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Multiple and multi-dimensional transitions from trainee to trained doctor: A qualitative longitudinal study

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Abstract

Objectives: To explore trainee doctors' experiences of the trainee-trained doctor transition, we answer three research questions: (1) What multiple and multi-dimensional transitions are doctors experiencing as they move from trainee to trained doctor? (2) What facilitates and hinders doctors' successful transition experiences? (3) What is the impact of multiple and multi-dimensional transitions on trained doctors?

Design: A qualitative longitudinal study underpinned by Multiple and Multi-dimensional Transitions (MMT) Theory.

Setting: Four training areas (health boards) in one country (Scotland, UK).

Participants: 19 higher-stage trainees within 6 months of completing their postgraduate training and two SAS doctors 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 Framework Analysis.

Results: Participants experienced a multiplicity of expected and unexpected, positive and negative transitions work-related (e.g. new roles, workplaces, spaces, systems and relationships), and at home-related (e.g. moving home, changes in family set-up) during their trainee-trained transition. Factors that facilitated or inhibited trainees' successful transition were identified at various levels, including individual (e.g. living arrangements), interpersonal (e.g. supportive relationships), systemic (e.g. mentoring opportunities) and macro (e.g. the curriculum provided by Royal Colleges). Various positive and negative impacts of transitions were also identified at each of these four levels: individual (e.g. stress),

interpersonal (e.g. trainees' children spending more time in childcare), systemic (e.g. spending less time with patients) and macro (e.g. 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 formal and informal 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.

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 Multi-dimensional Transitions (MMT) theory.

- The large amount of qualitative data collected from a diverse sample of trainees from various specialties and training sites enhances the transferability of our findings to other UK locations.

- We had higher numbers of participants based in hospital medicine, hence our findings may be most relevant to hospital-based doctors.

- Our study duration (average of 9 months per participant) was by no means insubstantial. However, given that doctors reported such rich experiences and can take years to feel comfortable in their trained doctor roles, a longer study duration may have been beneficial.

INTRODUCTION

Throughout their careers, doctors experience numerous transitions. This includes moving from one clinical service to another, with consequent changes in 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] Jindal-Snape and Miller have argued that transitions can be seen as times of severe adversity, as what might be seen as everyday minor hassles by some can be viewed as major critical incidents by others, especially when these accumulate without any resolution.[3]

Linked with the drive for professionalism and excellence in medicine worldwide, research suggests that a perceived lack of readiness for professional transitions can lead to increased stress and risk of burnout amongst, for example, newly qualified hospital consultants.[4] Preparedness can be tricky when, during these transitions, changes in role and seniority can lead to professional identity challenges.[5] Wilkie and Raffaelli argue that this can be a time of unease, when individuals may feel vulnerable.[5]

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.[6, 7] To ensure that individuals can not only navigate transitions without any adverse effect on their well-being, but thrive and use them as a springboard for positive development, it is important that individuals feel ready and resilient to 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, 8, 9] Therefore, it is imperative that doctors' experiences of transitions are well understood so that their experiences can be supported and

facilitated, minimizing any negative impact, and maximizing the opportunities afforded by these transitions.

Researching doctors' transitions

Previous research has explored the transition phases of doctors at earlier stages of their training, such as into and out of the Foundation Programme in the UK[1], which constitutes the first two years of training after graduation from medical school.[10-14] However, less is known about transitions from the latter stages of training into a trained doctor role (in the UK, the period leading up to receipt of a CCT: Certificate of Completion of Training). Some recent research suggests that higher-stage trainees feel less prepared in undertaking the non-clinical responsibilities associated with a trained doctor role, 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, and are concerned about being able to do all of the above effectively, in a short time.[4, 11, 15, 16] A critical synthesis of the medical education literature found that, as well as not knowing how to fully adapt to a leadership role, new consultants struggled with changes they perceived in their relationships with other staff members.[7] Furthermore, Kite and Salt found that the most significant *stressor* for palliative medicine consultants was related to interpersonal relationships.[17] It is important to note that all of these studies focussed on interpersonal relations in a professional context, rather than across various domains inhabited by these consultants, leaving a gap in our understanding of the complex multiple and multi-dimensional transitions that they (and their significant others) might be experiencing.

[1] 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

Although workplace induction to a new role is now standard, difficulties during this transition seem most pressing when work colleagues do not offer new consultants informal support. Participants lament the loss of peer support and mentoring, highlighting the need for more formal support systems.[15, 17] 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 one and three years in post to feel they had finally become confident consultants.[15, 18] Although this follow-up provided good insights into these consultants' transition journeys, it would have been preferable to have captured data as they were experiencing them rather than enquiring about transitions retrospectively.

In another study of twelve clinical oncologists who were two years into their consultant posts, Benstead found that despite working with other consultants for at least five years prior to becoming consultants themselves, participants highlighted their 'shock' during their transition to the consultant role. They described their experiences through three co-existing phases of surviving, navigating and moving forward.[19] Although this study is useful in highlighting participants' views about their adaptation over time, data collection started *after* becoming a consultant, , again offering a retrospective view only. Importantly, studies focussing on this significant phase tend to be cross-sectional and centre on specific specialties, despite there being variability in the length of training across specialities.[11, 16]

Rationale, study aims and research questions

As transition is an ongoing process, it is imperative that transition research is longitudinal. However, longitudinal transition research on this particular topic has been undertaken in one European country only. This involved several interviews over time with newly qualified consultants, but focussed specifically on their supervisory role when on-call.[20]

Additionally, most studies have examined the experiences of higher-stage trainees transitioning to consultant posts only (mostly in secondary care settings). The transitions within a primary care setting, from GP trainee to trained GP, have largely been ignored. Given the variability in training length across specialties, it is critical that studies explore a range of specialities. The study reported in this paper attempts to address these research gaps by including trainees working in a wide range of specialties and geographical locations and through its longitudinal study design, following participants as they moved from trainee to trained doctor role.

Our research questions are: (1) What multiple and multi-dimensional transitions are doctors experiencing as they move from trainee to trained doctor? (2) What facilitates and hinders doctors' successful transition experiences? (3) What is the impact of multiple and multi-dimensional transitions on trained doctors and their significant others? (Note that we discuss significant others below in the theoretical underpinnings section).

METHODOLOGY AND METHODS

Study design

This study was set in the context of medical postgraduate training in the UK National Health Service (NHS). It was underpinned by social constructionism, which is grounded in the premise that meaning is constructed by people as they interact with the world.[21] Longitudinal narrative inquiry was the chosen methodology,[22] allowing us to explore participants' constructions of their transition experiences, and how these evolved over time, across the trainee-trained doctor transition.

Theoretical underpinnings: Multiple and Multi-dimensional Transitions (MMT) theory

We adopted MMT as the underpinning conceptual framework for this study in order to develop a holistic understanding of the interactions between complex multiple and multi-dimensional transitions.[23] 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' in one day such as, for example, home and work.[2, 23, 24] 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 transitions that will have an impact on the new change or move. 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 transitions of significant others, and vice versa. This leads to interactions between different individuals' transitions and make their experience dynamic. MMT highlights these multiple layers of transitions and their interactions.[2, 23, 25] We maintained our mindfulness of this theory across both data collection and analysis, for example, sensitising ourselves to the different domains and how these interacted with each other within the context of facilitators and inhibitors of 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, 23]

Participant recruitment

Following appropriate ethical and institutional approvals, participants were sampled from one UK country. 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. Information about the participants can be seen in Table 1.

Table 1: Participant Characteristics and Involvement in the Study

Participant Characteristics	Number at entrance interview (n=21)	Number LAD[§] (and written diary) study (n=18)	Number at exit interview (n=18)
Gender			
Male	10	7	7
Female	11	11	11
Ethnicity			
White	18	15	15
BAME[#]	3	3	3
Specialty Base			
GP	4	3	3
Medicine	11	10	10
Surgery	4	3	3
ALD*	2	2	2
Training Centre**			
Health BoardA	8	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[#]	2	1	1
GP Retainer	1	1	1
Clinical Fellow	3	3	3
Academic Fellow	2	1	1
Management	1	1	1

Notes: [§]LAD=Longitudinal Audio-Diaries; [#]BAME = Black, Asian and Minority Ethnic; *Anaesthetics, Laboratory-based and Diagnostic Specialties such as pathology, radiology etc; ** A Health Board is a defined geographical entity providing comprehensive free at the point of delivery healthcare to a population; [***]Numbers add to more than participant numbers as some trained doctors had more than one role; [#]A SAS doctor is a Specialty or Associate Specialist doctor who is in a non-training role and who has at least four years postgraduate training (two of these in a relevant specialty)

Data collection

Data collection occurred over a twelve-month period. Firstly, participants were invited to initial semi-structured interviews undertaken by the first author. Participants were asked about their broad understanding 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 taking part in the initial interviews were invited to take part in a longitudinal audio-diary (LAD) study.[22] 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 six to eight 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. Participants were emailed the transcript of every diary entry for their own records and the first author discussed their audio-diary entries within the weekly reminder emails. During the LAD phase of the research, three participants expressed difficulty in undertaking the audio-diary method but were keen to continue participating, so they instead kept and emailed written diaries to the first author's password protected email account.

Finally, participants were invited to a second semi-structured interview (the exit interview) in which the focus was on the 'long story' of their development over this transition period. In these interviews, participants were asked to reflect back over their experiences of the last few months. The interviewer used the transcriptions of participants' audio-diaries as a prompt 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 21 doctors took part in the first interview (19 face-to-face; one by Skype; one by telephone). Of these, 18 went on to complete the LAD and final interview stages (17 face-to-face interviews; one Skype interview). Participants came from a range of specialties and had various trained doctor roles. Of the 18 that went on to complete the LAD study and exit interview, 12 stayed in their training location, while six moved to a new location.

Of those that completed the LAD and exit interview stages of the study, participants recorded audio-diaries (and for three participants the written diary) for between 7.5 and 10 months (average 8.6 months) and submitted between two and 30 diaries each (average 13.4). This resulted in a total of 44 hours 8 minutes 52 secs of transcribed audio-data, plus 13 written diaries (see Table 2 for a summary of data).

Table 2: Summary of data

Research Phase	**Minimum length (h:m:s)***	**Maximum length (h:m:s)**	**Average length (h:m:s)**	**Total data (h:m:s)**
Entrance Interview (n=21)	00:20:33	00:56:48	00:36:35	12:49:12
LAD and written diaries (n= 246)	00:00:45 (+205 written words)	00:16:50 (+1220 written words)	00:03:53 (+599 written words)	15:04:54 (+13 written diaries)
Exit interview (n=18)	00:32:45	01:16:11	00:54:09	16:14:46

Notes: *h:m:s=hours:minutes:seconds

Data analysis

We used Framework Analysis to theme analyse our large dataset.[26] This involved a five-stage process: (1) Familiarisation: the research team regularly familiarised themselves with

the data through frequent reading of transcripts and listening to audio-recordings; (2) Identifying a thematic framework: each research team member separately explored and analysed a subset of data, identifying key themes, then came together as a team in which we identified and negotiated key themes, both cross-sectional and longitudinal in order to develop a coding framework; and (3) Indexing: the coding framework was then utilised to index (or code) the data using Atlas.ti; (4) Charting: the first author charted the data according to the themes, and sub-themes, using Atlas.ti; and (5) Mapping and interpretation: we examined the data both cross-sectionally and longitudinally through the lens of MMT theory.[2, 23] To facilitate the management and analysis of large volumes of qualitative data, computer-assisted qualitative data analysis (CAQDAS: Atlas.ti Version 7) software was used. Using CAQDAS also facilitated the tracking of themes longitudinally and exploring any shifts in patterns across time.

FINDINGS

We identified six overarching themes from our framework analysis of interview and LAD data, including both cross-sectional and longitudinal themes. Table 3 defines each overarching theme and explains how these themes could be explored cross-sectionally and longitudinally within our analysis. Pertaining to the specific research questions asked in this paper, we focus here on three of these themes: Multiple transitions; Supporting successful transitions; and multiple and multi-dimensional transitions interacting and impacting. The other themes will be presented elsewhere.

Table 3: 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 multi-dimensional 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.
Conceptualisations of transitions	This theme relates to data pertaining to participants' specific definitions of 'transition', often in response to being directly asked 'what is your understanding of transition' within the interviews. The data here are longitudinal because we were able to track differences in definitions of transitions from entrance to exit interviews.
Transition narratives	Data relevant to this theme were obtained through narrative interviewing techniques, in which participants were asked for transition stories. In addition, this theme is concerned with the narratives that occurred within the audio-diaries, both about specific incidents and some narratives that were longitudinal, spreading across multiple diary entries and returned to in the exit interviews.
Shifting identities	This theme focuses on participants' specific talk about identity changes they were going through as part of their transitions. These data are longitudinal as the audio-diaries meant that we were able to track participants' shifting and interacting identities over time.

Notes: *Themes in bold described in this paper

Multiple transitions

Whilst each participant's experience was unique, we could identify common transition types 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-life. Different transitions were afforded different precedence to different individuals at different times across the longitudinal dataset. To illustrate the multiple nature of the trainee-trained doctor transitions for participants in this study, and to help depict a coherent picture from our vast dataset, we present an overview of the data in the context of the experiences of two participants: Hannah and Will (both pseudonyms). Whilst 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 within 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 that our participants experienced. Table 4 below 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.

Table 4: Hannah's 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 same location as training location
Expected workplace transitions	New workplace New systems New relationships New spaces	New role (same workplace) New spaces (own office)
Unexpected workplace transitions	New role (different workplace) Changing workplace relationships	New systems Changing workplace relationships
Expected home-life transitions	Moving home Change in family set-up (i.e. moving away from family)	Partner's transition to trained doctor status
Unexpected home-life transitions		Change in family set-up (i.e. changes in children's needs)

Workplace transitions

Central to many of the participants' experiences was an expected transition to a new role whilst 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 (see Table 5, Excerpt 1). 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 (see Table 5, Excerpt 2).

Early in her participation 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: see Table 5, Excerpt 3). Additionally, experiencing and dealing with new workplace systems were commonly identified within participants' transition experiences, irrespective of whether they moved to a new workplace or not. 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 (see Table 5, Excerpt 4) or for Will, faced with unexpected new systems he was not exposed to as a trainee in the same workplace (see Table 5, Excerpt 5).

Table 5: Data excerpts for Hannah and Will

#	Excerpt
1	*"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 people. Of course, if you move into an area where the job title (sic) in place, then people will only remember you as that person whereas if you work in one place for a long time, people remember you at different stages. Some people might think of... might find that difficult but I don't really mind… I worked here for the last five years but prior to that I have worked so much for other places. I suppose when I came here, I was perhaps more senior than other people who have spent their entire career here"* [Will, exit interview]
2	*"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]
3	"*Things are going well in the transition between jobs at the moment. 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. So that's uhm, I am just trying to get my head around that at the moment because it is a much bigger jump than I was envisaging, but I am looking forward to it, and I think it is probably a positive thing because I think it is always going to be a pretty hard jump to make and I think the quicker I do it, probably the better, otherwise, you know, if I leave it for another year, I think it will only get harder"* [Hannah, LAD 2, 3 weeks after entrance interview]
4	*"Everything is online and that took me quite a while to get used to. Even things like pulse, blood pressure and things that every patient need[s], I am used to it just sitting at the bottom of the bed, everything's computerised. So it took me a few weeks to kind of get up to scratch with that and that was a bit stressful"* [Hannah, exit interview]
5	*"There are certain things which you still find yourself having to learn new things and learn about new processes. There is a whole element of management things that you are not really aware of as a trainee and things are quite complicated... Whereas previously, those things that you would not really [have] dealt with at all, you are now sort of being more expected to know about them."* [Will, exit interview]
6	*"This is my first actual day as a consultant, and to be honest it has been pretty similar to many of my previous days. I am answering two and a half weeks' worth of emails, sorting through a lot of letters and various tasks like that. But on the plus side, I have got a new office all to myself, which I have just spent the last two hours cleaning and tidying up"* [Will, LAD 3, 4 weeks after entrance interview]
7	*"... 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]
8	*"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. Anyway, so I'm hoping that I'm going to get a good night's sleep tonight. 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. So it is a difficult scenario because I kind of think to myself, 'hold on a second, I am not paid to be here'. And if I have a really bad weekend, which touch wood at the moment I haven't… if he thinks I'm going to come in and hold his hand during ward round just… I mean I just think it is really ridiculous. So the consultant-fellow relationship with one of the consultants so far has started of exceptionally badly but I have to say that all the other consultants are very, very nice. So I'll just need to hide my feelings and see how I get on"* [Hannah, LAD 7, 9 weeks after entrance interview]
9	"*In response to your question about how do I feel I'm settling with my other consultant colleagues? Obviously, I have known all of them for the past five years and so, I got on with them pretty well when I was a registrar. Since I was consultant, I would say that the relationship has probably improved in most cases. I suspect that they were, some of them were previously holding back a little bit as they were my senior, but now they have become peers it's been easier to have more straightforward consultations with them on a number of occasions. So, this has probably been a definite benefit of being a consultant."* [Will: LAD 11, 13 weeks after entrance interview]
10	*"I am just preparing for the big move to* [names city]. *It's half past 10 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]
11	*"my friends and my family are all [different location], so my support network is [different location]"* [Hannah: entrance interview]
12	*"But she's [Will's partner] got her big exams in a couple of weeks' time and quite a lot of courses… I mean like anything that has some, of course, problems with childcare and so on but we… managed to do things so far but it does not mean that there is nothing like knowing you have to leave at bang on X time because you have to be in the nursery or… 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]

Participants also described their transition to new work spaces. For Will, this meant having his own office space (see Table 5, Excerpt 6). For others, like Hannah, this meant navigating completely new spaces, something that she describes as stressful (see Table 5, Excerpt 7).

All participants talked about the nature of their relationships with work colleagues and this was given precedence in many audio-diary entries across the longitudinal dataset. This often related to completely new working relationships such as with the different staff nurses mentioned above by Hannah, or could be challenging new relationships with other doctors, as illustrated by Hannah (see Table 5, Excerpt 8). 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 being a trainee to a consultant and a peer. How participants perceived these relationships evolving (and the way they perceived work colleagues seeing them) often acted as a linchpin for evaluation of the ongoing success of their workplace transitions (see Table 5, Excerpt 9).

Home-life transitions

Some participants experienced transitions related to changes in their family set-up during the time they participated in the study. Such changes included splitting up with partners or moving in with partners, or for some, having babies. Whilst many stayed within the same locale, they still experienced home moves during their time on the study. For those moving organisation, there was often a geographical move such as Hannah's, and descriptions of the associated stress that this caused (see Table 5, Excerpt 10). For Hannah, as well as moving to a new geographical location, she also talked about moving away from her support network (see Table 5, Excerpt 11).

Some experienced changes related to partners' or other family members' transitions, for example, Will talks about his wife's own transition processes from trainee to trained doctor role in his exit interview and how this required him to be flexible in his own working practices to accommodate/share care of their children (see Table 5, Excerpt 12). Finally, some participants talked about how their own transitions triggered transitions for others in their family set-up, for example, the requirement of a child to start a new nursery related to a parent's move to a new workplace location.

Facilitators and inhibitors of successful transition processes

Participants across our longitudinal dataset discussed the varying 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 during the months and weeks prior to their CCT, which they saw as helping to facilitate their transition processes. This was linked to personal preparation for being an independent practitioner and, for some, motivation to be competitive in job applications (see Table 6, Excerpt 1). 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 the trainee-trained doctor transition. On the other hand, participants discussed how the uncertainty of looking for somewhere to live had negatively affected their ability to focus at work, hindering their transition process (see Table 6, Excerpt 2).

Table 6: Examples of facilitators and inhibitors identified across all participants

#	Excerpt
1	*"I needed to make myself as competitive as possible because I know there will be very few jobs… In order to get a job where my family are settled, I wanted to do absolutely everything that was asked of me or was a potential opportunity to make myself a bit more competitive compared to other people…"* [Helena; participant 3; female surgeon; entrance interview]
2	*"So I bought a flat… But I did not get into it until October… I had no bed for six months, I was sleeping on the sofa, but now I have a bed… And you think actually that these things don't matter, but… you realise that actually they do. And they all kind of impact on even your performance and how you sleep and things."* [Margaret; participant 7; female surgeon; exit interview]
3	*"I had several now consultant friends who'd undergone that transition so I kind of had an awareness of some of the issues beforehand which I suppose was quite useful … My colleagues have always been willing to talk things through and to discuss any particular issues that I've got"* [Paul; participant 9; male medicine; exit interview]
4	*"I'm glad that I have my monthly [educational] group of doctors… who get together and discuss cases and other, you know, issues we have had with patients over the past month. 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. It's also helpful to share information…"* [Tom; participant 11; male GP; LAD 7, 29 weeks after entrance interview]
5	*"I've got him [husband] to discuss things with and he's in a different specialty but been through it*

	[trainee-trained transition] before so he can give me advice…he's always been very supportive, so I think that will continue, I'm sure as I take on a different role" [Helena; participant 3; female surgeon; entrance interview]
6	*"It does make you feel a bit more - I was going to say socially isolated. It's not really that. But 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]
7	*"I think 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 sort of a mentor that you can go to. But essentially otherwise you know, you're doing the acute takes, the patients are coming in under yourself. You're the name sort of above the bed as they say"* [Michael; participant 8; male medicine; entrance interview]
8	*"Some of us are luckier than others and have mentors who have insight into this and have developed some coaching skills and mentoring skills, and some of us have not. And one of the things I've always struggled with is this lottery of who you are with, right, and really feel passionate about having a standardised equal access to something that I think is very useful"* [Sally; participant 4; female medicine; entrance interview]
9	*"Our training programme is really well structured, so you do your sort of exams… And then after you have passed the exam, you then enter this part of training called* [name]*, which is a year, which is solely for the purpose of getting ready to be a consultant'* [Tess; participant 15; female ALD; entrance interview]
10	*"… there's been a bit too much of a shift towards number of assessments rather than the quality… [a] tick box exercise rather than someone saying, "Yes, you know, [own name] has done that with me, she's more than capable doing it on her own"… 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]
11	*"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, becoming the clinical lead for one of the areas I work in. I am very nervous about this. At the moment, 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 ALD; Written diary, 23 weeks after entrance interview]
12	*"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]
13	*"People don't see the relevance of [course] if they think it is just a series of dry lectures… But if you link [course] to their day-to-day work… understanding how you can navigate the system to solve it will make you feel satisfied but 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]

Interpersonal level facilitators/inhibitors

Positive and negative interpersonal relationships and the shifting nature of these relationships over time were perceived to be central facilitators/inhibitors for participants' 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 transitions to similar roles. 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 as they arose over the months (see Table 6, Excerpt 3).

Peer support was also important, with participants articulating the benefits of being able to discuss their experiences over time with those undergoing similar transitions in an open and honest way. This was perceived to be a chance to offload their uncertainties in a non-judgemental environment thus facilitating transitions (see Table 6, Excerpt 4).

Participants also discussed the invaluable nature of support they received at home from partners or spouses (many of whom were also doctors). Similarly, home support was appreciated as an opportunity to explore doubts in 'safe' surroundings (see Table 6, Excerpt 5). Alternatively, some participants experienced isolation related to, for example, a geographical move or loss of peer group, thus inhibiting the transition process. For example, one participant explained her loss of peer group during her two maternity leaves whilst in training (see Table 6, Excerpt 6).

Systemic level facilitators/inhibitors

Our analysis at the systemic level refers to the local systems and practices (for example, 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 prepare. Specifically, opportunities to 'act up' into trained doctor roles or attend planning meetings normally reserved for trained doctors were considered as ways in which the non-clinical (and often perceived to be hidden) aspects of being a trained doctor could be experienced (see Table 6, Excerpt 7).

Mentoring schemes were identified as beneficial but only if participants had the opportunity to negotiate who their mentor could be. As discussed previously, an informal relationship with a senior colleague was perceived to have the potential to be more facilitative than a designated mentor (see Table 6, Excerpt 8). Some identified beneficial formal training systems that had been put in place locally, for example, new consultant study days and highly structured final years, which focussed on moving to trained status (see Table 6, Excerpt 9).

Participants were, however, most likely to identify inhibitors at a systemic level than any other level. Some noted lack of formal induction as they moved into a new role, both those who had moved organisations and those who had stayed in the place where they trained. 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 relating 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 whilst settling into their new roles, learning new systems and negotiating new spaces.

In the weeks and months leading up to gaining trained status, participants perceived the need to have certain competencies assessed as becoming a 'tick-box exercise'. As participants fulfilled the requirements for CCT, participants were sceptical about the learning advantages related to these practices (see Table 6, Excerpt 10). Participants also talked about how colleagues' transitions (for example, due to retirement) influenced their own transitions. These colleague transitions represented both opportunities and challenges for participants as they were asked to take on new responsibilities and roles (see Table 6, Excerpt 11).

Macro-level facilitators/inhibitors

The macro-level refers to the wider systems that participants were interacting with, for example, postgraduate speciality training programme arrangements with Royal Colleges (including curricular and assessment requirements and formal reviews). Participants found competency checklists, formal Royal College members' meetings, and formal training courses arranged by their Royal Colleges and local postgraduate education providers to be a good opportunity to network and share experiences of their trainee-trained doctor transitions.

Especially beneficial were the different 'out-of-training' experiences that some trainees had the opportunity to participate in (for example, 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 for a break from the intensity of their training experiences (see Table 6, Excerpt 12). Whilst formal training courses were valued for their 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 (see Table 6, Excerpt 13).

Multiple and multi-dimensional transitions interacting and impacting

In this section we explore how the multiple, multi-dimensional transitions, both expected and unexpected, interacted with each other and impacted on participants and their significant others. Here, as above, we present our findings at differing levels: individual; interpersonal; systemic; and macro.

Individual level impacts

For some, the change in working hours, for example, the reduction in on-call and weekend commitments (compared to requirements as a trainee) meant positive opportunities to plan things in their personal lives (for example, 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 big contributions 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 participants articulating through their diaries and interviews increased confidence and a newly experienced autonomy over time (see Table 7, Excerpt 1).

However, many discussed the personal difficulties that they faced during their transitions in their audio-diaries. Participants talked about the physical and emotional demands of their new role and the pressure that participants placed on themselves to consistently perform at high levels. The longitudinal data revealed points in the transition process that seemed to overwhelm participants. Participants described feeling overloaded and how this was having an impact on their health, as well as home-life. This often manifested as emotional and physical responses to stress such as sleeplessness and poor eating habits. Lack of emotional support for their transitions and levels of uncertainty took their toll and could even lead to questioning of professional identity and at times career choice (see Table 7, Excerpt 2).

Table 7: Examples of MMT impacting and interacting identified across all participants

#	Excerpt
1	*"I feel liberated by becoming a consultant because suddenly, I'm able to make decisions… it just feels liberating and, you know, a far more satisfactory way to go about your business… I was ready to start making decisions I think and it just feels great to be in control.."* [Simon; participant 10; male surgeon; exit interview]
2	*"… normal is feeling far too busy… There seems to be no end of things to do and no end of requests to do more… an increase in the number of times we have ready meals rather than me cook… weight gain, lack*

	of time for my usual exercise routine and more time awake at night worrying about it all… But this pressure is unbearable and I cannot sustain the pace indefinitely…For the first time in my career as a doctor I have been questioning if this is the best job for me… I used to think if I won the lottery I would keep on working 'cause I loved it and I loved the person it made me. Now, I would stop in an instant and do something else…" [Petra; participant 6; female, ALD; Written diary, 28 weeks after entrance interview]
3	*"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 for…"* [Petra; participant 6; female ALD; Written diary, 28 weeks after entrance interview]
4	*"... the secretaries… have changed over more times than I can remember since I have worked in this department as a trainee, and there is always a negative atmosphere in their room… it just comes to a head every now and again… And I'm just now struggling to decide what I should do about it because obviously, they are outside my management structure but their behaviour is affecting my team of doctors"* [Lynn; participant 18; female medicine; LAD10, 19 weeks after entrance interview]
5	*"…got home at 0300 and had to go back to work the next day at 12. Was knackered for a couple of days. Trainees haven't worked 24hr on calls for years in [specialty name] for safety reasons and I have never understood why its any safer for consultants to do it. Not good for patient care or safety I think…was difficult to stay awake… on Thursday afternoon. I could have said I was too tired to work but that would've raised eyebrows. It is generally accepted that we will work an afternoon after a busy night on call…a lot of pressure and decision making skills when you are exhausted are not at their best. Seems like there are a lot of rules that apply to trainees but not to consultants. Something I did not appreciate as a trainee."* [Petra; participant 6; Written diary, 29 weeks after entrance interview]
6	*"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 saying this was, you can expect to happen and this is how long it will take from start to finish... things that you just need to get organised before you can CCT"* [Lynn; participant 18; female medicine; LAD6, 10 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 (see Table 7, Excerpt 3). Other interpersonal difficulties came through unsupportive relationships with senior colleagues who were perceived to lack interest in participants' transition to unfamiliar surroundings or systems, and this could leave participants feeling isolated. Furthermore, new management relationships participants had with colleagues in their trained doctor role sometimes left participants feeling overwhelmed. For example, extra demands on their time to educate trainees or deal with poor working relationships amongst other colleagues was taxing, particularly when balancing these with the provision of good patient care (see Table 7, Excerpt 4).

Systemic level impacts

Participants discussed the impact of their trainee-trained doctor transitions on patients. Patients and their carers were seen to be affected through changes in service that occurred during participants' transitions. Demands on participants' time associated with their new roles (for example, to educate others or to undertake management duties) or with family life (for example, having to leave early to collect a child) were perceived 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 an adverse effects on patient care (see Table 7, Excerpt 5).

Macro-level impacts

Often referred to were 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 (not consultants) until the process was completed (see Table 7, Excerpt 6).

DISCUSSION

Summary of study findings and comparison with existing literature

For the purposes of this paper, we focussed on three themes emerging from our broader research study (see Table 3): (1) multiple transitions; (2) supporting successful transitions; and (3) multiple and multi-dimensional transitions interacting and impacting.

In relation to our first research question (what multiple and multi-dimensional transitions are doctors experiencing across the trainee-trained doctor transition?), we found

that participants typically experienced a range of expected and unexpected, positive and negative, work- and home-related transitions as they were progressing from trainee to trained doctor. While numerous studies have explored the trainee-trained doctor transition over the last decade or so, they have focussed almost exclusively on a singular work-related transition to trained doctor (such as preparedness for practice as consultant), thereby ignoring the complex multi-dimensional nature of transitions including those relating to home.[4, 11, 15, 18-20, 27-31] By using a longitudinal qualitative approach and drawing on Multiple and Multi-dimensional Transitions Theory (MMT), our current study emphasises how the trainee-trained doctor transition was personal—complex, multiple and multi-dimensional—with transitions often interacting with, or instigating other transitions; for the trainee and/or others such as family members and colleagues.[2, 23]

With respect to research question 2 (what facilitates/hinders doctors' successful transitions?), we found numerous facilitators and inhibitors to transitions 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, it has failed to examine the complexities of trainees' experiences - of multiple simultaneous facilitators and inhibitors operating at different levels.[4,18, 19, 28, 29] Again, by drawing on MMT, our study emphasises a complex array of interdependent factors that can both facilitate and inhibit trainees' transitions to the trained doctor role.[2, 23]

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 thetrained doctor role, both positive (e.g. increased confidence) and negative (e.g. stress and burnout) ,

rarely has the complex variety of interacting positive and negative impacts of transition at different levels been illustrated.[e.g. 20, 28, 31] 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, 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 even patients.[2] Furthermore, our research higlights the impact of other peoples' 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 and exit interviews, plus collected sufficient amounts of longitudinal diary data from a diverse sample of trainees including representatives from various specialities and geographic training locations.[32] 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. 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 including: healthcare education; education; medicine (including 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.[33] While this paper does not focus squarely on the temporal aspects of the trainee-trained doctor role (because we wanted to report data from all participants in relation to three of our key themes), because we employed a longitudinal audio

diary approach, we were able to identify changes over time in terms of the multiple and multi-dimensional transitions experienced by trainees. Furthermore, we have also explored our findings in light of MMT theory, bringing conceptual generalizability to our study findings.[34]

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 (i.e. most participants were white), plus we had larger numbers of trainees representing secondary care specialties who became consultants. Therefore, our findings will be less transferable to non-white and GP trained doctor roles. Second, there was considerable variability in the amount of data provided by our longitudinal audio-diary participants, as has been found in other LAD studies.[35] We also experienced a 14% attrition rate following our entrance interviews. While this attrition rate is much lower than other LAD studies,[e.g. 35, 36] all of our drop-outs 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 transition to trained doctors. There needs to be better awareness amongst trainee doctors themselves, as well as their colleagues (junior, peers and senior colleagues, educators, other healthcare team members, and support services), of the complexity of the trainee-trained doctor transition. It involves multiple and multi-dimensional positive and negative work *and* home transitions that can be facilitated or hindered by multiple factors at different levels and with multiple positive and negative impacts on various stakeholders. Based on our findings,

we believe 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 transition. This more deliberate, planned and supported approach may ensure that individuals are better prepared to navigate the challenges that accompany their transition process, and deal with the impact of these, irrespective of the domain.

Furthermore, 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.[37] The changes are predicated on concerns, coming through our research, that current arrangements are impersonal and rigid and do not allow adaptation for multiple and multi-dimensional transitions.

Implications for further research

While our LAD study duration of 9 months (on average) was considerably longer than some LAD studies,[35] other medical education LAD studies in an undergraduate context have had durations longer than 3 years.[38] 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.[18] 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.

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Multiple and multi-dimensional transitions from trainee to trained doctor: A qualitative longitudinal study in the UK

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Multiple and multi-dimensional 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 multi-dimensional transitions 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 multiple and multi-dimensional transitions on trained doctors?

Design: A qualitative longitudinal study underpinned by Multiple and Multi-dimensional Transitions (MMT) theory.

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

Participants: 20 doctors, 19 higher-stage trainees within six months of completing their postgraduate training and one SAS doctor, were recruited to the nine-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 (e.g. new roles) and home-related transitions (e.g. moving home) during their trainee-trained doctor transition. Factors facilitating or inhibiting successful transitions were identified at various levels: individual (e.g. living arrangements), interpersonal (e.g. presence of supportive relationships), systemic (e.g. mentoring opportunities) and macro (e.g. the curriculum provided by Medical Royal Colleges). Various impacts of transitions were also identified at each of these four levels: individual (e.g. stress), interpersonal (e.g. trainees' children spending more time in childcare), systemic (e.g. spending less time with patients) and macro (e.g. 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.

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 Multi-dimensional Transitions (MMT) 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 nine 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.

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 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, minimizing negative impact, and maximizing afforded opportunities.

Multiple and Multi-dimensional Transitions (MMT) 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 socialization [13, 14]. Drawing on the wider educational literature, we adopted MMT theory as the underpinning conceptual framework for this paper in order to develop an holistic understanding of the interactions between complex multiple and multi-dimensional transitions.[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 (e.g., 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 two years as a Foundation doctor) before moving to a core (for example, medicine) or

specialty training pathway (for example, cardiology). [1] Much previous research has focussed 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 CCT: Certificate of Completion of Training, 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 focussed 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 one and three years in post to feel they had finally become confident consultants.[23, 26] Additionally, a study of twelve clinical oncologists who were two years into their consultant posts found that despite working

[1] 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

with other consultants for at least five 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 co-existing phases, of surviving, navigating and moving forward. Whilst 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 specialities (for example, GP training is four years whilst some surgical specialties can be up to nine 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, focussed 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 specialities.

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 multiple and multi-dimensional transitions 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 multiple and multi-dimensional transitions 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 (NHS). 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 (for example, inner city, remote and rural, large acute care, small primary care services, etc.). Participant information is displayed in Table 1.

Table 1: Participant Characteristics and Involvement in the Study

Participant Characteristics	Number at entrance interview (n=20)	Number 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

Notes: [§]LADs=Longitudinal Audio-Diaries; [#]BAME = Black, Asian and Minority Ethnic; **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 four 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.

Data collection

Data collection occurred over a twelve-month period with participants first invited to semi-structured 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 six to eight 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 sensitized participants to the type of stories they could share in their LADs (for example: 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 six moved to a new location.

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 two and 30 diaries each (average 13). This resulted in over 44 hours of transcribed audio-data, plus 13 written diaries (see Appendix A far 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; and (3) Indexing: the coding framework was utilized by the first author to code the data; (4) Charting: the first author charted the data according to themes and sub-themes; and (5) Mapping and interpretation: we examined the data both cross-sectionally and longitudinally through the lens of MMT theory.[2, 15] Atlas.ti (Version 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 questions posed earlier in this paper: Multiple transitions; supporting successful transitions; and multiple and multi-dimensional transitions 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.

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 multi-dimensional 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.

Multiple transitions

Whilst 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.

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 systems New relationships New spaces	New role (same workplace) New spaces (own office)
Unexpected workplace transitions	New role (different workplace) Changing workplace relationships	New systems Changing workplace relationships
Expected home-life transitions	Moving home Change in family set-up (i.e. moving away from family)	Partner's transition to trained doctor status
Unexpected home-life transitions		Change in family set-up (i.e. changes in children's needs)

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 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 now 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 whilst 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 (for example, 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 focussed 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 (for example, 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, speciality 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 (for example, 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]

Whilst 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]

Multiple and multi-dimensional transitions interacting and impacting

In this section, we explore how multiple and multi-dimensional transitions (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 to requirements as trainees) meant positive opportunities to plan their personal lives (for example, 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 amongst 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; LAD10, 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 (e.g. to educate others or to undertake management duties) or with family life (e.g. 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-hour 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; LAD6, 10 weeks after entrance interview]

DISCUSSION

Summary of findings and comparison with existing literature

We focussed 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 Multiple and Multi-dimensional Transitions (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 multiple and multi-dimensional transitions 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 focussed almost exclusively on a singular work-related transition to trained doctor (such as preparedness for practice as

consultant), thereby ignoring the complex multiple and multi-dimensional 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 multi-dimensional, 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 (e.g. increased confidence) and negative (e.g. stress and burnout),

[e.g. 28, 33, 36] rarely has 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 peoples' 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 multiple and

multi-dimensional transitions experienced by trainees and significant others because we employed a LAD approach. Furthermore, we have also explored our findings in light of MMT theory, bringing conceptual generalizability 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 (i.e. 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,[e.g. 40, 41] all of our drop-outs 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 amongst 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 multi-dimensional 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 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 multiple and multi-dimensional transitions. Indeed, our research findings would support this shift towards more flexible training programmes.

Implications for further research

While our LAD study duration of nine 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 three years.[43] Indeed, our nine-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 (BAME) 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 diferent types of trainees.

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Appendix: Summary of data

Research Phase	Minimum length (h:m:s)*	Maximum length (h:m:s)	Average length (h:m:s)	Total data (h:m:s)
Entrance Interview (n=21)	00:20:33	00:56:48	00:36:35	12:49:12
LAD and written diaries (n= 246)	00:00:45 (+205 written words)	00:16:50 (+1220 written words)	00:03:53 (+599 written words)	15:04:54 (+13 written diaries)
Exit interview (n=18)	00:32:45	01:16:11	00:54:09	16:14:46

Notes: *h:m:s=hours:minutes:seconds

Personal Characteristics			Response to questions
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group?	The Primary author
2.	Credentials	What were the researcher's credentials? *E.g. PhD, MD*	PhD
3.	Occupation	What was their occupation at the time of the study?	Post-doctoral research fellow
4.	Gender	Was the researcher male or female?	Female
5.	Experience and training	What experience or training did the researcher have?	5 years research experience ongoing supervision from principle investigator
Relationship with participants			
6.	Relationship established	Was a relationship established prior to study commencement?	No
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. *personal goals,*	Reasons for doing the research

		reasons for doing the research	
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator ? e.g. *Bias, assumptions, reasons and interests in the research topic*	Gender, age and professional background of all authors described
Domain 2: study design			
Theoretical framework			
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? *e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis*	Multiple, Multidimensional Transitions (MMT) Theory; social constructionism
Participant selection			
10.	Sampling	How were participants selected? *e.g. purposive, convenience, consecutive, snowball*	Maximum variation sampling
11.	Method of approach	How were participants	Email via educational

		approached? e.*g. face-to-face, telephone, mail, email*	leads in health boards
12.	Sample size	How many participants were in the study?	20
13.	Non-participation	How many people refused to participate or dropped out? Reasons?	Two didn't want to continue beyond initial interview phase and commit to longitudinal audio diaries.
Setting			
14.	Setting of data collection	Where was the data collected? e.*g. home, clinic, workplace*	Data were collected in convenient locations for participants e.g. workplace; home.
15.	Presence of non-participants	Was anyone else present besides the participants and researchers?	No
16.	Description of sample	What are the important characteristics of the sample? *e.g. demographic data, date*	Doctors about to transition into trained senior roles, e,g, consultant, GP etc
Data collection			

17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Yes an interview guide was used at both interviews and a prompt sheet was given to participants to facilitate audio-diary recordings.
18.	Repeat interviews	Were repeat interviews carried out? If yes, how many?	Yes- 18 of the 20
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data?	Yes all interviews were audio recorded and audio-diaries were recorded.
20.	Field notes	Were field notes made during and/or after the interview or focus group?	No
21.	Duration	What was the duration of the interviews or focus group?	From 25-80 minutes
22.	Data saturation	Was data saturation discussed?	Not seen as applicable to this type of research.
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction?	Diary transcripts were returned. Initial interview transcripts were returned ahead of final interviews.
Domain 3:			

analysis and findingsz			
Data analysis			
24.	Number of data coders	How many data coders coded the data?	One
25.	Description of the coding tree	Did authors provide a description of the coding tree?	No
26.	Derivation of themes	Were themes identified in advance or derived from the data?	Derived from data
27.	Software	What software, if applicable, was used to manage the data?	Atlas-ti
28.	Participant checking	Did participants provide feedback on the findings?	A reference group included two participants.
Reporting			
29.	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.g. *participant number*	Yes and participant numbers were used.
30.	Data and findings	Was there consistency between	Yes

	consistent	the data presented and the findings?	
31.	Clarity of major themes	Were major themes clearly presented in the findings?	Yes
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Some within confines of word count

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Multiple and multi-dimensional transitions from trainee to trained doctor: A qualitative longitudinal study in the UK

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Multiple and multi-dimensional 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 multi-dimensional transitions 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 multiple and multi-dimensional transitions on trained doctors?

Design: A qualitative longitudinal study underpinned by Multiple and Multi-dimensional Transitions (MMT) theory.

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

Participants: 20 doctors, 19 higher-stage trainees within six months of completing their postgraduate training and one SAS doctor, were recruited to the nine-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 (e.g. new roles) and home-related transitions (e.g. moving home) during their trainee-trained doctor transition. Factors facilitating or inhibiting successful transitions were identified at various levels: individual (e.g. living arrangements), interpersonal (e.g. presence of supportive relationships), systemic (e.g. mentoring opportunities) and macro (e.g. the curriculum provided by Medical Royal Colleges). Various impacts of transitions were also identified at each of these four levels: individual (e.g. stress), interpersonal (e.g. trainees' children spending more time in childcare), systemic (e.g. spending less time with patients) and macro (e.g. 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.

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 Multi-dimensional Transitions (MMT) 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 nine 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.

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 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, minimizing negative impact, and maximizing afforded opportunities.

Multiple and Multi-dimensional Transitions (MMT) 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 socialization [13, 14]. Drawing on the wider educational literature, we adopted MMT theory as the underpinning conceptual framework for this paper in order to develop an holistic understanding of the interactions between complex multiple and multi-dimensional transitions.[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 (e.g., 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 two years as a Foundation doctor) before moving to a core (for example, medicine) or

specialty training pathway (for example, cardiology). [1] Much previous research has focussed 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 CCT: Certificate of Completion of Training, 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 focussed 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 one and three years in post to feel they had finally become confident consultants.[23, 26] Additionally, a study of twelve clinical oncologists who were two years into their consultant posts found that despite working

[1] 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

with other consultants for at least five 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 co-existing phases, of surviving, navigating and moving forward. Whilst 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 specialities (for example, GP training is four years whilst some surgical specialties can be up to nine 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, focussed 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 specialities.

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 multiple and multi-dimensional transitions 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 multiple and multi-dimensional transitions 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 (NHS). 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 (for example, inner city, remote and rural, large acute care, small primary care services, etc.). Participant information is displayed in Table 1.

Table 1: Participant Characteristics and Involvement in the Study

Participant Characteristics	Number at entrance interview (n=20)	Number 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

Notes: [§]LADs=Longitudinal Audio-Diaries; [#]BAME = Black, Asian and Minority Ethnic; **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 four 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.

Data collection

Data collection occurred over a twelve-month period with participants first invited to semi-structured 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 six to eight 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 sensitized participants to the type of stories they could share in their LADs (for example: 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 six moved to a new location.

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 two and 30 diaries each (average 13). This resulted in over 44 hours of transcribed audio-data, plus 13 written diaries (see 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; and (3) Indexing: the coding framework was utilized by the first author to code the data; (4) Charting: the first author charted the data according to themes and sub-themes; and (5) Mapping and interpretation: we examined the data both cross-sectionally and longitudinally through the lens of MMT theory.[2, 15] Atlas.ti (Version 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 questions posed earlier in this paper: Multiple transitions; supporting successful transitions; and multiple and multi-dimensional transitions 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.

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 multi-dimensional 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.

Multiple transitions

Whilst 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.

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 systems New relationships New spaces	New role (same workplace) New spaces (own office)
Unexpected workplace transitions	New role (different workplace) Changing workplace relationships	New systems Changing workplace relationships
Expected home-life transitions	Moving home Change in family set-up (i.e. moving away from family)	Partner's transition to trained doctor status
Unexpected home-life transitions		Change in family set-up (i.e. changes in children's needs)

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 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 whilst 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 (for example, 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 focussed 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 (for example, 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, speciality 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 (for example, 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]

Whilst 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]

Multiple and multi-dimensional transitions interacting and impacting

In this section, we explore how multiple and multi-dimensional transitions (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 to requirements as trainees) meant positive opportunities to plan their personal lives (for example, 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 amongst 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; LAD10, 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 (e.g. to educate others or to undertake management duties) or with family life (e.g. 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-hour 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; LAD6, 10 weeks after entrance interview]

DISCUSSION

Summary of findings and comparison with existing literature

We focussed 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 Multiple and Multi-dimensional Transitions (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 multiple and multi-dimensional transitions 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 focussed almost exclusively on a singular work-related transition to trained doctor (such as preparedness for practice as

consultant), thereby ignoring the complex multiple and multi-dimensional 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 multi-dimensional, 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 (e.g. increased confidence) and negative (e.g. stress and burnout),

[e.g. 28, 33, 36] rarely has 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 peoples' 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 multiple and

multi-dimensional transitions experienced by trainees and significant others because we employed a LAD approach. Furthermore, we have also explored our findings in light of MMT theory, bringing conceptual generalizability 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 (i.e. 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,[e.g. 40, 41] all of our drop-outs 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 amongst 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 multi-dimensional 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 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 multiple and multi-dimensional transitions. Indeed, our research findings would support this shift towards more flexible training programmes.

Implications for further research

While our LAD study duration of nine 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 three years.[43] Indeed, our nine-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 (BAME) 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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Appendix: Summary of data

Research Phase	Minimum length (h:m:s)*	Maximum length (h:m:s)	Average length (h:m:s)	Total data (h:m:s)
Entrance Interview (n=21)	00:20:33	00:56:48	00:36:35	12:49:12
LAD and written diaries (n= 246)	00:00:45 (+205 written words)	00:16:50 (+1220 written words)	00:03:53 (+599 written words)	15:04:54 (+13 written diaries)
Exit interview (n=18)	00:32:45	01:16:11	00:54:09	16:14:46

Notes: *h:m:s=hours:minutes:seconds

Personal Characteristics			Response to questions
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group?	The Primary author
2.	Credentials	What were the researcher's credentials? *E.g. PhD, MD*	PhD
3.	Occupation	What was their occupation at the time of the study?	Post-doctoral research fellow
4.	Gender	Was the researcher male or female?	Female
5.	Experience and training	What experience or training did the researcher have?	5 years research experience ongoing supervision from principle investigator
Relationship with participants			
6.	Relationship established	Was a relationship established prior to study commencement?	No
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. *personal goals,*	Reasons for doing the research

		reasons for doing the research	
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator ? e.g. *Bias, assumptions, reasons and interests in the research topic*	Gender, age and professional background of all authors described
Domain 2: study design			
Theoretical framework			
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? *e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis*	Multiple, Multidimensional Transitions (MMT) Theory; social constructionism
Participant selection			
10.	Sampling	How were participants selected? *e.g. purposive, convenience, consecutive, snowball*	Maximum variation sampling
11.	Method of approach	How were participants	Email via educational

		approached? e.*g. face-to-face, telephone, mail, email*	leads in health boards
12.	Sample size	How many participants were in the study?	20
13.	Non-participation	How many people refused to participate or dropped out? Reasons?	Two didn't want to continue beyond initial interview phase and commit to longitudinal audio diaries.
Setting			
14.	Setting of data collection	Where was the data collected? e.*g. home, clinic, workplace*	Data were collected in convenient locations for participants e.g. workplace; home.
15.	Presence of non-participants	Was anyone else present besides the participants and researchers?	No
16.	Description of sample	What are the important characteristics of the sample? *e.g. demographic data, date*	Doctors about to transition into trained senior roles, e,g, consultant, GP etc
Data collection			

17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Yes an interview guide was used at both interviews and a prompt sheet was given to participants to facilitate audio-diary recordings.
18.	Repeat interviews	Were repeat interviews carried out? If yes, how many?	Yes- 18 of the 20
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data?	Yes all interviews were audio recorded and audio-diaries were recorded.
20.	Field notes	Were field notes made during and/or after the interview or focus group?	No
21.	Duration	What was the duration of the interviews or focus group?	From 25-80 minutes
22.	Data saturation	Was data saturation discussed?	Not seen as applicable to this type of research.
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction?	Diary transcripts were returned. Initial interview transcripts were returned ahead of final interviews.
Domain 3:			

analysis and findingsz			
Data analysis			
24.	Number of data coders	How many data coders coded the data?	One
25.	Description of the coding tree	Did authors provide a description of the coding tree?	No
26.	Derivation of themes	Were themes identified in advance or derived from the data?	Derived from data
27.	Software	What software, if applicable, was used to manage the data?	Atlas-ti
28.	Participant checking	Did participants provide feedback on the findings?	A reference group included two participants.
Reporting			
29.	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.g. *participant number*	Yes and participant numbers were used.
30.	Data and findings	Was there consistency between	Yes

	consistent	the data presented and the findings?	
31.	Clarity of major themes	Were major themes clearly presented in the findings?	Yes
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Some within confines of word count