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Multiple and multidimensional transitions from trainee to trained doctor: a qualitative longitudinal study in the UK

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ABSTRACT

Objectives To explore trainee doctors' experiences of the transition to trained doctor, we answer three questions: (1) What multiple and multidimensional transitions (MMTs) are experienced as participants move from trainee to trained doctor? (2) What facilitates and hinders doctors' successful transition experiences? (3) What is the impact of MMTs on trained doctors?

Design A qualitative longitudinal study underpinned by MMT theory.

Setting Four training areas (health boards) in the UK.

Participants 20 doctors, 19 higher-stage trainees within 6 months of completing their postgraduate training and 1 staff grade, associate specialist or specialty doctor, were recruited to the 9-month longitudinal audio-diary (LAD) study. All completed an entrance interview, 18 completed LADs and 18 completed exit interviews.

Methods Data were analysed cross-sectionally and longitudinally using thematic Framework Analysis.

Results Participants experienced a multiplicity of expected and unexpected, positive and negative work-related transitions (eg, new roles) and home-related transitions (eg, moving home) during their trainee–trained doctor transition. Factors facilitating or inhibiting successful transitions were identified at various levels: individual (eg, living arrangements), interpersonal (eg, presence of supportive relationships), systemic (eg, mentoring opportunities) and macro (eg, the curriculum provided by Medical Royal Colleges). Various impacts of transitions were also identified at each of these four levels: individual (eg, stress), interpersonal (eg, trainees' children spending more time in childcare), systemic (eg, spending less time with patients) and macro (eg, delayed start in trainees' new roles).

Conclusions Priority should be given to developing supportive relationships (both formal and informal) to help trainees transition into their trained doctor roles, as well as providing more opportunities for learning. Further longitudinal qualitative research is now needed with a longer study duration to explore transition journeys for several years into the trained doctor role.

INTRODUCTION

Throughout their careers, doctors experience numerous transitions, with consequent changes in contexts, teams, relationships and levels of seniority.[1] Transition is an ongoing process of moving from one context and set of interpersonal relationships to another, with accompanying changes in identities.[2] Preparedness for transitions can be complex when, during these transitions, changes in role and seniority can lead to professional identity challenges.[3] Jindal-Snape and Miller have argued that transitions can be times of severe adversity, as what might be seen as everyday minor hassles by some (such as difficulties with a new colleague) can be viewed as major critical incidents by others, especially when these accumulate without any resolution over time.[4] Indeed, research from Westerman *et al* concluded that, among 2643

Strengths and limitations of this study

► To our knowledge, this is the first study to explore the trainee–trained doctor transition employing a comprehensive longitudinal qualitative approach and drawing on multiple and multidimensional transitions theory.

► The longitudinal nature of the study permitted exploration over time and the use of audio-diaries allowed collection of data that were contemporaneous rather than a reflection on past experiences as is typical with much qualitative data on this topic.

► A rich qualitative dataset collected from trainees in various specialties and training sites should enable transferability of our findings to other healthcare settings.

► Most participants were based in hospital medicine, hence our findings may be most relevant to hospital-based doctors.

► While our study duration (average of 9 months per participant) was not insubstantial, given that doctors can take years to feel comfortable in their trained doctor roles, a longer study duration would offer further insights.

new consultants in the Netherlands, a perceived lack of readiness for professional transitions led to increased stress and risk of burnout.[5] Worldwide, concerns regarding doctor burnout, as well as its potential link to poor quality patient care, have come to the fore.[6 7]

Alternatively, transitions can be seen as prolonged and intensive learning processes. As such, a better understanding of this opportunity for learning, before a change or move is encountered, might offset any negative impact and help the individual to adapt.[8 9] To ensure that individuals can navigate transitions without any adverse effect on their well-being and thrive, using them as a springboard for positive development, it is important that individuals feel ready and resilient in the face of change.[2] This resilience requires ongoing mutual adaptation and *readiness* of the individual, as well as *readiness* of the receiving environment, with strong support networks in place.[2 10 11] It is therefore imperative that doctors' experiences of transitions are well understood so that they can be supported, minimising negative impact and maximising afforded opportunities.

Multiple and multidimensional transitions theory

Various theoretical perspectives have been used to explore transitions in the healthcare education literature, including, for example, situated learning and communities of practice[12]; professional identity formation[13] and professional socialisation.[13 14] Drawing on the wider educational literature, we adopted multiple and multidimensional transitions (MMT) theory as the underpinning conceptual framework for this paper in order to develop an holistic understanding of the interactions between complex MMTs.[15] According to MMT, an individual inhabits multiple 'domains' (in this context, domains can be physical, cultural, psychological and social), with complexities attached to each one, and moves between several 'domains' every day, for example, between home and work.[2 15–17] When an individual is experiencing a transition such as promotion or taking on a new role in their work life, it is inevitable that it will trigger transitions in other domains, leading to multiple transitions for them. Also, they might be experiencing some other changes in life and these will have an impact on each other. It is important to take cognizance of these multiple transitions to understand the complexity of their experience in any one domain, such as the professional context. Furthermore, their transitions trigger changes for significant others (eg, spouse, colleague, patient), and vice versa. This leads to interactions between different individuals' transitions and make their experience dynamic and complex. MMT theory highlights these multiple layers of transitions and their interactions.[2 15–17]

Researching doctors' transitions

We use the term 'trainee doctor' to refer to the years following graduation with a medical degree, where doctors in the UK will first experience a range of clinical settings (working for 2 years as a foundation doctor) before moving to a core (eg, medicine) or specialty training pathway (eg, cardiology).[i] Much previous research has focused on the transition of doctors into and out of the Foundation Programme in the UK.[18–22] Less is known about transitions from specialty training to trained specialist doctor (in the UK, the period leading to completion of training and Certificate of Completion of Training (CCT), or equivalent).

Recent research suggests that specialty trainees feel underprepared for the non-clinical responsibilities associated with being a trained doctor, including communication with the interprofessional healthcare team and wider healthcare organisations; leadership; training and supervision; organisational knowledge and management responsibilities such as workforce and budgetary management.[5 19 23 24] A recent critical synthesis of the medical transitions literature found that, as well as not knowing how to fully adapt to leadership, new consultants struggled with changes they perceived in their relationships with other staff members.[9] Indeed, Kite and Salt found that the most significant stressor for palliative medicine consultants was related to interpersonal relationships.[25] While all of these studies focused on interpersonal relations in a professional context, MMT theory would also advocate for the exploration across various domains inhabited by these individuals (and their significant others).

Although workplace induction to a new role is standard, doctors lament the loss of peer support and mentoring, highlighting the need for more formalised support systems.[23 25] In a follow-up study of consultants that had participated in their study in 2009, Brown and colleagues found that the majority felt it had taken between 1 and 3 years in post to feel they had finally become confident consultants.[23 26] Additionally, a study of 12 clinical oncologists who were 2 years into their consultant posts found that despite working with other consultants for at least 5 years prior to becoming consultants themselves they reported 'shock' during their transition to the consultant role.[27] They described their experiences in terms of three coexisting phases, of surviving, navigating and moving forward. While these studies are useful in highlighting participants' views about their adaptation over time, data collection started *after* becoming a consultant, offering a retrospective view only, while MMT theory would suggest that data captured during the entire transitional period would help to better understand the complexities involved. Finally, studies to date have tended to be cross-sectional and have focused on specific specialties, despite there being variability in the length of training across specialties (eg, general practitioner (GP) training

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[i]For more details on UK medical training pathways see this link: https://www.bma.org.uk/advice/career/studying-medicine/insiders-guide-to-medical-specialties/medical-training-pathway.

is 4 years while some surgical specialties can be up to 9 years).

As transition is an ongoing process, it is imperative that research captures this longitudinally. Longitudinal research on this particular topic has been undertaken in the Netherlands only, involving several interviews with newly qualified consultants, focused specifically on their supervisory role when on-call.[28] Transitions within a primary care setting, from GP trainee to trained GP, have not been considered. Given the variability in training length, it is critical that studies explore a range of specialties.

Rationale, study aims and research questions

The study reported in this paper attempts to address the research gaps identified above by including trainees working in a range of specialties and contexts, and through its longitudinal study design, follows participants as they move from trainee to trained doctor roles. Our research questions are: (1) What MMTs are experienced as participants move from trainee to trained doctor? (2) What facilitates and hinders doctors' successful transition experiences? (3) What is the impact of MMTs on trained doctors and their significant others?

METHODOLOGY AND METHODS

Study design

This study was conducted in the context of postgraduate medical training in the UK National Health Service. Underpinned by social constructionism, which asserts that meaning is constructed by people as they interact with the world, longitudinal narrative inquiry was the chosen methodology.[29 30] This allowed exploration of participants' constructions of their transition experiences and how these evolved over time. Drawing on MMT theory (described above), we sensitised ourselves to the different domains and how these interacted with each other and either facilitated or inhibited successful transition. By successful transition, we mean that an individual has a sense of belonging and well-being, respectful and reciprocal relationships, and good engagement and attainment in the new environment.[2 15]

Participant recruitment

Following appropriate ethical and institutional approvals, participants were sampled from one part of the UK. Those invited were trainee doctors who expected to complete training (and achieve their CCT) within the next six months. Participants were invited by email to take part through local educational leads in four health boards. The different health boards provided contextual diversity (eg, inner city, remote and rural, large acute care, small primary care services). Participant information is displayed in table 1.

Data collection

Data collection occurred over a 12-month period with participants first invited to semistructured interviews with the first author. Participants were asked about their broad understandings and perceptions of the trainee–trained doctor transition, to discuss how they anticipated managing over the coming months, and finally, to share any stories they believed would affect the process of transition.

All those participating in the entrance interviews were then invited to take part in longitudinal audio-diaries (LADs).[30] In this LAD phase, participants were asked to audio-record stories, incidents and thoughts pertaining to their transition from trainee to trained doctor on a regular basis (determined by the participant) throughout a period of 6–8 months. LADs were used to ensure that 'in-the-moment' experiences and thoughts could be captured regularly to enable us to see change over time. Participants audio-recorded their diary entries using smart phones and then emailed the files to the first author. Participants were provided with a prompt sheet to help facilitate their LAD entries and a weekly email reminder was sent to each participant. The prompt sheet asked participants to describe an aspect of their transition experience to date; how this affected their ongoing transition experiences; how these experiences were supported and whether these experiences were affecting their health and well-being in any way. The initial interviews sensitised participants to the type of stories they could share in their LADs (eg, adapting to new roles; their relationship with colleagues or transitions they were experiencing in other aspects of their lives). Participants were emailed the transcript of every diary entry for their own records, which they could then make use of in their e-portfolios if they wished. The first author discussed their audio-diary entries within the weekly reminder emails. During this LAD phase, three participants expressed difficulty with the audio-diary method, so instead emailed written diaries to the first author.

Finally, participants were invited to an exit interview, which focused on the 'long story' of their transition. Participants were asked to reflect back over their experiences, with the interviewer using the participants' transcriptions of audio-diaries as prompts to discuss specific aspects of their transition experiences. Here, participants were encouraged to explore how they felt about these experiences at the time and now, while recounting them. All interviews were audio-recorded and, along with the audio-diary recordings, were transcribed using an experienced transcription service.

Table 1 shows details of the sample. A total of 20 doctors took part in the first interview. Of these, 18 went on to complete the LAD (or written diaries) and final interview stages. Participants came from a range of specialties and had various trained doctor roles. Of the 18 that went on to complete the LADs (or written diaries) and exit interviews, 12 stayed in their training location, while 6 moved to a new location.

Table 1 Participant characteristics and involvement in the study

Participant characteristics	Number at entrance interview (n=20)	Number of LADs (and written diaries) (n=18)	Number at exit interview (n=18)
Gender			
Male	9	7	7
Female	11	11	11
Ethnicity			
White	17	15	15
BAME	3	3	3
Specialty base			
GP	3	3	3
Medicine	11	10	10
Surgery	4	3	3
Laboratory-based specialty	1	1	1
Anaesthetics	1	1	1
Training centre*			
Health board A	7	6	6
Health board B	4	4	4
Health board C	3	3	3
Health board D	6	5	5
Post-training role†			
Consultant	11	10	10
Locum	2	2	2
SAS doctor‡	1	1	1
GP retainer	1	1	1
Clinical fellow	3	3	3
Academic fellow	2	1	1
Management	1	1	1

*A health board is a defined geographical entity providing comprehensive, free at the point of delivery, healthcare to a population.

†The total number here is greater than participant number as some trained doctors had multiple roles.

‡A SAS doctor is a staff grade, associate specialist or specialty doctor who is in a non-training role and who has at least 4 years postgraduate training (two of these in a relevant specialty). We have included this SAS doctor as they were attempting to transition back into higher-stage training at the time of the study.

BAME, black, Asian and minority ethnic; GP, general practitioner; LADs, longitudinal audio-diaries.

Of those that completed the LADs (or written diaries) and exit interviews, participants recorded audio-diaries (and for three participants the written diary) for between 7.5 and 10 months (average of 9 months) and submitted between 2 and 30 diaries each (average 13). This resulted in over 44 hours of transcribed audio-data, plus 13 written diaries (see online supplementary appendix A for an overview of collected data).

Data analysis

We used thematic Framework Analysis to analyse our large dataset.[31] This structured inductive analytical approach involved a five-stage process: (1) *familiarisation*: the research team familiarised themselves with the data through reading of selected transcripts and listening to audio-recordings; (2) *identifying a thematic framework*: each author separately analysed a subset of data to identify key themes, before coming together to negotiate key cross-sectional and longitudinal themes in order to develop a coding framework; (3) *indexing*: the coding framework was used by the first author to code the data; (4) *charting*: the first author charted the data according to themes and subthemes; and (5) *mapping and interpretation*: we examined the data both cross-sectionally and longitudinally through the lens of MMT theory.[2 15] Atlas. ti V.7 was used to facilitate the management and analysis of this large qualitative dataset, plus enabled the tracking of themes longitudinally.

Findings

We identified six overarching themes from our analysis of interview and LAD data, including both cross-sectional and longitudinal themes. In this paper, we focus on three themes only that are specific to addressing the research

Table 2	Description of overarching themes
Theme	**Description**
Multiple transitions	This theme identifies across the data the different types of transitions that participants experienced at different points during the study. These data are cross-sectional in that some transitions were anticipated and described at the outset, and longitudinal in that some types of transition emerged over the time period of the study.
Supporting successful transitions	This theme focuses on the facilitators and inhibitors to transitional support as perceived by participants. The longitudinal data allowed us to track how facilitators and inhibitors ultimately impacted on participants' overall trainee–trained doctor transition experiences.
Multiple and multidimensional transitions interacting and impacting	This theme recorded the different types of impact that multiple transitions had on participants (at home and at work) and their significant others, and how the differing transitions interacted with each other. The longitudinal data allowed us to track emerging impacts as well as cross-sectionally identify previously recognised impact.

questions posed earlier in this paper: multiple transitions, supporting successful transitions and MMTs interacting and impacting (see table 2 for a description of these three themes). The three other themes (conceptualisations of transition, transition narratives and shifting identities) are being prepared for publication elsewhere.

Multiple transitions

While each participant's experience was unique, we could identify commonalities across our data. Although participants' general focus tended to be on workplace transitions, our analysis revealed that participants were also experiencing transitions within their home-lives. Different transitions were afforded different precedence by different individuals at different times across the longitudinal dataset. To illustrate the multiple nature of trainee–trained doctor transitions for participants, and to help depict a coherent picture from our extensive dataset, we present an overview of the data in the context of two participants' experiences: Hannah and Will (pseudonyms). While Hannah was starting a temporary position within a new organisation in a different city, Will was moving into a permanent consultant post in the organisation in which he trained. We chose Hannah and Will as illustrative cases here as they represent some of the diversity across our participants, and between them demonstrate the wide variety of transition types experienced by participants. Table 3 describes Hannah and Will and the types of transitions they experienced during the study and whether these were expected or unexpected across the longitudinal data.

Workplace transitions

Central to many of the participants' experiences was an expected transition to a new role while staying in the same workplace. For example, in his exit interview, Will reflects on the advantages he gleaned over time in remaining in his trainee workplace as a consultant:

> I think there is big advantages (sic) in terms of knowing the system, knowing the people you work with, knowing the strengths and weaknesses of certain

Table 3	Hannah and Will's multiple expected and unexpected transitions	
	Hannah	**Will**
Gender	Female	Male
Specialty base	Surgery	Medicine
Post-training role	Clinical fellow	Consultant
Post-training context	Moved to a different location	Stayed in the same location as training
Expected workplace transitions	New workplace	New role (same workplace)
	New systems	New spaces (own office)
	New relationships	
	New spaces	
Unexpected workplace transitions	New role (different workplace)	New systems
	Changing workplace relationships	Changing workplace relationships
Expected home-life transitions	Moving home	Partner's transition to trained doctor status
	Change in family set-up (ie, moving away from family)	
Unexpected home-life transitions		Change in family set-up (ie, changes in children's needs)

people … I worked here for the last five years. (Will, exit interview)

On the other hand, like Hannah, some participants experienced the uncertainty of a move to a completely new workplace as part of their post-training experience. Although an expected transition, Hannah expresses some doubts about the unknown in her entrance interview:

It's a new unit … I'm not quite sure what's going to be expected of me, whether they're expecting me to go in as a kind of fully-trained, all singing all dancing, you know, [specialist] because (laughter) if they are, I think I'm in trouble. (Hannah, entrance interview)

Early in the study, Hannah also experienced some trepidation about making an unexpected move within the new workplace into a more senior role (as a consultant rather than a clinical fellow):

I have just been asked to act up as consultant … which is going to bring new challenges because I was expecting to go as a fellow … I am just trying to get my head around that … it is a much bigger jump than I was envisaging. (Hannah, LAD 2, 3 weeks after entrance interview)

Additionally, dealing with new workplace systems was commonly identified within participants' transition experiences, irrespective of whether they had moved to a new workplace. This could be through moving to completely new environments within the same hospital and having to familiarise themselves with new systems such as, for Hannah, electronic records, or, for Will, faced with unexpected new systems he was not exposed to as a trainee:

Everything is online and that took me quite a while to get used to … I am used to it [notes] just sitting at the bottom of the bed … everything's computerised … that was a bit stressful. (Hannah, exit interview)

… you still find yourself having to learn new things and learn about new processes … a whole element of management things that you are not really aware of as a trainee … you are now sort of being more expected to know about them. (Will, exit interview)

Participants also described their transition to new work spaces. For Will, this meant having his own office space, which he viewed positively. For others, like Hannah, this meant navigating completely new spaces, something that she described as positive at the start but stressful later:

 … on the plus side, I have got a new office all to myself. (Will, LAD 3, 4 weeks after entrance interview)

 … slightly stressful being in a new [workspace], different staff nurses that I did not know, new [equipment] …. (Hannah, LAD 5, 6 weeks after entrance interview)

All participants talked about the nature of their relationships with work colleagues, and this was given precedence in many audio-diaries across the longitudinal

dataset. This often related to completely new working relationships such as those with different staff nurses mentioned above by Hannah or could be challenging new relationships with other doctors:

I'm just going to have to be really, really careful with this guy [new consultant colleague] because if he is really horrible to me, I am not quite sure how I am going to cope with it. I am meant to have a day off tomorrow … and [the consultant] has told the other fellow that he expects me to be there on Monday all day even though I am actually rota-ed to have a day off because I have been on-call over the weekend … I'll just need to hide my feelings and see how I get on. (Hannah, LAD 7, 9 weeks after entrance interview)

The longitudinal data allowed us to track how participants perceived these relationships emerging and changing over time. For example, Hannah experienced changes to her existing workplace relationships over time, often for the better, as she established credibility in her new role. Will also saw the make-up of existing relationships with consultant colleagues changing for the better as he moved from trainee to consultant and peer. How participants perceived these relationships evolving (and the way they perceived work colleagues seeing them) often acted as a linchpin for evaluating the ongoing success of workplace transitions:

Since I was consultant, I would say that the relationship has probably improved in most cases. I suspect that they [other consultants] were … previously holding back a little bit as they were my senior, but now they have become peers it's been easier …. (Will, LAD 11, 13 weeks after entrance interview)

Home-life transitions

Some participants experienced family-related transitions during the study, such as splitting up with partners or moving in with partners, or for some, having babies. While many stayed within the same locale, they still experienced home moves during the study. For those moving organisations, there were often geographical moves such as Hannah's and descriptions of the associated stress. For Hannah, as well as moving to a new geographical location, she also talked about moving away from her support network:

I am just preparing for the big move to [names city]. It's half past ten at night, I am still firing off emails, trying to get my accommodation sorted out. Oh my goodness! Oh what a stress! (Hannah, LAD 1, 1 week after entrance interview)

My friends and my family are all [different location], so my support network is [different location]. (Hannah, entrance interview)

Supporting successful transitions: facilitators and inhibitors

Participants across our longitudinal dataset discussed various facilitators and inhibitors at differing levels: individual, interpersonal, systemic, and macro. In this section, we move our focus away from just Hannah and Will to present data from all participants.

Individual-level facilitators/inhibitors

Some participants expressed being proactive in seeking opportunities to undertake the 'trained doctor' role preceding their CCT, which they saw as facilitating their transition processes. This was linked to personal preparation for being an independent practitioner and, for some, motivation to be competitive in job applications:

> I needed to make myself as competitive as possible … I wanted to do absolutely everything that was asked of me or was a potential opportunity to make myself a bit more competitive … (Helena, participant 3, female surgeon, entrance interview)

Furthermore, the longitudinal data revealed that changes in participants' home-lives affected their professional transitions. On the one hand, stability, through finding and moving into a new home, helped facilitate trainee–trained doctor transitions. Conversely, participants discussed how the uncertainty of looking for somewhere to live negatively affected their ability to focus at work:

> So I bought a flat … I had no bed for six months, I was sleeping on the sofa … And you think actually that these things don't matter, but … you realise that actually they do … they all … impact on … your performance and how you sleep …. (Margaret, participant 7, female surgeon, exit interview)

Interpersonal-level facilitators/inhibitors

Positive and negative interpersonal relationships and their shifting nature over time were perceived to be central facilitators/inhibitors of trainee–trained doctor transitions. Participants identified specific interpersonal relationships that influenced support for transitions, a key relationship being a senior colleague from whom they sought advice and feedback. The type of support sought was from those who had already experienced similar transitions. Indeed, such 'informal mentors' highlighted potential issues that participants might face in the initial months of their new role and helped them navigate new and uncertain experiences:

> I had several new consultant friends who'd undergone that transition so I kind of had an awareness of some of the issues beforehand … My colleagues have always been willing to talk things through and to discuss any particular issues. (Paul, participant 9, male medicine, exit interview)

Peer support was also important, with participants articulating the benefits of being able to discuss candidly their experiences over time with those undergoing similar transitions. This was perceived to be a chance to share their uncertainties in a non-judgemental environment, thus facilitating transitions:

> I'm glad that I have my monthly [educational] group of doctors … not only is this a slightly educational meeting but it is also good to meet up with like-minded colleagues and just offload a bit. (Tom, participant 11, male GP, LAD 7, 29 weeks after entrance interview)

Participants also discussed the invaluable nature of the support they received at home from partners or spouses (many of whom were also doctors). Participants appreciated the opportunity to explore their doubts in 'safe' surroundings:

> I've got him [husband] to discuss things with and he's in a different specialty but been through it [trainee-trained doctor transition] before so he can give me advice … he's always been very supportive. (Helena, participant 3, female surgeon, entrance interview)

Alternatively, some participants experienced isolation as a result of a geographic move or loss of peer group. For example, one participant explained her loss of peer group during her two maternity leaves while in training:

> It does make you feel a bit more … professionally isolated because I've been through three registrar groups and it's never really been possible to kind of keep in touch very well, with anyone. (Sarah, participant 1, female GP, entrance interview 1)

Systemic-level facilitators/inhibitors

The systemic level refers to the local systems and practices (eg, in a health board) that participants were interacting with, including a mix of formal and informal activities. Systems that were deemed facilitative of transitions tended to offer formal educational schemes that helped trainees to prepare. Specifically, opportunities to 'act up' in trained doctor roles or attend planning meetings normally reserved for trained doctors were perceived to be beneficial:

> … one of the best things this year was that we do have a period of what's called 'acting up' as a consultant … You're still supported because you've got … a mentor that you can go to … you're doing the acute takes, the patients are coming in under yourself. You're the name sort of above the bed … (Michael, participant 8, male medicine, entrance interview)

Mentoring schemes were also appreciated, but only if participants could choose their own mentor. As discussed previously, an informal relationship with a senior colleague was thought to be more facilitative than a designated mentor:

Some of us are luckier than others and have mentors who have insight into this and have developed some coaching skills and mentoring skills … one of the things I've always struggled with is this lottery of who you are with … [I] feel passionate about having a standardised equal access to [mentorship]. (Pavita, participant 4, female medicine, entrance interview)

Some participants identified useful formal training systems put in place locally, for example, new consultant study days and highly structured final years, that focused on moving to trained doctor status:

Our training programme is really well structured … after you have passed the exam, you then enter this part of training called [name] which is solely for the purpose of getting ready to be a consultant. (Tess, participant 15, female laboratory-based, entrance interview)

Participants were, however, most likely to identify inhibitors at a systemic level than other levels. Some noted the lack of formal induction as they moved into a new role, both those who had moved organisations and those who stayed in their training location. Participants often talked about 'unseen' activities that more senior colleagues were involved in that as trainees they were not exposed to, for example, service planning and staff management. Participants emphasised the need for guidance particularly with respect to the non-clinical aspects of being a trained doctor. This also included support with finalising appropriate paperwork for CCT or preparation for job interviews. Linked to this, participants talked about competing demands on the system and the need to fulfil clinical requirements while simultaneously settling into their new roles, learning new systems and negotiating new spaces.

Prior to gaining trained status, participants perceived the need to have certain competencies assessed as resembling a 'tick-box exercise'. As participants fulfilled the requirements for CCT, they were sceptical about the learning advantages related to these practices. Participants also talked about how colleagues' transitions (eg, due to retirement) influenced their own transitions. Colleagues' transitions represented both opportunities and challenges for participants as they were asked to take on new responsibilities and roles:

… there's been a bit too much of a shift towards number of assessments rather than the quality … [a] tick box exercise … it's probably the most difficult thing … trying to get all the assessments done as well as doing your job at the same time. (Helena, participant 3, female surgeon, entrance interview)

A colleague came to see me today to say that they are retiring. I was asked if I would take over some of their managerial duties … I am finding it difficult to manage my workload and this would be something extra … I lack management experience … so have much to think about over the next few days. (Tess,

participant 15, female laboratory-based, written diary, 23 weeks after entrance interview)

Macro-level facilitators/inhibitors

The macro level refers to the wider systems that participants were interacting with, for example, specialty training programme arrangements with Medical Royal Colleges (including curricular and assessment requirements and formal reviews). Participants found competency checklists, formal college members' meetings and training courses arranged by their colleges or local postgraduate education providers to be good opportunities for networking and sharing experiences. Especially beneficial were the different 'out-of-training' experiences that some trainees experienced (eg, leadership or patient safety fellowships). The chance to step away from training for a specific period and gain new, but relevant, experiences and viewpoints was perceived to prepare participants for the wider aspects of being a trained doctor. Some trainees who had undertaken these fellowships also appreciated the opportunity of a break from the intensity of training:

I felt pretty burnt out before I actually started the fellowship. So I think doing that [the fellowship] has really given me a much clearer idea of who I want to be … I think previously it's just been about trying to get the work done. (Nigel, participant 12, male medicine, exit interview)

While formal training courses were valued because they offered opportunities to network with others, the content of these programmes was perceived as less valuable, with participants questioning the relevance of some of the courses:

People don't see the relevance of [course] if they think it is just a series of dry lectures … if you sit in another lecture just to tick another box, you are not going to feel it is useful. (Pavita, participant 4, female medicine, exit interview)

MMTs interacting and impacting

In this section, we explore how MMTs (both expected and unexpected) interact with each other and impact on participants and their significant others at differing levels: individual, interpersonal, systemic and macro.

Individual-level impacts

For some, changing working hours, for example, reduced on-call and weekend commitments (compared with requirements as trainees), meant positive opportunities to plan their personal lives (eg, regular exercise or weekends away). Participants talked about how new dimensions to their trained doctor role contributed to reducing personal stressors, as well as making a big contribution to their professional identities. For example, many participants talked about the novel experience of being approached for advice by colleagues.

Trying out this new 'expert clinician' identity contributed to participants' growing assurance, with them articulating increased confidence and a newly experienced autonomy over time:

> I feel liberated by becoming a consultant because suddenly, I'm able to make decisions … it just feels great to be in control. (Simon, participant 10, male surgeon, exit interview)

However, many discussed the personal difficulties they faced in their LADs. Participants talked about the physical and emotional demands of their new role and the self-pressure to consistently perform at high levels. The longitudinal data revealed points in the transition process that seemed to overwhelm participants. They described feeling overloaded and how this was having an impact on their health, as well as home-lives. This often manifested as emotional and physical responses to stress such as sleeplessness and poor eating habits. Lack of emotional support and levels of uncertainty took their toll and could even lead to participants questioning their professional identities and career choices:

> Normal is feeling far too busy … lack of time for my usual exercise routine and more time awake at night worrying about it all … this pressure is unbearable and I cannot sustain the pace indefinitely … For the first time in my career … I have been questioning if this is the best job for me. (Petra, participant 6, female anaesthetist, written diary, 28 weeks after entrance interview)

Interpersonal-level impacts
Participants talked about the impact of their multiple transitions on their family including significant others such as spouses and children:

> It means that family life has suffered a lot over the last 6 months … I have noticed a gradual increase in the time [son's name] is spending in childcare (he notices too) … This is not the family life I want or planned. (Petra, participant 6, female anaesthetist, written diary, 28 weeks after entrance interview)

Some also experienced changes related to partners' or other family members' transitions. For example, Will talked about his wife's own trainee–trained doctor transition in his exit interview and how this required him to work flexibly to accommodate childcare. Some participants talked about how their own transitions triggered transitions for family members, for example, the requirement of a child to start a new nursery related to a parent's move to a new workplace:

> But she's [Will's partner] got her big exams in a couple of weeks' time … we … managed to do things so far but … If my daughter became ill, there is only me so I have to … go and pick her up, you do feel a bit vulnerable when that happens. (Will, exit interview)

Other interpersonal difficulties came through unsupportive relationships with senior colleagues who apparently lacked interest in participants' transitions to unfamiliar surroundings or systems. This could leave participants feeling isolated. Furthermore, new management relationships sometimes left participants feeling overwhelmed due to, for example, extra demands on their time to educate trainees or deal with poor working relationships among other colleagues, particularly when balancing these with the provision of good patient care:

> … there is always a negative atmosphere in their [secretaries'] room … I'm just now struggling to decide what I should do about it … they are outside my management structure but their behaviour is affecting my team of doctors. (Lynn, participant 18, female medicine, LAD 10, 19 weeks after entrance interview)

Systemic-level impacts
Participants discussed the impact of their transitions on patients. For example, demands on participants' time associated with their new roles (eg, to educate others or to undertake management duties) or with family life (eg, having to leave early to collect a child) were thought to result in reduced time spent with patients. Participants also mentioned how the impact of transitions on their own health and well-being, as outlined above, could have adverse effects on patient care:

> I could have said I was too tired to work [after 24 hours on-call] but that would've raised eyebrows … a lot of pressure and decision making skills when you are exhausted are not at their best. (Petra, participant 6, written diary, 29 weeks after entrance interview)

Macro-level impacts
Participants often referred to problems with processing CCT paperwork for registration as specialist practitioners. Participants repeatedly highlighted a lack of information about these processes and the slow pace of the overall process leading to delays in specialist registration. The impact of this was that many participants started in their new roles as locums or fellows (rather than consultants) until the process was completed:

> My first thought was, 'I must put some kind of a document on our shared drive at work to show people how to navigate at this process,' because it is quite involved and there isn't any guidance. (Lynn, participant 18, female medicine, LAD 6, 10 weeks after entrance interview)

DISCUSSION
Summary of findings and comparison with existing literature
We focused on three themes identified from our analysis for this paper. Here, we summarise our findings

and discuss them in light of the research literature and MMT theory.[2][15] As a result of our focus on all contextual domains inhabited by study participants, in relation to our first research question (what MMTs are participants experiencing across the trainee–trained doctor transition?), we found that participants typically experienced multiple expected and unexpected, positive and negative, work *and* home-related transitions as they progressed from trainee to trained doctor. While numerous studies have explored the trainee–trained doctor transition over the last decade or so, they have focused almost exclusively on a singular work-related transition to trained doctor (such as preparedness for practice as consultant), thereby ignoring the complex multiple and multidimensional nature of transitions including those relating to home.[5][19][23][26–28][32–36] By using a longitudinal qualitative approach and drawing on MMT theory, our current study suggests that adaptations to change happen over lengthy time periods and that adaptation processes are non-linear. Similarly, individuals can have positive and negative transition experiences simultaneously, in the same or different domains of their life. This study therefore emphasises that the trainee–trained doctor transition is personal, complex and multidimensional, with transitions often interacting with or instigating other transitions; for the trainee and/or others such as family members, patients and colleagues.[2][15]

With respect to our second research question (what facilitates/hinders doctors' successful transitions?), we found numerous factors operating at various levels: individual/personal, interpersonal, systemic, and finally, macro. While previous research has identified similar transition facilitators/inhibitors such as informal support mechanisms, formal mentorship and formal education or lack thereof, earlier studies have failed to examine the complexities of trainees' experiences—of multiple simultaneous facilitators and inhibitors, including those present outside the workplace.[5][26][27][33][34] Again, by drawing on MMT theory, our study emphasises a complex array of interdependent factors that can both facilitate and inhibit trainees' transitions to the trained doctor role. Perhaps crucially, our study suggests novel insights into multiple factors that can be facilitators and/or inhibitors at different times.[2][15]

Finally, in relation to our third research question (what is the impact of transitions on trainees and their significant others?), we found transition experiences having an impact, again, at multiple levels: individual/personal, interpersonal, systemic and macro. While previous research has identified similar effects on trainees as they move into the trained doctor role, both positive (eg, increased confidence) and negative (eg, stress and burnout) (eg, refs. 28, 33, 36) rarely have the complex variety of interacting positive and negative impacts of transition at different levels been illustrated. Furthermore, research has typically failed to examine the impact of the trainee–trained doctor transition on significant others in their lives. Indeed, by drawing on the MMT theory, our study illustrates clearly the complex array of interdependent impacts of the trainee–trained doctor transition on multiple stakeholders including trainees, their colleagues and family members, and patients.[2] Furthermore, our research highlights the impact of other people's transitions on participants.

Methodological strengths and challenges

To our knowledge, our study is the first of its kind to explore the trainee–trained doctor transition employing a longitudinal qualitative approach using audio-diaries across several specialities. We conducted a sufficient number of entrance/exit interviews, plus collected sufficient amounts of LAD (and written diary) data from diverse trainees, including representatives from various specialities and geographic training locations.[37] Such diversity across participants' gender, specialty and training sites, which is unique to our study, suggests that our findings are likely to be transferable to other trainee–trained doctor transitions in the UK and beyond. We used a team-based approach to data analysis and interpretation, which facilitated rigour and reflexivity. While the research team members were all female, we came from diverse disciplinary backgrounds: healthcare education, education, medicine (general practice and hospital-based practice), health psychology and management. This diversity across the team meant that we each brought something different to the analysis and interpretation, leading to a more complex and sophisticated understanding (or crystallisation) of our data.[38] While this paper does not focus squarely on the temporal aspects of the trainee–trained doctor role (as we wanted to report data from all participants in relation to three of our themes), we were able to identify changes over time in terms of the MMTs experienced by trainees and significant others because we employed a LAD approach. Furthermore, we have also explored our findings in light of the MMT theory, bringing conceptual generalisability to our study findings.[39]

Nonetheless, the study has some challenges, which should be taken into account when interpreting our findings. First, while our sample was diverse in some respects, it was fairly homogenous in terms of ethnicity (ie, most participants were white), plus we had larger numbers of trainees representing secondary care specialties who became consultants. Therefore, our findings may be less transferable to non-white and GP-trained doctor roles. Second, there was considerable variability in the amount of data provided by our LAD participants, as has been found in other studies.[40] We also experienced a 14% attrition rate following our entrance interviews. While this attrition rate is much lower than other LAD studies (eg, refs. 40,41), all of our dropouts were white males. We hypothesised that these males might not have been wholly comfortable with the LAD process. Despite these study limitations, our findings have various implications for future educational practice and research.

Implications for educational practice

It is clear from our findings that higher-stage trainees could be better prepared for their transitions to becoming trained doctors. There needs to be better awareness among trainee doctors themselves, as well as their colleagues (junior, peer and senior colleagues, educators, other healthcare team members and support services), of the complexity of the transition. It involves multiple and multidimensional positive and negative work *and* home transitions that can be facilitated or hindered by multiple factors at different levels and with varied positive and negative impacts on a range of stakeholders. Based on our findings, we believe that priority should be given to more personalised approaches and the development of supportive relationships in the workplace—both formal and informal—as well as increased opportunities for both formal and informal preparation for new roles as trainees plan their transitions. Indeed, any transition support provided to trainees needs to take into account not only their 'obvious' workplace transition, such as becoming a consultant, but also other workplace/relationship transitions that might be triggered by that one transition. It is also important that acknowledgement and space is given to how their transitions are impacting others, and how others' transitions are impacting them. This is vital not only for the well-being of the trainee but also that of the organisation, and most importantly, the patients they work with.

A more deliberate, planned and supported approach may ensure that individuals are better prepared to navigate the challenges that accompany their transition processes, and deal with the impact of these, irrespective of the domain in which they are taking place. Finally, current UK postgraduate training arrangements are being adjusted to allow for more flexibility through and across programmes, with more transferability of prior learning and experience from one specialty into another.[42] The changes are predicated on concerns already acknowledged within postgraduate medical education that current arrangements are impersonal and rigid and do not allow adaptation for MMTs. Indeed, our research findings would support this shift towards more flexible training programmes.

Implications for further research

While our LAD study duration of 9 months (on average) was considerably longer than some LAD studies,[43] other medical education LAD studies in an undergraduate context have had durations longer than 3 years.[43] Indeed, our 9-month study over the trainee–trained doctor transition only begins to scratch the surface of our participants' transitions, particularly if one considers that some consultants might take between 12 and 36 months to become confident in their consultant role.[26] In terms of our planned study duration, we were limited by the amount of funding available to us to conduct our study and the funder's 2-year study timescale. Therefore, further longitudinal qualitative research is now needed with longer study durations in order to explore trainee–trained doctor transition journeys for several years into the trained doctor role. Finally, we would encourage further research with trainees from general practice settings and black, Asian and minority ethnic groups (both UK and overseas trained doctors) to examine whether our findings are transferable to a more diverse population of trainees and in order to compare and contrast the trainee–trained doctor transition between different types of trainees.

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