covid-19 and I recovered
 - c. Yes, I had Covid-19 and I am still suffering from long-term symptoms
 - d. Don't know (I had symptoms but I was not tested)
 - e. No
 - f. Prefer not to say (go to Q3)
 - g. Other
2. When was this (month/year)? White space, enter multiple dates if needed
 3. If you have had COVID and have long-term symptoms, could you describe the impact this is having on your personal and/or professional life?
 4. Have you had your first dose of Covid-19 vaccine? If not go to the question 6
 - a. Yes
 - b. No
 - c. Prefer not to say
 - 4a. If you were offered the vaccine in a manner that was easily accessible, would you opt to be vaccinated? If no, please do share your reasons.
 - a. Yes
 - b. No (white space if selected)
 - c. Prefer not to say
 5. Have you had your second dose of Covid 19 vaccine? If yes, could you please specify how many weeks after the first dose?
 - a. Yes
 - b. No
 - c. Prefer not to say
 - 5a. If you were offered the vaccine in a manner that was easily accessible, would you opt to be vaccinated? If no, please do share your reasons.
 - a. Yes
 - b. No (white space if selected)
 - c. Prefer not to say
 6. Have you had to self-isolate because of Covid-19 positivity or possible exposure to it?
 - a. Yes
 - b. No (go to next section)
 - c. Prefer not to say (go to next section)
 7. How many times have you had to isolate since March 2020?
 8. Have you had to stay at home due to a member of your household needing to isolate due to COVID-19 exposure?
 - a. Yes
 - b. No (go to next section)
 - c. Prefer not to say (go to next section)

9. How many times have you had to stay at home for this reason since March 2020?

10. If you've had to stay at home because either you or a household member had to isolate, did you have to amend your work rota because of this?

- a. Yes
- b. No
- c. Prefer not to say

3. Overall experience

1. Did you feel supported by your department throughout the COVID-19 Pandemic?
 - a. Yes
 - b. No
 - c. Other (please specify)

2. Have you noticed an increase in staff anxiety during the pandemic?
 - a. Yes
 - b. No

3. Have you noticed increased patient anxiety during the pandemic?
 - a. Yes
 - b. No

4. Have you noticed increased aggression towards staff during the pandemic?
 - a. Yes
 - b. No
 - c. Not Sure

5. Are there any other comments about your experience of the COVID-19 pandemic that you would like to share?

6. Is there anything that we can do to support you?

4. Burnout

Due to copyright conditions of Maslach Burnout Inventory™ (MBI) - Remote Online Survey License use, the MBI questions cannot be shared.

5. New patterns of working- rota and workload

1. Prior to the pandemic, I was mostly:
 - a. Working less than full time
 - b. Working full time
 - c. On maternity/paternity/parental leave
 - d. On sick leave
 - e. On hiatus from work
 - f. Retired
 - g. Unsure/not applicable

2. Prior to the COVID-19 pandemic, I worked mainly in:
 - a. Intensive care units
 - b. Hospital – caring for patients with kidney disease
 - c. Hospital – caring for patients without kidney disease
 - d. Academia (research, teaching, management)
 - e. Out of hospital settings involving patients
 - f. Out of hospital settings not involving patients
 - g. Other- please comment

3. Was your job status, plan, role, hours, or rota altered between March 2020 and August 2020?
 - a. Yes
 - b. No
 - c. Unsure

4. During the pandemic, I was mostly:
 - a. Working less than full time
 - b. Working full time
 - c. On maternity/paternity/parental leave
 - d. On sick leave
 - e. On hiatus from work
 - f. Retired
 - g. Unsure/not applicable

5. During the pandemic, I worked mainly in:
 - a. Intensive care units
 - b. Hospital – caring for patients with kidney disease
 - c. Hospital – caring for patients without kidney disease
 - d. Academia (research, teaching, management)
 - e. Out of hospital settings involving patients
 - f. Out of hospital settings not involving patients
 - g. Not applicable
 - h. Other- please comment

6. Did your hours of work change during the pandemic?
 - a. Increased
 - b. No change
 - c. Decreased
 - d. Unsure/Not applicable

7. Did you work more out of hours during the pandemic (outside of Monday to Friday, 08:00AM to 18:00)?
- Yes
 - No
 - Unsure/Not Applicable
8. During the pandemic, did the type of work you do change:
- Yes
 - No
 - Unsure/Not applicable
9. Please describe how your work changed. (Free text)
10. Prior to my change in duties I was given:
- Adequate training to perform my new duties
 - Inadequate training to perform my new duties
 - Not applicable
11. Can you elaborate on your answer to question 10 (Non compulsory free text)
12. My job plan, role or rota changed because of:
- Carer responsibilities
 - Personal choice
 - Departmental restructuring for the pandemic
 - Other (please specify)
 - Unsure
13. Prior to my job status, plan, role, hours worked or rota change, I was given
- Less than 2 weeks notice
 - 2 weeks notice or more
 - Not applicable
14. Please rate from 1-5, (1=significantly worse, 2= slightly worse, 3=neutral, 4= slightly better, 5= significantly better)
- Compared to your previous working arrangement, did your new arrangement improve:
- Fatigue
 - Work-life balance
 - Educational opportunities
 - Continuity of care
 - Development opportunities
 - Senior supervision
 - Sense of team
15. Has your job/rota returned to normal?
- Yes
 - No

c. Not applicable

16. If yes, when did it return to normal (month/year)

17. Was your job status, plan, role, hours, or rota altered after August 2020?

- a. Yes
- b. No
- c. Unsure

18. During the pandemic, I was mostly:

- a. Working less than full time
- b. Working full time
- c. On maternity/paternity/parental leave
- d. On sick leave
- e. On hiatus from work
- f. Retired
- g. Unsure/not applicable

19. During the pandemic, I worked mainly in:

- a. Intensive care units
- b. Hospital – caring for patients with kidney disease
- c. Hospital – caring for patients without kidney disease
- d. Academia (research, teaching, management)
- e. Out of hospital settings involving patients
- f. Out of hospital settings not involving patients
- g. Not applicable
- h. Other- please comment

20. Did your hours of work change during the pandemic?

- a. Increased
- b. No change
- c. Decreased
- d. Unsure/Not applicable

21. Did you work more out of hours during the pandemic (outside of Monday to Friday, 08:00AM to 18:00)?

- a. Yes
- b. No
- c. Unsure/Not Applicable

22. During the pandemic, did the type of work you do change:

- a. Yes
- b. No
- c. Unsure/Not applicable

23. Please describe how your work changed. (Free text)

24. Prior to my change in duties I was given:

- a. Adequate training to perform my new duties

- b. Inadequate training to perform my new duties
- c. Not applicable

25. Can you elaborate on your answer to question

26. My job plan, role or rota changed because of:

- a. Carer responsibilities
- b. Personal choice
- c. Departmental restructuring for the pandemic
- d. Other (please specify)
- e. Unsure

27. Prior to my job status, plan, role, hours worked or rota change, I was given

- a. Less than 2 weeks notice
- b. 2 weeks notice or more
- c. Not applicable

28. Please rate from 1-5, (1=significantly worse, 2= slightly worse, 3=neutral, 4= slightly better, 5= significantly better)

Compared to your previous working arrangement, did your new arrangement improve:

- Fatigue
- Work-life balance
- Educational opportunities
- Continuity of care
- Development opportunities
- Senior supervision
- Sense of team

29. Has your job/rota returned to normal?

- a. Yes
- b. No
- c. Not applicable

29a. When did you rota return to normal? (Month/Year)

30. What aspects of the pandemic working pattern would you:

- a. Want to keep? Free text
- b. Want to lose? Free text

31. Did you experience an increase in workload?

- a. Yes
- b. No
- c. Unsure/Not applicable

32. Would you be able to elaborate? (Free text)

33. Has the pandemic impacted on your ability to treat patients safely?

- a. Yes
- b. No
- c. Not sure

34. If yes, please provide further details

35. Do you feel your ability to see and treat patients in a timely and efficient manner has changed, if at all?

- a. Yes
- b. No
- c. Not sure

36. If yes, please provide further details

6. Remote Working

1. Did you move to remote working during the pandemic (i.e. move to a non-face to face role)?
 - a. Yes: all the time
 - b. Yes: some of the time
 - c. No (Go to page 6)

2. What was the reason for your move to remote working?
 - a. Classed as medically vulnerable.
 - b. Role deemed able to be provided remotely.
 - c. To minimise the number of attendances patients needed to make to hospital.
 - d. To minimise the number of staff working within a confined clinical area.
 - e. Other (please specify).

3. Were the tasks and resources given appropriate to your job role?
 - a. Yes
 - b. No
 - c. Other (please specify)

4. Did you receive appropriate supervision/support?
 - a. Yes
 - b. No
 - c. Other (please specify)

5. Did you have job satisfaction with the service that you were able to provide remotely?
 - a. Yes: all of the time
 - b. Yes: some of the time
 - c. No
 - d. Other (please specify)

6. Did you feel your department valued the service you were providing remotely?
 - a. Yes: all of the time
 - b. Yes: some of the time
 - c. No
 - d. Other (please specify)

7. If a trainee, do you know if your time working remotely will count towards training?
 - a. Yes: all of it
 - b. Yes: some of it
 - c. No: it won't count
 - d. Not sure
 - e. Not applicable

8. If a trainee, would you like your time working remotely to count towards training?
 - a. Yes: all of it
 - b. Yes: some of it
 - c. No
 - d. Not sure
 - e. Not applicable

9. Would you like to continue some form of remote working after the pandemic?
 - a. Yes
 - b. No
 - c. Other (please specify)

10. Please share any comments and experiences you have about your remote working experience over the pandemic. What went well/ less well and what would you hope to do the same/differently in the future?

7. Medical Training Experience

1. Are you currently in a training programme?
 - a. Yes
 - b. No (Go to page 7)

2. Is this
 - a. Renal Specialty training
 - b. Internal Medicine Training
 - c. Foundation training
 - d. Other- please describe

3. Do you feel your training has been affected by the Covid-19 Pandemic?
 - a. Yes
 - b. No

4. Will the length of your training need to be extended because of Covid-19 or are you unable to CCT as planned?
 - a. Yes
 - b. No
 - c. Not Sure

5. Would you like the length of your training need to be extended because of Covid19?
 - a. Yes
 - b. No
 - c. Not Sure

6. How is your time during the COVID pandemic being counted?
 - a. Towards Renal
 - b. Towards GIM/ Acute Medicine/ITU
 - c. Not applicable
 - d. Other- please explain

7. How would you like your time during the COVID pandemic to be counted?
 - a. Towards Renal
 - b. Towards GIM/ Acute Medicine/ITU
 - c. Not counted as training?
 - d. Not Applicable
 - e. Other- please explain

8. Prior to COVID19 were you hoping to go out of programme?
 - a. Yes
 - b. No
 - c. Not Sure

9. Is this still possible?
 - a. Yes
 - b. No
 - c. Not Sure

d. Not applicable

10. Prior to COVID19 were you hoping to spend some time undertaking academic research?

- a. Yes
- b. No
- c. Not Sure

11. Is this still possible?

- a. Yes
- b. No
- c. Not Sure
- d. Not applicable

12. Do you have any unresolved concerns about your training? (white box)

13. Please share any comments and experiences of your training over the pandemic (white box)

8. Looking forwards

1. Has the pandemic altered your career plans? If yes/not sure, how
 - a. Yes
 - b. No
 - c. Not Sure

2. Please explain (white box)

3. Prior to the pandemic, had you considered (yes no)
 - a. Leaving healthcare
 - b. Retraining
 - c. Undertaking research
 - d. Undertaking an academic qualification
 - e. Retiring early

4. Are you currently considering (yes no)
 - a. Leaving healthcare
 - b. Retraining
 - c. Undertaking research
 - d. Undertaking an academic qualification
 - e. Retiring early

Item 2: Details table of survey respondents

	Survey	COVID-19	Long COVID	Burnout	Survey (Doctors only)	GMC (Doctors Only)
Sex	423(100)			207 (100)	140 (100)	1361 (100)
Male	110 (26)	38 (35)	17 (45)	152 (56)	63 (45)	917 (67)
Female	313 (74)	82 (26)	26 (32)	55 (60)	77 (55)	444 (33)
Age group (years)	422 (100)			207 (100)	140 (100)	1361 (100)
Under 25	2 (0.4)	0	0	1 (50)	0 (0)	0 (0)
25-34	63 (15)	25 (40)	6 (24)	31 (61)	25 (18)	18 (1)
35-44	110 (26)	32 (29)	14 (44)	52 (56)	46 (33)	460 (34)
45-54	151 (36)	43 (28)	17 (40)	81 (64)	36 (26)	479 (35)
55-64	91(22)	19 (21)	6 (32)	42 (50)	32 (23)	287 (21)
≥65	5 (1)	1 (20)	0	0 (0)	1 (0)	117 (9)
Ethnicity	416(100)			203 (100)	133 (100)	1213 (100)
Asian/Asian British	69 (17)	28 (41)	17 (61)	26 (68)	27 (20)	319 (26)
Black/Black British	8 (1)	2 (25)	1 (50)	3 (43)	1 (1)	47 (4)
Mixed	6 (1)	1 (17)	0	6 (100)	3 (2)	20 (2)
White/Caucasian	329 (80)	83 (25)	23 (28)	161 (55)	102 (77)	774 (64)
Other	4(1)	3 (75)	0	7 (54)	0	53 (4)
Region	417 (100)			207 (100)	139 (100)	1241 (100)
England*	343 (82)	103 (30)	40 (38)	170 (57)	112 (80)	1010 (81)
<i>East Midlands</i>	87 (21)	32 (37)	11 (34)	42 (58)		
<i>East of England</i>	21 (5)	2 (10)	1 (50)	8 (42)		
<i>Greater London</i>	50 (12)	20 (40)	6 (30)	29 (67)		

<i>North East</i>	10 (2)	2 (20)	0	4 (50)		
<i>North West</i>	18 (4)	8 (44)	2 (25)	10 (63)		
<i>South East</i>	38 (9)	8 (21)	4 (50)	18 (53)		
<i>South West</i>	52 (13)	13 (25)	8 (62)	28 (61)		
<i>West Midlands</i>	32 (8)	8 (25)	4 (50)	12 (48)		
<i>Yorkshire and the Humber</i>	35 (8)	10 (29)	4 (40)	19 (61)		
Northern Ireland	11 (3)	1 (9)	1 (100)	6 (67)	3 (2)	43 (3)
Scotland	49 (12)	7 (14)	0	21 (50)	16 (12)	127 (10)
Wales	14 (3)	6 (43)	2 (33)	8 (62)	8 (6)	61 (5)
Profession	419 (100)			207 (100)	141 (100)	1361 (100)
Doctor*	144 (34)	53 (37)	17 (32)	77 (59)	141 (100)	1361 (100)
<i>Consultant</i>	92 (64)	34 (37)	13 (38)			
<i>Speciality Registrar</i>	28 (19)	12 (43)	3 (25)			
<i>Speciality and Associate Specialist (SAS) Doctor</i>	4 (3)	0	0			
<i>Clinical Research Fellow</i>	10 (7)	4 (40)	1 (25)			
<i>Staff grade doctor</i>	3 (2)	0	0			
<i>Other</i>	1 (1)	0	0			
<i>Foundation Year 2</i>	2 (1)	1 (50)	0			
<i>Foundation Year 1</i>	1 (1)	0	0			
<i>Clinician Scientist</i>	3 (2)	2 (67)	0			
Nurse*	150 (36)	47 (31)	21 (45)	71 (56)		
<i>Dialysis nurse</i>	43 (29)	10 (23)	4 (40)			
<i>Transplant nurse</i>	7 (5)	2 (29)	0			
<i>Ward nurse</i>	14 (9)	6 (43)	3 (50)			
<i>Sister/Charge Nurse</i>	26 (17)	6 (23)	3 (50)			

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<i>Other (please specify)</i>	12 (8)	4 (33)	2 (50)	
<i>Clinical nurse specialist</i>	29 (19)	13 (45)	7 (54)	
<i>Home therapies nurse</i>	5 (3)	2 (40)	1 (50)	
<i>Research nurse</i>	6 (4)	0	0	
<i>Matron</i>	8 (5)	4 (50)	1 (25)	
Other MDT				
<i>Dietitian</i>	36 (9)	2 (6)	1 (50)	15 (48)
<i>Lab manager/supervisor</i>	2 (0.5)	0	0	-
<i>Occupational therapist</i>	6 (1.4)	3 (50)	0	2 (33)
<i>Other</i>	36 (8.6)	8 (22)	1 (13)	14 (52)
<i>Pharmacist</i>	5 (1)	1 (20)	0	2 (50)
<i>Physiotherapist</i>	12 (3)	1 (8)	0	5 (45)
<i>Technician</i>	20 (4.7)	4 (20)	2 (50)	11 (65)
<i>Lab scientist</i>	8 (2)	1 (13)	1 (100)	8 (100)
<i>Retired</i>	1 (0)	0	0	-
Living situation	421(100)			207 (100)
Alone	58 (14)	17 (29)	8 (47)	177 (56)
Not Alone*	363 (86)	102 (28)	35 (34)	30 (64)
<i>With partner/spouse</i>	308 (73)	84 (27)		
<i>With children <18 years</i>	173 (41)	47 (27)		
<i>With children >18 years</i>	76 (18)	21 (27)		
<i>With parents/relatives</i>	12 (3)	4 (31)		
<i>Friends/House mates</i>	3 (1)	2 (50)		
Remote Working	321 (100)			188 (100)
Yes: all the time	27 (8)	3 (11)	2 (67)	18 (67)
Yes: some of the time	167 (52)	51 (31)	17 (33)	95 (57)

No	127 (40)	36 (28)	10 (28)	70 (55)
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Table S1. Detailed table of demographics of survey respondents. Calculating a response rate was challenging because the survey was distributed via open methods. This included cascade distribution by health care professionals regionally and advertisements through social media. It was thus not possible to identify the exact number of nephrology healthcare professionals (HCPs) that were exposed to the survey to calculate an appropriate denominator for a response rate. We were able to provide a comparison of our survey numbers against nephrology trainees (fellows) and consultants (attending doctors) registered with the General Medical Council (GMC), which is the registration body for UK doctors. We were cautious about using GMC registrants as a denominator for response rate, as it was unclear if all doctors registered with GMC were exposed to our survey despite our efforts at comprehensive dissemination. The Nursing and Midwifery Council and the Health & Care Professions Council, which is the registration bodies for all other UK HCPs, were unable to cohort registrants by speciality, and thus a comparison for these HCPs was not possible.

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Item 3: Free text comments related to long COVID

stressful and worried
I have just regained sense, of smell /taste after 1 yr, slight cough still feel back to normal otherwise
minimal
Fatigue, not sleeping well
joint pains, tiredness, SOB on occasion
probably headaches
easily get tired SOB at times when walking fast or climbing stairs sticky pleghm at times
Symptoms lead to more rapid onset fatigue and short temper
Still have loss of smell and taste - this is unpleasant rather than anything more
getting tired easily, shortness of breath, anxious
I had a non-productive cough for several months afterwards but this did not have any impact on my life and has resolved.
Lethargy and shortness of breath - leads to frustration
loss of memory , slow thinking process , having to go things twice and checking to ensure done correctly
It took me until August 2020 to feel as though I'd recovered and I wasn't able to start running again until the November. I have been left with PTSD, worsened anxiety and severe depression. I've had to take time off work from this, every time I do a lateral flow test I have flash backs to last year when I became unwell. I'm not the person I used to be.
I had a non provocative cough for several months after infection but no effect on my life.
I still get a little tired in the evenings
I have been able to continue in my role mostly unchanged, but some allowances have had to be made. I feel morose and depressed. My wife has also had COVID so we have been able to support each other.
Had quite bad hair loss and constant tiredness
lacking general wellbeing fitness, mental health, lack of smell/taste
I experienced fatigue that lasted for a month after recovery- took it easy at work for a few weeks
Severe aches to hip, I tire more easily
Parosmia - affecting taste and hobbies
As a part time athlete I have noticed performance drops and my Heart Rate is around 13 beats lower at hard effort meaning slower running/riding
no long term symptoms although the fatigue lasted over a month
Change of taste and smell - no effect on my role
Tiredness No energy for any other activity or self care after work
Occasional shortness of breath irrespective of workload
I get tired quicker but I still push myself
breathless on exertion when walking up hills
Very tired and not the same amount of energy
Neuritis, muscle weakness and fatigue

I am still experiencing shortness of breath and my sense of smell is still not back 100%. I get tired more easily than before I had Covid.
Ive had to request short shifts on first week back and requested annual leave On the weeks that I will be doing 4long days. I requested assistance in pushing patients' wheelchair and moving machines .
short of breath easily
Extreme fatigue, memory issues, muscle aches and pain, anxiety, jaw clenching. Sleeping issues. All starting to subside after vaccine. Still issues with recall (last year is a fog) and jaw pain, depression and some fatigue but much improved
Feeling tired and breathless
Anosmia. Very slowly improving. Unable to FIT test for PPE in 2nd wave as could not perceive chemical. Could not smell my newborn children born April.
Struggling to perform as before. Tired, fall asleep with the kids when I get home n up the next day for work
Muscle heaviness, joint pains, extreme tiredness
Depression and neurological symptoms
Eating as swallow reflex issue. Tiredness, muscle aches , palpitations
Definitely more tired at this end of the pandemic. Is that long Covid, or is that war-weariness? don't know. Ok at work, but more often early to bed at home
Feel excessively tired following common colds since COVID, with longer recovery periods

Table S2. Free text comments related to long COVID.

Item 4: Table on characteristics of free-text respondents

VARIABLES	All (n=423)	Free-text respondents (n= 292)
Age group n (%)		
25-34	63 (15)	31 (10)
35-44	110 (26)	76 (26)
45-54	151 (35)	10 (37)
55-64	91 (21)	68 (23)
Other/ >=65/< 25	8 (2)	7 (2)
Sex n (%)		
Male	110 (26)	64 (22)
Female	313 (74)	228 (78)
Ethnicity n (%)		
White	328 (77)	246 (84)
Asian	56 (13)	27 (9)
Black	8 (2)	0 (0)
Mixed/Other	24 (5)	19 (6)
Prefer not to say	7 (2)	0 (0)

Table S3. Characteristics of the 292 (69%) respondents providing free-text responses.