2020 Medical Graduates: The work and wellbeing of interim Foundation Year 1 doctors during COVID-19

Appendices

March 2021
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Appendix A: Questionnaire and interview questions

**Questionnaire content**

Table A1 summarises the content of the sign up, phase 1 and phase 2 questionnaires. The following sections contain the text of work and wellbeing questions as presented in the online questionnaires.

### Table A1. Summary of online questionnaire content

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Sign up</th>
<th>Phase 1</th>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
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<td>Gender</td>
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<tr>
<td>Age</td>
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<td>Age</td>
</tr>
<tr>
<td>Ethnicity</td>
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<td>Ethnicity</td>
</tr>
<tr>
<td>Disability</td>
<td></td>
<td></td>
<td>Disability</td>
</tr>
<tr>
<td>Medical School</td>
<td></td>
<td></td>
<td>Medical School</td>
</tr>
<tr>
<td>Date of starting FiY1 *</td>
<td></td>
<td></td>
<td>Date of starting FiY1</td>
</tr>
<tr>
<td>Region of FiY1 *</td>
<td></td>
<td></td>
<td>Region of FiY1</td>
</tr>
<tr>
<td>Reason for doing/not doing FiY1 (free text)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td>Preparedness for FiY1 **</td>
<td>Perceived training during FiY1 Clinical area (inc Covid-specific areas)</td>
<td>Preparedness for F1 **</td>
</tr>
<tr>
<td>Preparedness for FiY1 **</td>
<td></td>
<td>Availability and use of PPE Work intensity **</td>
<td>Preparedness for 25 specific activities †</td>
</tr>
<tr>
<td>Perception of training during FiY1 Clinical area (inc Covid-specific areas)</td>
<td></td>
<td>Experience of ambiguity †</td>
<td>Work intensity Experience of uncertainty</td>
</tr>
<tr>
<td>Clinical area (inc Covid-specific areas)</td>
<td></td>
<td>Frequency of specific work activities †</td>
<td></td>
</tr>
<tr>
<td>Availability and use of PPE Work intensity **</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience of ambiguity †</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of specific work activities †</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wellbeing</td>
<td>Perceived Stress Scale ¹</td>
<td>Hospital Anxiety and Depression Scale ²</td>
<td>Copenhagen Burnout Inventory (personal and work burnout subscales) ³</td>
</tr>
<tr>
<td>Tolerance of ambiguity</td>
<td>Tolerance of Ambiguity in Medical Students and Doctors scale (TAMSAD) ⁴</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional identity</td>
<td>Three subscales: Ingroup Ties, Centrality, Ingroup affect ⁵</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Only presented to those who indicated they were doing FiY1.
** Item derived from the GMC’s National Training Survey.
† Items reflecting different types of ambiguity as described in the literature ⁶, ⁷
‡ Derived from the GMC’s outcomes for graduates ⁸

**Phase 1 only**

**Work as an FiY1**

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you been working as an FiY1 for some or all of the last three weeks? (If you have not, please indicate when your contract finished. You will be routed to the end of the questionnaire).</td>
<td>Yes No - my contract ended No - I terminated my contract No - I have not yet started my FiY1 post No - I was not allocated an FiY1 post</td>
</tr>
<tr>
<td>If you are no longer an FiY1, what date did your contract end?</td>
<td></td>
</tr>
<tr>
<td>Have you worked clinically in the last three weeks?</td>
<td>No Yes (please select to expand options)</td>
</tr>
<tr>
<td>In what clinical settings have you been mainly working in the last three weeks? (Please select any area where you have worked at least a whole day shift, or equivalent.)</td>
<td>Accident and emergency department Other urgent care unit (eg admissions unit, maternity, neonatal unit) Intensive care or high dependency unit Inpatient ward – surgical Inpatient ward – medical2 Operating theatres Outpatient clinics Digital/online clinics General practice surgery Other hospital setting</td>
</tr>
</tbody>
</table>
Other community setting
If you selected Other, please specify:

In the last three weeks have you worked in areas where there are confirmed or suspected cases of COVID-19? Yes No

Has this been (please click all that apply)...
... in clinical areas reserved solely for COVID-positive patients?
... in clinical areas NOT reserved solely for COVID-positive patients?

If you have worked with patients with confirmed or suspected COVID-19, have you felt you have had necessary and appropriate personal protective equipment (PPE) available to you? None of the time Some of the time All of the time

What types of PPE have you worn in your clinical work over the last three weeks?
I have not worn any PPE
Full PPE (face mask, gown, eye protection, gloves) changed between patients
Partial PPE changed between patients
Partial PPE not changed between patients
Other

Perception of training
Do you feel you have received, during your FiY1 post, adequate and appropriate training for working during the COVID-19 outbreak? Yes No

Please briefly describe your training experience - what it involved, how it was delivered, what was good about it, what could have been improved.

Work activities
In the last three weeks, how often have you...

Carried out venepuncture
Carried out intravenous cannulation
Prepared and administered injectable (intramuscular, subcutaneous, intravenous) drugs
Carried out arterial blood gas and acid base sampling in adults
Taken blood cultures
Set up an infusion
Carried out blood transfusion
Carried out a 3- and 12-lead electrocardiogram (ECG)
Carried out peak expiratory flow respiratory function test
Carried out urethral catheterisation (male or female)
Carried out immediate life support
Carried out or assisted with cardiopulmonary resuscitation (CPR)
Taken, or instructed patients how to take, a swab (nose, throat, skin, wound)
Prescribed and administered oxygen
Carried out nasogastric tube placement
Prescribed medication
Made an initial assessment of a patient’s problems
Completed discharge documentation
Managed symptoms of patients who are at the end of life
Discussed a patient’s care and treatment with them
Broken bad news to a patient
Discussed DNAR decisions with colleagues, patients or next of kin
Supported families when patients are at the end of life
Sought advice in a situation of clinical uncertainty
Maintained handwritten or electronic patient notes
Completed a death certificate
Had a practice-based learning event

Never
Rarely (no more than once or twice a week)
Regularly (at least several times a week)
### Phase 2 only

#### Previous experience and F1 post

| We know that people’s experience before F1 this year has varied more than usual. Please select which of the following you have done since April 2020. (You may have already told us, but we want to be sure we have up to date information). If you have done more than one, please select the one in which you have spent most time since April. | An interim Foundation (FiY1) post  
A paid assistantship or other paid medical role  
Unpaid (volunteer) work in a medical setting  
None of the above - I have not worked clinically since April 2020  
Other  
Please give more details if appropriate |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Roughly what date did you start this role? Roughly what date did you finish this role?</td>
<td></td>
</tr>
</tbody>
</table>
| In which Foundation School area was your FiY1 post? In which Foundation School are you starting F1? | Wales  
Northern Ireland  
Scotland  
East Anglia  
Essex, Bedfordshire & Hertfordshire  
Leicester, Northamptonshire & Rutland  
North Central and East London  
North West London  
North West England  
Northern  
Oxford  
Peninsula  
Severn  
South Thames  
Trent  
Wessex  
West Midlands Central  
West Midlands North  
West Midlands South  
Yorkshire & Humber  
Defence Deanery |
| In which specialty area is your first F1 placement | Medicine: General [internal] medicine  
Medicine: Acute internal medicine  
Medicine: Anaesthetics  
Medicine: Cardiology  
Medicine: Clinical radiology  
Medicine: Emergency medicine  
Medicine: Endocrinology and diabetes  
Medicine: Gastro-enterology  
Medicine: Sexual health/Genito-urinary medicine  
Medicine: Geriatric medicine  
Medicine: Infectious Diseases  
Medicine: Intensive care medicine  
Medicine: Neurology  
Medicine: Rehabilitation medicine  
Medicine: Renal medicine  
Medicine: Respiratory medicine  
Medicine: Rheumatology  
Medicine: Other Medical specialty  
Paediatrics: Medicine  
Paediatrics: Surgery  
Surgery: General surgery  
Surgery: Cardio-thoracic surgery  
Surgery: Neurosurgery  
Surgery: Ophthalmology  
Surgery: Otolaryngology  
Surgery: Plastic surgery  
Surgery: Trauma and orthopaedic surgery  
Surgery: Urology  
Surgery: Vascular surgery  
Surgery: Other surgical specialty  
Obstetrics and gynaecology  
Psychiatry  
General Practice  
Other  
Please give more details if appropriate |
### Preparedness for specific activities

The following questions ask how prepared you have felt to carry out a number of activities since starting F1. Please indicate how much you agree or disagree that you felt prepared to do each of the following independently, without direct supervision.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I felt prepared to maintain handwritten or electronic patient notes</td>
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<tr>
<td>I felt prepared to seek advice in a situation of clinical uncertainty</td>
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<tr>
<td>I felt prepared to complete discharge documentation</td>
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<td></td>
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<td></td>
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<tr>
<td>I felt prepared to prescribe medication</td>
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<tr>
<td>I felt prepared to carry out venepuncture</td>
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<tr>
<td>I felt prepared to prescribe and administer oxygen</td>
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<tr>
<td>I felt prepared to carry out a peak expiratory flow respiratory function test</td>
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<tr>
<td>I felt prepared to carry out immediate life support</td>
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<tr>
<td>I felt prepared to set up an infusion</td>
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<tr>
<td>I felt prepared to take, or instruct patients how to take, a swab (nose, throat, skin, wound)</td>
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<tr>
<td>I felt prepared to carry out intravenous cannulation</td>
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<tr>
<td>I felt prepared to prepare drugs (intramuscular, subcutaneous, intravenous)</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>I felt prepared to carry out arterial blood gas and acid base sampling in adults</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>I felt prepared to take blood cultures</td>
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<td></td>
</tr>
<tr>
<td>I felt prepared to carry out blood transfusion</td>
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<tr>
<td>I felt prepared to carry out a 12-lead electrocardiogram (ECG)</td>
<td></td>
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<tr>
<td>I felt prepared to carry out urethral catheterisation (male or female)</td>
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<tr>
<td>I felt prepared to carry out nasogastric tube placement</td>
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<tr>
<td>I felt prepared to make an initial assessment of a patient’s problems</td>
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</tr>
<tr>
<td>I felt prepared to manage symptoms of patients who are at the end of life</td>
<td></td>
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</tr>
<tr>
<td>I felt prepared to discuss a patient’s care and treatment with them</td>
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</tr>
<tr>
<td>I felt prepared to break bad news to a patient</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt prepared to discuss DNAR decisions with colleagues, patients or next of kin</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>I felt prepared to support families when patients are at the end of life</td>
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</tr>
<tr>
<td>I felt prepared to complete a death certificate</td>
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</tbody>
</table>

### Phase 1 and 2

#### Overall preparedness

How much do you agree with the statement ‘I felt adequately prepared for my [FtY1/first F1] post’?

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Work intensity

How would you rate the overall intensity of your work in the last three weeks?

<table>
<thead>
<tr>
<th>Very light</th>
<th>Light</th>
<th>About Right</th>
<th>Heavy</th>
<th>Very heavy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### Experience of Uncertainty

These questions ask about the type of clinical situations you have been in during the last three weeks. In the last three weeks, how often have you been in situations...

<table>
<thead>
<tr>
<th>Situation</th>
<th>Never</th>
<th>Rarely (no more than once or twice a week)</th>
<th>Regularly (at least several times a week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>... where the nature of a patient’s symptoms was not clear to you?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... where it was not clear what the desirable course of action for a patient would be?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... where you did not know what the outcome would be for a patient?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... which challenged your expectations of what medicine can achieve?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... where it was not possible to diagnose or manage a patient definitively?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... where it was not clear what the desirable outcome for a patient would be?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... which challenged your expectations of how healthcare professionals should act?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... where you felt that no-one knew the right course of action to take for a patient?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... where you did not know what other healthcare professionals expected of you?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Perceived Stress Scale

In the last three weeks...
- How often have you been upset because of something that happened unexpectedly?
- How often have you felt that you were unable to control the important things in your life?
- How often have you felt nervous and "stressed"?
- How often have you felt confident about your ability to handle your personal problems?
- How often have you felt that things were going your way?
- How often have you found that you could not cope with all the things that you had to do?
- How often have you been able to control irritations in your life?
- How often have you felt that you were on top of things?
- How often have you been angered because of things that happened that were outside of your control?
- How often have you felt difficulties were piling up so high that you could not overcome them?

<table>
<thead>
<tr>
<th>Never</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Fairly often</th>
<th>Very often</th>
</tr>
</thead>
</table>

### Anxiety

<table>
<thead>
<tr>
<th>I feel tense or 'wound up'</th>
<th>Most of the time</th>
<th>A lot of the time</th>
<th>From time to time, occasionally</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>I get a sort of frightened feeling as if something awful is about to happen</td>
<td>Very definitely and quite badly</td>
<td>Yes, but not too badly</td>
<td>A little, but it doesn't worry me</td>
<td>Not at all</td>
</tr>
<tr>
<td>Worrying thoughts go through my mind</td>
<td>A great deal of the time</td>
<td>A lot of the time</td>
<td>From time to time but not too often</td>
<td>Only occasionally</td>
</tr>
<tr>
<td>I can sit at ease and feel relaxed</td>
<td>Definitely</td>
<td>Usually</td>
<td>Not often</td>
<td>Not at all</td>
</tr>
<tr>
<td>I get a sort of frightened feeling like 'butterflies' in the stomach</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
<td>Seldom</td>
</tr>
<tr>
<td>I feel restless as if I have to be on the move</td>
<td>Very much indeed</td>
<td>Quite a lot</td>
<td>Not very much</td>
<td>Not at all</td>
</tr>
<tr>
<td>I get sudden feelings of panic</td>
<td>Very often indeed</td>
<td>Quite often</td>
<td>Not very often</td>
<td>Not at all</td>
</tr>
</tbody>
</table>

### Depression

<table>
<thead>
<tr>
<th>I still enjoy the things I used to enjoy</th>
<th>Definitely as much</th>
<th>Not quite so much</th>
<th>Only a little</th>
<th>Hardly at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can laugh and see the funny side of things</td>
<td>As much as I always could</td>
<td>Not quite so much now</td>
<td>Definitely not so much now</td>
<td>Not at all</td>
</tr>
<tr>
<td>I feel cheerful</td>
<td>Not at all</td>
<td>Not often</td>
<td>Sometimes</td>
<td>Most of the time</td>
</tr>
<tr>
<td>I feel as if I am slowed down</td>
<td>Nearly all the time</td>
<td>Very often</td>
<td>Sometimes</td>
<td>Not at all</td>
</tr>
<tr>
<td>I have lost interest in my appearance</td>
<td>Definitely</td>
<td>I don't take so much care as I should</td>
<td>I may not take quite as much care</td>
<td>I take just as much care as ever</td>
</tr>
</tbody>
</table>
I look forward with enjoyment to things
As much as ever I did
Rather less than I used to
Definitely less than I used to
Hardly at all

I can enjoy a good book or radio or TV program
Often
Sometimes
Not often
Very seldom

Work burnout

Is your work emotionally exhausting?
Do you feel burnt out because of your work?
Does your work frustrate you?
To a very high degree
To a high degree
Somewhat
To a low degree
To a very low degree

Do you feel worn out at the end of the working day?
Are you exhausted in the morning at the thought of another day at work?
Do you feel that every working hour is tiring for you?
Do you have enough energy for family and friends during leisure time?
Always
Often
Sometimes
Seldom
Never/Almost never

Personal Burnout

How often do you feel tired?
How often are you physically exhausted?
How often are you emotionally exhausted?
How often do you think: ‘I can’t take it anymore’?
How often do you feel worn out?
How often do you feel weak and susceptible to illness?
Always
Often
Sometimes
Seldom
Never/Almost never

NB, anxiety, depression and burnout subscales were mixed on the page.

Tolerance of ambiguity in medical students and doctors (TAMSAD)

This page asks how you feel about ambiguity in your clinical practice.
Please indicate which response most applies to you for each statement.

I have a lot of respect for consultants who always come up with a definite answer
I would enjoy tailoring treatments to individual patient problems
I would be comfortable if a clinical teacher set me a vague assignment or task
A good clinical teacher is one who challenges your way of looking at clinical problems
What we are used to is always preferable to what is unfamiliar
I feel uncomfortable when people claim that something is ‘absolutely certain’ in medicine
A doctor who leads an even, regular work life with few surprises, really has a lot to be grateful for
I think in medicine it is important to know exactly what you are talking about at all times
I feel comfortable that in medicine there is often no right or wrong answer
A patient with multiple diseases would make a doctor’s job more interesting
I am uncomfortable that a lack of medical knowledge about some diseases means we can’t help some patients
The unpredictability of a patient’s response to medication would bring welcome complexity to a doctor’s role
It is important to appear knowledgeable to patients at all times
Being confronted with contradictory evidence in clinical practice makes me feel uncomfortable
I like the mystery that there are some things in medicine we’ll never know
Variation between individual patients is a frustrating aspect of medicine
I find it frustrating when I can’t find the answer to a clinical question
I am apprehensive when faced with a new clinical situation or problem
I feel uncomfortable knowing that many of our most important clinical decisions are based upon insufficient information
No matter how complicated the situation, a good doctor will be able to arrive at a yes or no answer
I feel uncomfortable when textbooks or experts are factually incorrect
There is really no such thing as a clinical problem that can’t be solved
I like the challenge of being thrown in the deep end with different medical situations
It is more interesting to tackle a complicated clinical problem that to solve a simple one
I enjoy the process of working with a complex clinical problem and making it more manageable
A good job is one where what is to be done and how it is to be done are always clear
To me, medicine is black and white
The beauty of medicine is that it’s always evolving and changing
I would be comfortable to acknowledge the limits of my medical knowledge to patients

Strongly disagree
Disagree
Neutral
Agree
Strongly agree
**Professional identity**

These questions ask you how you feel about being a doctor at the moment. Think about how you feel about the group ‘doctors’ in general and indicate the response that most reflects how you feel.

<table>
<thead>
<tr>
<th><strong>Ingroup ties</strong></th>
<th><strong>Centrality</strong></th>
<th><strong>Ingroup affect</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a lot in common with doctors.</td>
<td>I often think about the fact that I am a doctor.</td>
<td>In general, I'm glad to be a doctor.</td>
</tr>
<tr>
<td>I feel strong ties to doctors.</td>
<td>Overall, being a doctor has very little to do with how I feel about myself.</td>
<td>I often regret that I am a doctor.</td>
</tr>
<tr>
<td>I find it difficult to form a bond with doctors.</td>
<td>In general, being a doctor is an important part of my self-image.</td>
<td>I don't feel good about being a doctor.</td>
</tr>
<tr>
<td>I don’t feel a sense of being ‘connected’ with doctors.</td>
<td>The fact that I am a doctor rarely enters my mind.</td>
<td>Generally, I feel good when I think about myself as a doctor.</td>
</tr>
</tbody>
</table>
Phase 3 interview guide

The interview guide was the basis for interviews in October-November 2020. Being semi-structured, the sequence and wording of questions and prompts varied between individual interviews, and not all completed the timeline task, but all interviews covered the same main points.

Introduction

- Thank you for your time. [Acknowledge extraordinary Covid context (do you feel you are in a safe/comfortable space and happy to talk?)]
- Aim of project: main UK project to draw on your experience to improve training.
- Aim of interview: walk through your work and experiences since the pandemic using the timeline
- No right answers, confidentiality
- This interview should last around 60 minutes – but flexible to how much you want to say!
- Go through consent form if needed
- Any questions before we begin?

Timeline task

- We begin with a task. Use the ‘timeline’ of the pandemic and annotate it with:
  a) your key events e.g. graduation, FiY1, F1, holiday
  b) a line representing your degree of learning/development.
  c) a second line representing your degree of wellbeing.
  d) how (if it at all?) does your ‘wellbeing’ and ‘learning’ line differ from the pandemic one? why?

- Please talk me through your timeline.
  o What were you doing then?
  o What were you learning?
  o How did that affect your wellbeing?

Graduating

- What was your experience of graduating (early)?
  o What were your hopes/concerns (in relation to graduating early and starting FiY1)?
  o How did your experience compare with others? e.g. who graduated earlier/later.

Applying for FiY1

- How did you decide whether or not to apply for FiY1?
- What specific factors affected your decision?
- How did that compare with your peers?
- What was your experience of the process?

Doing FiY1

- Where were you working as an FiY1?
  o What did you do?
  o To what extent were you responsible for the care of Covid patients?
  o What was the main focus of your activity? e.g. learning, clinical service?
What were the most challenging / most positive / memorable experiences?

- What was the impact on your learning / wellbeing?
  - What tools have helped / hindered you? e.g. technology, handbooks, mnemonics
  - Who did you work most closely with?
  - What unspoken rules, etiquette and codes of conduct were you aware of?

- How did your role compare with that of the F1 doctor you were buddied with?
- How prepared did you feel for FiY1?
- To what extent did you feel like a doctor in this role?
- In what ways did the training you received prepare you?
  - What form of training was effective / ineffective and why?

Transition to F1

- What was your experience of the transition to F1?
  - What was the main focus of your activity on starting F1? e.g. learning, clinical service.
  - What tools helped / hindered you? e.g. technology, handbooks, mnemonics
  - Who do you work most closely with?
  - What unspoken rules, etiquette and codes of conduct are you aware of as an F1?

- How does your F1 role differ to an FiY1 role?
  - How prepared did you feel for F1 (after FiY1)?
    - To what extent did you feel like a doctor at the start of F1, having done (or not) FiY1?

- What factors shaped your transition to F1?
- How does your experience compare to peers who did (or didn’t) do FiY1?

Looking back

- What are your reflections on your transition from medical student to doctor?
- If you could go back, would you make the same choice (apply / not apply to FiY1)?
  - Why?

Looking forward

- In what ways do you think your experiences have shaped your future e.g. perceptions of medicine, specialty choice?
- Is there anything you would like to add?
- Thank you for your time

References for Appendix A

Appendix B: Summary of demographic effects

The inclusion of covariates in regression analyses identified a number of consistent effects of demographic variables. These effects, drawing on analysis of Phase 1 data from the first questionnaire only, are shown in table C1.

Male respondents indicated lower stress and burnout, and were less likely to be at risk of anxiety than women. White respondents indicated lower stress than BAME respondents. There were no effects on depression.

On identity measures, older respondents indicated lower ingroup ties – the perceived bond to the group – than younger respondents. There were no effects on centrality or ingroup affect.

Table C1. Summary of effects of demographic variables on wellbeing scales

<table>
<thead>
<tr>
<th></th>
<th>Stress</th>
<th>Work Burnout</th>
<th>Personal Burnout</th>
<th>Anxiety</th>
<th>Ingroup Ties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male compared to</td>
<td>β=-2.14</td>
<td>β=-5.67</td>
<td>β=-7.95</td>
<td>OR=0.20</td>
<td>β=-0.18</td>
</tr>
<tr>
<td>female</td>
<td>(CI -3.20 to -0.97)***</td>
<td>(CI -9.09 to -2.24) **</td>
<td>(CI -11.38 to -4.51) **</td>
<td>(CI 0.05 to 0.58) **</td>
<td>(CI -0.35 to -0.02) *</td>
</tr>
<tr>
<td><strong>Age Group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 and over compared to under 25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>β=1.62</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White compared to BAME</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(CI -3.06 to -0.19) **</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


\(a\) Numbers are regression coefficients and 95% confidence intervals from multiple linear regression and indicate the difference in scores between groups.

\(b\) Numbers are the odds ratio and 95% confidence interval from multiple logistic regression. Odds ratios lower than one indicate a lower chance of meeting the threshold of risk.

* p<0.05, ** p<0.01, *** p<0.001
Appendix C: Foundation school and medical school of questionnaire respondents

Signed up participants by Medical School

The table shows the number of participants who signed up to the study from different medical schools, whether they indicated they were doing FiY1 or not, or had not yet graduated when they signed up. The ‘total eligible FiY1’ figure indicates the number of graduates from each school who received provision registration in the period of FiY1.

<table>
<thead>
<tr>
<th>Medical School</th>
<th>Total eligible FiY1</th>
<th>Signed up - FiY1</th>
<th>Signed up - non-FiY1</th>
<th>Signed up - not yet graduated</th>
<th>% FiY1 signed up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberdeen</td>
<td>155</td>
<td>28</td>
<td>0</td>
<td>1</td>
<td>18%</td>
</tr>
<tr>
<td>Barts and The London</td>
<td>178</td>
<td>31</td>
<td>4</td>
<td>2</td>
<td>17%</td>
</tr>
<tr>
<td>Birmingham</td>
<td>222</td>
<td>41</td>
<td>6</td>
<td>0</td>
<td>10%</td>
</tr>
<tr>
<td>Brighton and Sussex</td>
<td>98</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>10%</td>
</tr>
<tr>
<td>Bristol</td>
<td>208</td>
<td>39</td>
<td>6</td>
<td>1</td>
<td>30%</td>
</tr>
<tr>
<td>Buckingham</td>
<td>32</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>16%</td>
</tr>
<tr>
<td>Cambridge</td>
<td>222</td>
<td>44</td>
<td>4</td>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>Cardiff University</td>
<td>217</td>
<td>26</td>
<td>20</td>
<td>3</td>
<td>12%</td>
</tr>
<tr>
<td>Dundee</td>
<td>106</td>
<td>17</td>
<td>2</td>
<td>0</td>
<td>16%</td>
</tr>
<tr>
<td>Edinburgh</td>
<td>189</td>
<td>35</td>
<td>2</td>
<td>0</td>
<td>19%</td>
</tr>
<tr>
<td>Exeter</td>
<td>110</td>
<td>33</td>
<td>6</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>Glasgow</td>
<td>218</td>
<td>42</td>
<td>2</td>
<td>1</td>
<td>19%</td>
</tr>
<tr>
<td>Hull York Medical School</td>
<td>88</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>27%</td>
</tr>
<tr>
<td>Imperial College London</td>
<td>216</td>
<td>25</td>
<td>2</td>
<td>0</td>
<td>12%</td>
</tr>
<tr>
<td>Keele University</td>
<td>92</td>
<td>20</td>
<td>2</td>
<td>1</td>
<td>22%</td>
</tr>
<tr>
<td>King's College London</td>
<td>302</td>
<td>41</td>
<td>3</td>
<td>0</td>
<td>14%</td>
</tr>
<tr>
<td>Lancaster</td>
<td>39</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>15%</td>
</tr>
<tr>
<td>Leeds</td>
<td>180</td>
<td>49</td>
<td>6</td>
<td>0</td>
<td>27%</td>
</tr>
<tr>
<td>Leicester</td>
<td>120</td>
<td>21</td>
<td>3</td>
<td>0</td>
<td>18%</td>
</tr>
<tr>
<td>Liverpool</td>
<td>23</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>17%</td>
</tr>
<tr>
<td>Manchester</td>
<td>355</td>
<td>57</td>
<td>0</td>
<td>1</td>
<td>16%</td>
</tr>
<tr>
<td>Newcastle University</td>
<td>290</td>
<td>126</td>
<td>4</td>
<td>1</td>
<td>43%</td>
</tr>
<tr>
<td>Norwich Medical School</td>
<td>110</td>
<td>22</td>
<td>9</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>Nottingham</td>
<td>264</td>
<td>37</td>
<td>9</td>
<td>2</td>
<td>14%</td>
</tr>
<tr>
<td>Oxford</td>
<td>130</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>5%</td>
</tr>
<tr>
<td>Plymouth University</td>
<td>89</td>
<td>23</td>
<td>2</td>
<td>1</td>
<td>26%</td>
</tr>
<tr>
<td>QUB</td>
<td>233</td>
<td>69</td>
<td>2</td>
<td>1</td>
<td>30%</td>
</tr>
<tr>
<td>Queen Mary, London</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheffield</td>
<td>248</td>
<td>41</td>
<td>6</td>
<td>1</td>
<td>17%</td>
</tr>
<tr>
<td>Southampton</td>
<td>140</td>
<td>30</td>
<td>3</td>
<td>1</td>
<td>21%</td>
</tr>
<tr>
<td>St. George’s, London</td>
<td>148</td>
<td>38</td>
<td>18</td>
<td>4</td>
<td>26%</td>
</tr>
<tr>
<td>Swansea</td>
<td>66</td>
<td>11</td>
<td></td>
<td></td>
<td>17%</td>
</tr>
<tr>
<td>UCL</td>
<td>259</td>
<td>26</td>
<td>2</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Uclan</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warwick</td>
<td>8</td>
<td>7</td>
<td></td>
<td>1</td>
<td>88%</td>
</tr>
<tr>
<td>Not given</td>
<td>0</td>
<td>15</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
### Questionnaire respondents by Foundation School

This table shows the number of FiY1 respondents who signed up to the study from each Foundation School, the number of actual F1 posts filled in those Foundation Schools (data from UKFPO), and the percentage of those posts from which responses were received.

<table>
<thead>
<tr>
<th>Foundation School</th>
<th>Signed up</th>
<th>Actual FiY1 posts</th>
<th>% signed up</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Anglia</td>
<td>40</td>
<td>243</td>
<td>16%</td>
</tr>
<tr>
<td>Essex, Bedfordshire &amp; Hertfordshire</td>
<td>30</td>
<td>180</td>
<td>17%</td>
</tr>
<tr>
<td>Leicester, Northamptonshire &amp; Rutland</td>
<td>17</td>
<td>99</td>
<td>17%</td>
</tr>
<tr>
<td>North Central and East London</td>
<td>35</td>
<td>239</td>
<td>15%</td>
</tr>
<tr>
<td>North West</td>
<td>52</td>
<td>165</td>
<td>32%</td>
</tr>
<tr>
<td>North West London</td>
<td>15</td>
<td>488</td>
<td>3%</td>
</tr>
<tr>
<td>Northern</td>
<td>127</td>
<td>266</td>
<td>48%</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>70</td>
<td>213</td>
<td>33%</td>
</tr>
<tr>
<td>Oxford</td>
<td>9</td>
<td>178</td>
<td>5%</td>
</tr>
<tr>
<td>Peninsula</td>
<td>40</td>
<td>115</td>
<td>35%</td>
</tr>
<tr>
<td>Scotland</td>
<td>111</td>
<td>552</td>
<td>20%</td>
</tr>
<tr>
<td>Severn</td>
<td>54</td>
<td>198</td>
<td>27%</td>
</tr>
<tr>
<td>South Thames</td>
<td>79</td>
<td>547</td>
<td>14%</td>
</tr>
<tr>
<td>Trent</td>
<td>17</td>
<td>125</td>
<td>14%</td>
</tr>
<tr>
<td>Wales</td>
<td>13</td>
<td>136</td>
<td>10%</td>
</tr>
<tr>
<td>Wessex</td>
<td>32</td>
<td>193</td>
<td>17%</td>
</tr>
<tr>
<td>West Midlands Central</td>
<td>24</td>
<td>92</td>
<td>26%</td>
</tr>
<tr>
<td>West Midlands North</td>
<td>19</td>
<td>157</td>
<td>12%</td>
</tr>
<tr>
<td>West Midlands South</td>
<td>8</td>
<td>53</td>
<td>15%</td>
</tr>
<tr>
<td>Yorkshire &amp; Humber</td>
<td>117</td>
<td>423</td>
<td>28%</td>
</tr>
</tbody>
</table>
Appendix D: Regression coefficients for effects of ambiguity on wellbeing scales

Regression coefficients for exposure to types of uncertainty associated with changes in wellbeing measures

<table>
<thead>
<tr>
<th>Have you experienced events where...</th>
<th>Stress</th>
<th>Personal burnout</th>
<th>Work burnout</th>
</tr>
</thead>
<tbody>
<tr>
<td>...the nature of a patient’s symptoms was not clear to you</td>
<td>2.59 (CI 0.66 to 4.53)**</td>
<td>6.66 (CI 1.34 to 3.65)*</td>
<td>5.75 (CI 1.34 to 3.65)*</td>
</tr>
<tr>
<td>...it was not clear what the desirable course of action for a patient would be</td>
<td>2.81 (CI 1.21 to 4.40)***</td>
<td>7.65 (CI 1.34 to 3.65)**</td>
<td>6.26 (CI 1.34 to 3.65)**</td>
</tr>
<tr>
<td>...you did not know what the outcome would be for a patient</td>
<td>2.44 (CI 0.64 to 4.26)**</td>
<td>5.94 (CI 1.34 to 3.65)*</td>
<td>8.04 (CI 1.34 to 3.65)**</td>
</tr>
<tr>
<td>...challenged your expectations of what medicine can achieve</td>
<td>1.69 (CI 0.27 to 3.10)*</td>
<td>5.42 (CI 1.34 to 3.65)**</td>
<td>5.85 (CI 1.34 to 3.65)**</td>
</tr>
<tr>
<td>...it was not possible to diagnose or manage a patient definitively</td>
<td>3.00 (CI 1.38 to 4.62)***</td>
<td>4.91 (CI 1.34 to 3.65)*</td>
<td>5.25 (CI 1.34 to 3.65)*</td>
</tr>
<tr>
<td>...it was not clear what the desirable outcome for a patient would be</td>
<td>2.30 (CI 0.99 to 3.62)***</td>
<td>4.99 (CI 1.34 to 3.65)*</td>
<td>5.96 (CI 1.34 to 3.65)**</td>
</tr>
<tr>
<td>...challenged your expectations of how healthcare professionals should act</td>
<td>1.82 (CI 0.69 to 2.96)**</td>
<td>4.08 (CI 1.34 to 3.65)*</td>
<td>5.34 (CI 1.34 to 3.65)**</td>
</tr>
<tr>
<td>...you felt that no-one knew the right course of action to take for a patient</td>
<td>1.69 (CI 0.56 to 2.82)**</td>
<td>4.56 (CI 1.34 to 3.65)**</td>
<td>5.15 (CI 1.34 to 3.65)**</td>
</tr>
<tr>
<td>... you did not know what other healthcare professionals expected of you</td>
<td>4.27 (CI 3.12 to 5.43)***</td>
<td>9.47 (CI 1.34 to 3.65)***</td>
<td>11.58 (CI 1.34 to 3.65)***</td>
</tr>
</tbody>
</table>
Appendix E: Demographics of free text journal respondents

Demographics of respondents who completed the free text journal.

<table>
<thead>
<tr>
<th>Gender</th>
<th>FY1 region</th>
<th>Stated ethnicity</th>
<th>Age group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>England (North)</td>
<td>Not given</td>
<td>Under 25</td>
</tr>
<tr>
<td>Female</td>
<td>England (North)</td>
<td>Not given</td>
<td>31-35</td>
</tr>
<tr>
<td>Male</td>
<td>England (North)</td>
<td>White</td>
<td>Under 25</td>
</tr>
<tr>
<td>Female</td>
<td>England (South)</td>
<td>White</td>
<td>25-30</td>
</tr>
<tr>
<td>Female</td>
<td>England (South)</td>
<td>White</td>
<td>Under 25</td>
</tr>
<tr>
<td>Female</td>
<td>England (South)</td>
<td>White</td>
<td>Under 25</td>
</tr>
<tr>
<td>Female</td>
<td>England (South)</td>
<td>White</td>
<td>25-30</td>
</tr>
<tr>
<td>Male</td>
<td>England (South)</td>
<td>Other</td>
<td>Under 25</td>
</tr>
<tr>
<td>Female</td>
<td>Northern Ireland</td>
<td>White</td>
<td>Under 25</td>
</tr>
<tr>
<td>Male</td>
<td>England (South)</td>
<td>Other</td>
<td>Under 25</td>
</tr>
<tr>
<td>Male</td>
<td>Northern Ireland</td>
<td>White</td>
<td>Under 25</td>
</tr>
<tr>
<td>Female</td>
<td>Northern Ireland</td>
<td>White</td>
<td>Under 25</td>
</tr>
<tr>
<td>Female</td>
<td>England (North)</td>
<td>White</td>
<td>Under 25</td>
</tr>
<tr>
<td>Female</td>
<td>England (South)</td>
<td>White</td>
<td>31-35</td>
</tr>
<tr>
<td>Male</td>
<td>England (North)</td>
<td>White</td>
<td>Over 35</td>
</tr>
<tr>
<td>Female</td>
<td>England (North)</td>
<td>White</td>
<td>25-30</td>
</tr>
<tr>
<td>Male</td>
<td>Northern Ireland</td>
<td>Other</td>
<td>25-30</td>
</tr>
<tr>
<td>Male</td>
<td>England (South)</td>
<td>White</td>
<td>31-35</td>
</tr>
<tr>
<td>Female</td>
<td>Scotland</td>
<td>White</td>
<td>Under 25</td>
</tr>
<tr>
<td>Male</td>
<td>England (North)</td>
<td>White</td>
<td>25-30</td>
</tr>
<tr>
<td>Male</td>
<td>England (South)</td>
<td>White</td>
<td>Under 25</td>
</tr>
<tr>
<td>Male</td>
<td>Northern Ireland</td>
<td>White</td>
<td>Under 25</td>
</tr>
<tr>
<td>Male</td>
<td>Scotland</td>
<td>White</td>
<td>25-30</td>
</tr>
<tr>
<td>Female</td>
<td>England (North)</td>
<td>Other</td>
<td>Under 25</td>
</tr>
<tr>
<td>Male</td>
<td>England (South)</td>
<td>White</td>
<td>Under 25</td>
</tr>
<tr>
<td>Female</td>
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