


# BMJ Open Less than full-time training (LTFT), is this the new norm? A cross-sectional study using a UK-wide online survey to evaluate trainees' views and intentions for LTFT

Jennifer Cathcart <sup>1</sup>, Kaitlin J Mayne,<sup>1</sup> Richard Hull,<sup>1</sup> Michael Jones,<sup>2</sup> Alastair Miller<sup>2</sup>

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<sup>1</sup>RCPSCG, Royal College of Physicians and Surgeons of Glasgow, Glasgow, UK

<sup>2</sup>Joint Royal Colleges of Physicians Training Board, Royal College of Physicians, London, UK

## Correspondence to

Dr Jennifer Cathcart; [jeni123@live.com](mailto:jeni123@live.com)

## ABSTRACT

**Objectives** Interest in less than full-time training (LTFT) is growing among doctors in training. LTFT applications have previously been limited to fulfilment of specific criteria such as childcare or health reasons, but Health Education for England (HEE) has recently completed a pilot into LTFT for a third category: lifestyle choice. This was recognised as an opportunity to canvas trainee perspectives and intentions on LTFT and implications for workforce planning.

**Design** A cross-sectional study of UK trainees via an online questionnaire.

**Setting/participants** The survey was distributed via email to trainees in all specialities and stages of training across the UK. The survey focused on three key themes: experiences of current LTFT trainees, perspectives of trainees considering LTFT in the future and experience of working with LTFT colleagues.

**Results** Responses were received from 783 trainees across the UK, with most responses received from physician trainees (76%). Current LTFT trainees represented one-third of respondents. Of those not currently working LTFT, 75% expressed an intention to do so in future with lifestyle being the most common reason. Almost half of this group were concerned about the impact on their training. Stigma, reduced training opportunities, prolonged training and the application process were commonly cited barriers. These difficulties were experienced by several current LTFT trainees, 32% of whom described a negative impact on their training. Almost two-thirds (62%) of respondents stated they wish to work LTFT as a consultant.

**Conclusion** Systems must adapt to increase access to LTFT training to promote trainee well-being and retention. Progress is being made and we suggest HEE's category three pilot be rolled out across the UK as a priority. Workforce planning needs to consider the substantial rise in popularity of LTFT among trainees to offset any shortfalls in the present and future workforce.

## INTRODUCTION

Within the UK, doctors in training are eligible to apply for less than full-time training (LTFT), defined as working a reduced number of hours compared with a doctor who works full time (48 hours per week on

## STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The survey was anonymous and not incentivised, therefore can be considered an honest reflection of trainees' opinions.
- ⇒ The survey respondents are from a range of specialities and grades of doctor across the four nations.
- ⇒ Data on protected characteristics such as gender were not asked; however, these are key characteristics which may influence trainees' perspectives on less than full-time training (LTFT) training.
- ⇒ Like all survey-based studies, we acknowledge the potential impact of selection bias by trainees who are interested in LTFT.

average). The process of applying for LTFT varies by specialty and across the country. To make the decision whether LTFT can be granted for an individual trainee, the overall training capacity of a training programme in a locality and service provision are taken into consideration.<sup>1</sup> In addition to capacity considerations, trainees must, at present, fulfil criteria in either of the following two categories: category one applies to trainees with a disability, ill health or responsibility for providing care; and category two relates to unique opportunities, religious roles or non-medical professional development.<sup>1</sup> However, the LTFT landscape has recently changed with the completion of Health Education for England's (HEE) 3-year pilot project in January 2022 to facilitate LTFT for lifestyle reasons, termed category three. The pilot involved Obstetrics and Gynaecology, Emergency Medicine and Paediatrics. Following the success of the pilot, category three is now due to be rolled out to other specialities in England in August 2022<sup>2</sup> though other nations are yet to follow.

LTFT has become increasingly popular year on year. The GMC National Training Surveys have shown that in 2022 17.1% of

trainee doctors are working LTFT compared with 9.1% in 2013.<sup>3,4</sup> There is growing pressure on trainees to achieve curricular requirements while managing a busy hospital workload. This has contributed to exhaustion among the workforce which has been exacerbated during the COVID-19 pandemic. The 2022 GMC National Training Survey revealed that 62% of trainees are at moderate or high risk of burnout compared with 56% in 2021.<sup>5</sup> We hypothesise that this has contributed to the increasing popularity of LTFT, and this is likely to have repercussions for workforce planning. We developed our survey in response to the increasing popularity and dynamic changes regarding criteria for LTFT. We sought to provide data on the implications for workforce planning and to capture trainees' perspectives on LTFT and opportunities for improvement.

## METHODS

### Survey design

The online survey was created by trainee representatives at the Royal College of Physicians and Surgeons of Glasgow (RCPSG) and Joint Royal Colleges of Physicians Training Board (JRCPTB) with Survey Monkey software<sup>6</sup> and comprised of 25 questions including a combination of free-text and multiple-choice responses (see attached online supplemental file). The questions focused on three areas: experiences of current LTFT trainees, perspectives of trainees considering LTFT in the future and experience of working with LTFT colleagues. The survey was then reviewed by the authors and edited as appropriate. A small pilot then took place among the RCPSG Trainees' Committee before being distributed. Ethical approval was not required after consulting the NHS Health Research Authority website and decision tool.<sup>7</sup>

## Survey distribution and Analysis

The survey link was emailed out to trainees in the UK in November 2021 and closed in January 2022. The survey link was emailed to trainees via members of the JRCPTB, regional advisors of the RCPSG, Specialty Advisory Committees (SAC) and College membership. The RCPSG Trainees' Committee members also emailed several hospital administrators to ask for the link to be shared in hospital-wide emails. The survey was also shared on social media via the RCPSG Trainees' Committee Twitter account to improve survey response rates.<sup>8</sup> The Association of Surgeons in Training and Academy of Medical Royal Colleges' Trainees' Committees were asked via email to circulate and complete the survey. The survey was open to all grades and specialities of doctors and was anonymous. No questions were mandatory. No incentives were offered, and completion of the survey was taken as implied consent. The survey results were then analysed by the authors. There were three questions within the survey that were applicable to all trainees; therefore, to minimise incomplete survey results, if these questions were not completed the survey results for that participant were discarded. The comments were split into themes as determined by thematic analysis of the data.

## Patient and public involvement

None.

## RESULTS

### Demographics

There were 846 responses to the survey, 783 of these were completed responses and used in analysis. The responses were divided into the four nations as follows: England 564 (72.2%), Scotland 205 (26.2%), Wales 6 (0.8%) and

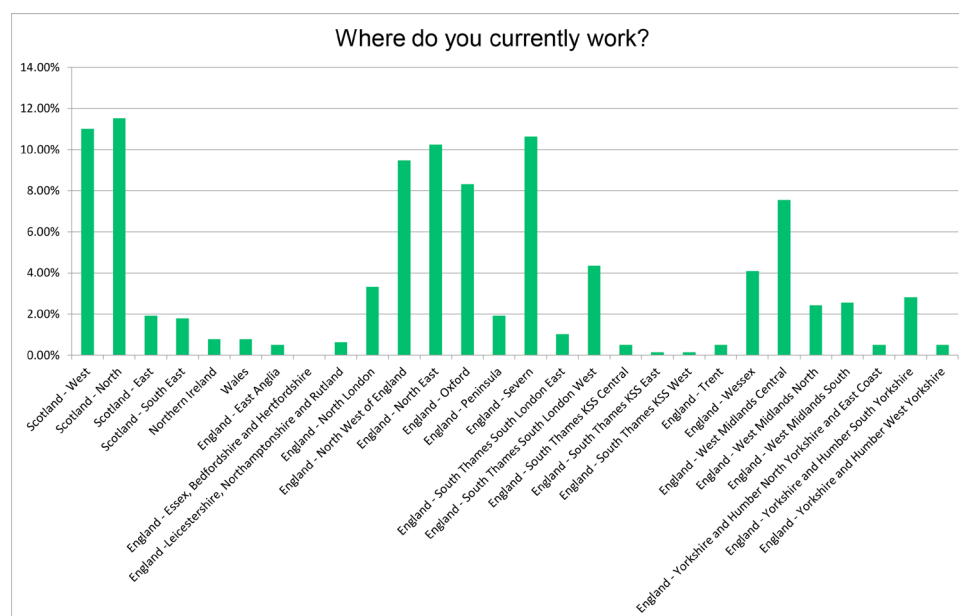
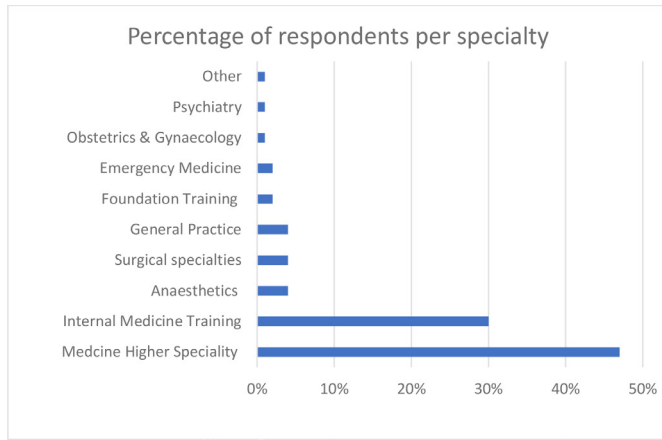


Figure 1 Respondent's workplace.



**Figure 2** Percentage of respondents by specialty. *Other= pathology, radiology, acute common stem, broad based training, and sexual and reproductive health.*

Northern Ireland 6 (0.8%). **Figure 1** shows the breakdown by area of the UK. There was a range of grades, these are broken down into 290 FY1-ST2 or equivalent grades, 359 ST3-ST5 or equivalent and 134  $\geq$ ST6 or equivalent. The response rate could not be calculated as the wide-ranging advertisement of the survey means it was not possible to quantify the numbers of trainees who received the survey invitation.

Medical specialties were the largest contributor: 596 medical specialties trainees responded (76% of all respondents) consisting of 234 Internal Medicine Trainees (IMT)\* and 362 Higher Specialty Trainees (HST) in 26 different higher medical specialties. The full breakdown of responses by specialty is presented in **figure 2**. There was additionally a small percentage of trainees who were yet to specialise, and 14 who skipped this question.

### Topic (1): experience of trainees currently working LTFT

One-third of survey respondents (257/783: 33%) currently work LTFT. Eighty percent full-time equivalent was the most common work pattern (47%) followed by 60% full-time equivalent (39%). The primary reason for LTFT was childcare (63.8% of respondents). Other reasons included health reasons (15.1%) and lifestyle (8.2%). Eight trainees chose not to give a reason. Most (87.8%: 223/257) found the process of applying for LTFT straightforward. Of those who did not, the most common issue cited was the time-consuming burden of multiple administrative forms. When asked if there were any negative effects of training LTFT, 32% (81/253) answered yes and 68% said no (four trainees skipped this question). Eighty-four trainees justified their answers with comments. One-third (28/84, 33%) of trainees commented on reduced training opportunities. Examples given included missed teaching or a specific clinic or procedure list coinciding with their set day off. A small but significant proportion of trainees (7/84, 8%) felt stigmatised by colleagues, stating they were made to feel a less valued team member. When asked about encountering other difficulties associated with LTFT, there were

109 comments made. Common themes included rota issues (24/109) including delays in receiving rota; being incorrectly allocated duties on days off; nightshifts ending on set days off; and errors in working patterns. Incorrect pay was cited by 17 out of 109 (16%) trainees. Trainees felt these issues resulted in administrative time burden to rectify. Trainees also cited concerns regarding expectation to achieve a similar number of workplace-based assessments as full-time trainees (10/109, 9%).

Comments from respondents by theme:

#### ► Reduced training opportunities:

Less opportunities for presentations/research and teaching offered to LTFT trainees.

Inflexibility of the regional teaching days which are always scheduled for the same day each week—which is the day I don't work.

#### ► Stigma:

Generally consultants are pretty dismissive of it and look down on the fact I am LTFT.

Attitudes of colleagues, who resent me having 'days off'.

#### ► Rota issues:

Can be difficult getting rota in enough time to be able to notify nursery if any changes to days my children need to attend.

There is always so much additional admin required with every rotation. Trusts don't always understand how it works, you end up writing your own rota or having difficult battles trying to explain process to medical staffing etc.

#### ► Pay issues:

Pay often wrong.

Payroll. Every time I rotate it's a challenge to be paid correctly. This is often due to delays from the hospital rostering team forwarding.

### Topic (2): future plans of trainees

Of trainees who are not currently LTFT, three quarters (393/526, 75%) expressed that they intend to work LTFT in future. Almost one quarter (117/526, 22%) selected they intended to apply for LTFT during 2022, however, most (175/526, 33%) were undecided on timing. More than half (297/526, 56%) of trainees selected they would apply for LTFT for lifestyle reasons alone if this was available in their specialty. **Table 1** shows the results breakdown by question for those currently not LTFT.

When we asked trainees their reasons for considering LTFT in the future, the most common response was selected was lifestyle (252/483, 52%) followed by childcare (133/483, 28%). Forty-three trainees chose not to give a reason. Eighty-seven trainees made comments within the optional free-text section on their reasons for going LTFT in the future. Common responses were

**Table 1** Trainees' future intentions

Question	Yes	No	Undecided
Do you intend to work LTFT in the future?	75% (393/52)	7% (39/526)	18% (94/526)
Do you have any worries about the impact of going LTFT on your training?	50% (238/486)	51% (248/486)	n/a
If you could apply for LTFT for lifestyle reasons, would you?	56% (297/526)	17% (88/526)	27% (141/526)
Did the COVID-19 pandemic influence your decision to go LTFT?	43% (206/484)	57% (278/484)	n/a

LTFT, less than full-time training.

work-life balance, reduction in stress, pressure or burnout. Forty-one trainees who selected 'other' made comments that a combination of reasons included lifestyle and child-care or lifestyle and mental health. Seven trainees quoted time for exam preparation, eportfolio work or research as a reason.

Comments from respondents:

- ▶ 'Working full time is too stressful and work-life balance is impossible to achieve'.
- ▶ 'Amount of portfolio work, exams etc outside of full time work.'
- ▶ 'The medical rotas are horrific ... The choice is reduce hours or quit medicine'.
- ▶ 'Risk of burnout is high. Intensity of work during on calls is ridiculously high.'

Half of trainees stated concerns about the impact of going LTFT (238/486, 49%). Of these, 151 trainees chose to expand on their answers. The most common stated reasons were prolonging training (48/151, 32%), perceived stigma (35/151, 23%) and reduced training opportunities (20/151, 13%). Financial considerations were a concern for 14 out of 151 (9%) respondents.

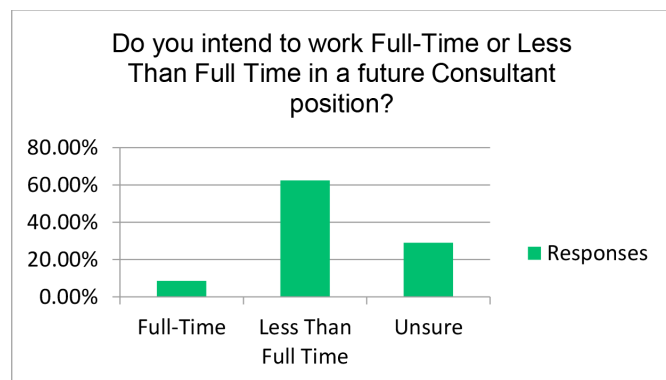
Comments from respondents by theme

▶ *Prolonged training:*

Delay in training progression, not achieving operative numbers, being viewed as a less able surgeon.

it prolongs my training even further and therefore the stability of a consultant post is even further away.

▶ *Perceived stigma:*



**Figure 3** Percentage of trainees who plan to work less than full-time training (LTFT) as consultants.

I am aware of discrimination happening for women in this field already and would not want to be disadvantaged in terms of subspecialty and future career.

I have neither children nor a health problem but know I would be much more happy and productive if I was LTFT, however there is a culture within medicine which makes it feel like this would not be acceptable.

▶ *Reduced training opportunities:*

Worry academic opportunities will be less offered when LTFT.

That I will miss out on training opportunities. That I will not be offered the consultant job that I want.

Additionally, we asked all trainees, including those already LTFT, if they intend to work full-time or less than full-time as a consultant. Most respondents (488/783, 62%) intend to work less than full-time and only 9% (68/783) intended to work full-time (figure 3). More than one quarter (208/780, 27%) of trainees felt undertaking LTFT would put them at a disadvantage when applying for a consultant post and only 31% (245/780) of trainees felt satisfied they would not be disadvantaged (42% unsure, 327/780). Three respondents skipped this question.

**Topic (3): experience of working with LTFT colleagues**

The majority of respondents (618/783, 79%) had experience of working with LTFT trainees, of which 107 out of 612 (17%) said they had encountered problems because of this. When asking specifically if there was any rota or workload impact because of working with a LTFT colleague, 285 out of 613 (47%) of trainees answered yes. Within the comments section, this was explained as either rota gaps or increased workload for the full-time trainee. Some trainees commented that job share arrangements can have a beneficial impact on the rota. Several trainees also commented that they would rather work with a less burned-out colleague and found LTFT trainees to be great colleagues.

**DISCUSSION**

The survey represents the views of 783 trainees across the four nations. It raises questions for planners both from a training and a workforce perspective and highlights



problems faced by LTFT trainees. To discuss in detail, we will first address how the survey represents the UK trainee population, its strengths and weaknesses, what it adds to the literature, then discuss issues raised by the survey itself and offer some potential solutions.

There are approximately 76950 trainees in the UK, 85% (65550) in England, 8% (5800) in Scotland, 5% (3600) in Wales and 3% (2000) in Northern Ireland.<sup>9–12</sup> This survey reports the views of 783 trainees, illustrating that our survey is estimated to be 1% of UK trainees. All countries of the UK were represented but there was a slightly higher percentage return from trainees in Scotland. 26% of respondents worked in Scotland while only 8% of trainees in the UK work in Scotland. However, England, Wales and Northern Ireland responses were comparable to the national proportions of trainees: 72% responses versus 85% trainees for England, 1% versus 5% for Wales and 1% versus 3% in Northern Ireland. Additionally, the survey reports on higher numbers of trainees in physician specialties compared with other specialties, currently physician specialties represent approximately 16% (12459) of the UK work force. The survey was widely distributed by members of the JRCPTB and RCPSG as the survey originated from these bodies, explaining the predominance of respondents in physician specialties. The survey does, however, indicate the views of a range of trainee grades and specialties across the four nations about LTFT training.

A strength of the survey is that it can be considered a honest reflection of trainees' opinions as it is anonymous and was not incentivised. Data on protected characteristics such as gender and age were not asked to limit the questions. However, these are key characteristics which may influence trainees' perspectives on LTFT training and would be useful to analyse responses further. A further limitation was the potential impact of selection bias of trainees who are interested in LTFT. Other surveys on LTFT have been completed, however, most are within one specialty or do not contain detailed questions about LTFT especially whether trainees would consider LTFT as a consultant.<sup>4 13–17</sup>

Within our survey, we found issues with LTFT that need to be addressed if we are to improve the training environment. One-third (81/253, 32%) of LTFT trainees felt there was a negative impact on training. Seven out of 84 trainees who had chosen to write a comment on their experience of LTFT mentioned experience of stigma and for doctors who are considering LTFT, 35 out of 151 (23%) commented that stigma was a barrier. It is likely that stigma may vary across specialty. In a survey completed by surgical trainees, 54% experienced undermining behaviour from staff because of undertaking LTFT.<sup>16</sup> In another 2021 study of psychiatry trainees, 40% of LTFT trainees experienced negative attitudes from seniors.<sup>14</sup> In a further 2019 survey of trainee physicians, 33% reported negative attitudes from peers.<sup>15</sup> A 2018 survey of LTFT trainee cardiologists reported 18% felt bullied or discriminated against.<sup>13</sup> It must be recognised

that LTFT can offer an improvement to work-life balance, with associated job satisfaction and retention; a culture shift is needed. Second, there are fundamental issues surrounding rota management that affect LTFT trainees and their full-time colleagues. Of these trainees, 47% (285/613) agreed that there was an impact on the rota due to working with a LTFT trainee and rota issues was a major theme within the comments section on difficulties encountered by LTFT. This is a recurring problem: the 2019 survey of physicians by the Royal College of Physicians of Edinburgh found only 29% of LTFT trainees felt their rota coordinator understood how LTFT impacts the rota. Where possible, job share arrangements that may accommodate two 60% trainees were cited by trainees as a solution to rota issues and were felt to have a positive impact. Rotas should be made available in advance for all trainees and efforts must be made to proactively identify and address rota gaps. Specific guidance on rota design for LTFT exists which explains how to organise shifts within the correct percentage workload. Timely and correct rota schedules would help to reduce the administrative burden on LTFT doctors and would allow rota gaps to be filled in advance. The guidance also addresses how to organise nightshifts and teaching attendance to not encroach on non-working days.<sup>18</sup> Hendrickson *et al* likewise make some practical suggestions for rota design following a survey of LTFT plastic surgery trainees to include an allocation of a 'hot week' or 'oncall' team to ensure clinical work is covered. This was seen as a positive strategy by LTFT trainees.<sup>17</sup> Third, the administrative burden of the application process is onerous but happily this is currently being reviewed with a plan to simplify. A fourth issue raised was reduced training opportunities for LTFT doctors, while we must accept a degree of this, comments that missing teaching if on a set day was a regular issue. A degree of flexibility on the set day of teaching would help resolve this. Another concern from trainees wishing to undertake LTFT in the future was regarding the impact of LTFT on length of training. Anecdotally from experience of authors of this study, we find that LTFT trainees frequently obtain curricula objectives in a shorter time than the default number of years spent as a registrar. Wider acceptance of training as outcome-based rather than time-based will promote accelerations in completion of training and this could address both consultant shortages and trainee concerns. Finally, this survey has highlighted changes are needed in the delivery of UK training for all trainees. A large number of the comments (61/87, 70%) from trainees who wish to go LTFT in the future mentioned aiming for work-life balance, reduced stress, pressure or burnout. The stress of the years associated with the COVID-19 pandemic has compounded increasing pressures on trainees. These pressures are contributing to a stressed and burned-out workforce.<sup>5</sup> Preliminary steps have been taken to acknowledge and address this, such as the introduction of an 'Out of Programme Pause (OOPP)'<sup>19</sup> and development of well-being resources.<sup>20</sup> Despite these



changes, there are fundamental issues relating to the delivery of training which must be addressed in seeking to tackle burnout among trainees. LTFT may help some trainees counter burnout, in the Physicians Colleges' census 2018, HSTs working LTFT appeared at lower risk of burnout than full-time HSTs.<sup>21</sup> However, the reasons that lead trainees to take this route must be explored and LTFT is not the only solution. Although more than 40% of respondents cited the contributing role of COVID-19 to their decision to pursue LTFT training, 57% said the COVID-19 pandemic made no impact on their decision. Therefore, the shift in popularity cannot be attributed to the pandemic alone and contributing factors must be addressed. The survey also highlighted that some trainees would consider LTFT to accommodate curricular requirements and exam preparation. We advocate that trainees should be provided with adequate administration time to accommodate mandatory training requirements and that LTFT must not be seen as a solution.

Trainees' reasons for LTFT are changing. At present, 67% of respondents cited childcare as their justification however this was given lower priority (at 28%) among those not currently LTFT who cited lifestyle as their main justification (53%). This may reflect a greater proportion of trainees with childcare responsibilities already training LTFT compared with those currently working full-time but overall, it may be indicative of a changing landscape and comments in this section revealed pressures felt by trainees seeking options to improve their work-life balance. Comments made by some trainees in our survey showed that they felt they could or would not continue training if LTFT wasn't an option. This was reinforced in the NHS HEE survey of pilot category three candidates which showed that 93% of trainees agreed or strongly agreed that it increased their likelihood of remaining in training and 100% agreed it improved their work-life balance.<sup>2</sup> This is reflected in other surveys.<sup>13 15 17</sup> We believe that LTFT category three should be made available to trainees in other regions to ensure equity among trainees across the UK and promote job retention. We know from our survey that 80% LTFT is the preferred option. This equates to 38.4 hours of a 48-hour full-time average working week which is still above the average UK weekly working hours for a full-time employee (36.5 hours).<sup>22</sup> Therefore, trainees are achieving a reduction in hours towards standard working hours in other occupations. Although we recognise that this data will include all occupations, of which some will not be completely comparable.

This survey has significant implications for workforce planning. Within our survey 73% of trainees wish to go LTFT at some point in the future. Although we acknowledge that this may not be a true reflection of the population and trainees' actual intention, we do know that the trend of working LTFT is rising every year.<sup>3 4</sup> This needs to be reflected in the number of doctors recruited to training to cope with service demand. We need to recruit whole time equivalent doctors rather than one doctor per

training number as one doctor does not always equal one full time doctor. We also note the significant proportion of trainees who intend to work LTFT when appointed to a consultant role. This must be considered in workforce planning, as it will add to the burden of an already stretched consultant workforce. The 2020 Royal Colleges of Physicians Census showed that nearly half (48%) of advertised consultant posts across the UK were unfilled in 2019, an increase from 36% in 2013.<sup>23</sup> A follow-up article stated that actual figures on consultant shortages were likely to be higher than those reported.<sup>24</sup> In the 2018 Census of the Royal Colleges of Physicians, 23% of consultants self-reported to be LTFT.<sup>21</sup> Almost two-thirds (62%) of our survey respondents expressed an intention to work LTFT as a consultant. Although this again may not be a true reflection of the actual population, it does raise questions about the increasing popularity of LTFT and perhaps the need to increase the number of doctors in training or potentially face further enormous shortfalls in the workforce.

## CONCLUSION

LTFT is becoming increasingly popular. There is a shift in focus from childcare reasons to lifestyle reasons from the trainee workforce that responded to this survey. Many are feeling stressed, not only simply because of the pandemic but also because of the growing pressures of training. We need to allow wider access to LTFT training to improve work-life balance and allow retention of trainees. We are encouraged that these changes are already taking place in some areas. However, this shift in thinking suggests that a satisfactory work-life balance may be unachievable for most within the current full-time training. While offering LTFT training is not the only solution, it is one option which would help reduce shortages in the NHS workforce by aiding retention of trainees. The growing popularity of LTFT for trainees and future consultants has important implications for workforce planning which needs to urgently be addressed with an increase in trainee numbers otherwise a major shortage of consultants will take place.

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**Contributors** MJ and JC came up with the idea for the survey. JC created the survey and MJ, JC, KM, RH and AM edited the survey. JC and KM analysed the data. JC wrote the original draft manuscript. KM wrote the methods and part of the discussion. MJ, RH and AM edited and revised the main manuscript. JC is responsible for the overall content as the guarantor.

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#### ORCID ID

Jennifer Cathcart <http://orcid.org/0000-0002-7051-8820>

## REFERENCES

- 1 British Medical Journal BMA. Flexible Training [Internet], 2022. Available: <https://www.bma.org.uk/advice-and-support/career-progression/training/flexible-training> [Accessed 13 Apr 2022].
- 2 Health Education For England HEE. Delivering greater flexibility [Internet], 2022. Available: <https://www.hee.nhs.uk/our-work/doctors-training/delivering-greater-flexibility> [Accessed 13 Apr 2022].
- 3 General Medical Council (GMC). *National training survey 2013: Key findings*, 2013
- 4 General Medical Council (GMC). Less than full time by survey year [Internet], 2022. Available: <https://reports.gmc-uk.org/analytics> [Accessed Sep 2022].
- 5 General Medical Council. National training survey 2022 results, 2022
- 6 Survey Monkey. Survey Monkey [Internet], 2022. Available: <http://www.surveymonkey.com> [Accessed 13 Apr 2022].
- 7 Health Research Authority. Do I need NHS REC review? [internet], 2022. Available: <http://www.hra-decisiontools.org.uk/ethics/> [Accessed 13 Apr 2022].
- 8 Twitter. Twitter [Internet], 2022. Available: <http://www.twitter.com> [Accessed 13 Apr 2022].
- 9 Welsh Government. Medical and dental staff by grade and year [internet], 2022. Available: <https://stats.wales.gov.wales/Catalogue/Health-and-Social-Care/NHS-Staff/Medical-and-Dental-Staff/hospitalmedicalanddentalstaff-by-grade-year> [Accessed 13 Apr 2022].
- 10 Scotland NHS. Recruitment statistics, 2021. Available: <https://www.scotmt.scot.nhs.uk/recruitment/recruitment-statistics.aspx> [Accessed 13 Apr 2022].
- 11 Digital NHS, Workforce Statistics NHS. England and organisation Internet, 2021. Available: <https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics/december-2021> [Accessed 13 Apr 2022].
- 12 General Medical Council. *Northern Ireland report 2020*, 2021
- 13 Dobson R, Joshi A, Allen C, *et al*. Less than full-time training in cardiology. *Heart* 2019;105:1445–6.
- 14 Parkinson E, Hynes F. West Midlands region less than full time training survey. *BJPsych Open* 2021;7:S151.
- 15 Illsley A, Olsson-Browna, Sutherland R. *Less than full time training; the trainee perspective*, 2019.
- 16 Harries RL, Gokani VJ, Smitham P, *et al*. Less than full-time training in surgery: a cross-sectional study evaluating the accessibility and experiences of flexible training in the surgical trainee workforce. *BMJ Open* 2016;6:e010136.
- 17 Hendrickson SA, Ibrahim I, Eccles S, *et al*. Less than full time training in plastic surgery: a qualitative survey-based study and practical suggestions for improvement. *J Plast Reconstr Aesthet Surg* 2022;75:2875–81.
- 18 British Medical Association, NHS employers. *Good Rostering Guide*, 2018.
- 19 NHS Health Education England. Flexibility in the Medical Training Pathway – COVID-19 Interventions [Internet]. Available: <https://www.hee.nhs.uk/our-work/doctors-training/flexibility-medical-training-pathway> [Accessed 13 Apr 2022].
- 20 NHS Health Education England. Wellbeing [Internet]. Available: <https://www.hee.nhs.uk/coronavirus-covid-19/wellbeing> [Accessed 13 Apr 2022].
- 21 Trudgill N. *Focus on physicians: census of consultants and higher specialty trainees 2018*. Royal College of Physicians of London, Royal College of Physicians of Edinburgh & Royal College of Physicians and Surgeons of Glasgow, 2019.
- 22 Clark D. Average weekly hours of work for full-time workers in the United Kingdom from May 1992 to February 2022 [Internet], 2022. Available: <https://www.statista.com/statistics/280763/average-working-hours-uk/> [Accessed 13 Apr 2022].
- 23 Royal College of Physicians. RCP census finds physician vacancies at highest level in almost a decade [Internet], 2021. Available: <https://www.rcplondon.ac.uk/news/rcp-census-finds-physician-vacancies-highest-level-almost-decade> [Accessed 13 Apr 2022].
- 24 Consultant workforce shortages and solutions. *Now and in the future British medical Journal*, 2020.