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"THE GREATEST GIFT": A PHENOMENOLOGICAL STUDY OF ENHANCED NEAR-PEER SUPPORT FOR NEW MEDICAL GRADUATES

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"The Greatest Gift":

A Phenomenological Study Of Enhanced Near-Peer Support For New Medical Graduates

Abstract

Context

Factors contributing to the stressful transition from student to doctor include issues with preparedness for practice, adjusting to new status and responsibility, and variable support. Existing transitional interventions provide inconsistent participation, responsibility and legitimacy in the clinical environment. Enhanced support by near-peers for new doctors may ease the transition.

Objective

Medical graduates of 2020 commenced work early, creating an unprecedented period of overlap between new graduates and the cohort one year ahead. Our objective was to explore the experience of commencing practice for these new doctors with this increased near-peer support.

Design

We used interpretive phenomenological analysis, informed by the cognitive apprenticeship model, to explore the experience of enhanced near-peer support at the transition to practice.

Setting

Medical graduates of one university, one of six medical schools in Ireland.

Participants

Nine newly qualified medical doctors from a university in Ireland.

Main outcome measures

Participants recorded audio-diaries from their commencement of work, and a semi-structured interview was conducted with each, after three months, concerning their experience of their overlap with the previous year's interns. An exploration of their experience of this enhanced near-peer support will inform strategies to ease the transition from student to doctor.

Results

Participants felt reassured by having a near-peer in the same role and safe to seek their support. This empowered them to gradually assume increasing responsibility, and to challenge themselves to further their learning. Participants perceived that commencing work before the annual changeover of other grades of doctor-in-training enhanced their professional identities and improved patient safety.

Conclusion

Enhanced near-peer support for new doctors offers a potential solution to the stressful transition to practice. Participants were legitimate members of the community of practice, with the status and responsibility of first-year doctor. Furthermore, this study reinforces the benefit of asynchronous job changeover for doctors-in-training.

Strengths and Limitations

- We used Interpretative Phenomenological Analysis to conduct a theory driven study.

- The richness of our data enabled us to achieve in-depth insights into participants' experience of enhanced near-peer support as they commenced work as newly qualified doctors.

- Our findings have practical implications for easing the transition from medical student to practising doctor.

- The perspectives of participants' near-peer teachers should also be sought to further inform the development of this enhanced near-peer support for new medical graduates.

Introduction

The transition from medical student to doctor is a challenging period which can have adverse effects on newly qualified doctors' mental health and wellbeing, in addition to generating patient safety concerns (1-4). Preparedness for clinical practice is reported to have improved over recent years (5, 6), nonetheless concerns remain regarding preparedness for aspects of practice dependent on experiential learning in clinical environments such as working on-call, managing acutely ill patients, and time management and prioritisation skills (7). The abrupt change in status with increased responsibility that comes with the transition (8, 9), is compounded by variable levels of support and supervision (10-14). A variety of interventions have aimed to mitigate these factors and ease the experience for new medical graduates (15-21), however, the transition remains problematic (22).

Solutions to enhance preparedness for practice and alleviate the abrupt increase in responsibility perceived by first year doctors, have tended to focus on providing greater hands-on experience at undergraduate level (7). Apprenticeship-type rotations such as sub-internships and assistantships, where students approximate the role of intern under supervision, aim to empower students to experience increased responsibility for patient care (7, 12, 13, 19, 23-26). Other apprenticeship-type transitional interventions closer to commencing work include 'shadowing' the doctor in the post they are about to commence (7, 8, 13, 14, 27, 28). However, despite some success in improving new graduates' self-assessed preparedness (12, 17, 18, 20, 27, 29-31), these undergraduate interventions have critical limitations. Students are afforded varying levels of

participation and responsibility, and they may lack legitimacy to act 'as a doctor' within the community of practice (21, 30).

The status and responsibility conferred on new doctors triggers a transformation in personal perspective and identity, for which it is, arguably, not possible to fully prepare (8, 32-36). This new responsibility can be overwhelming and contributes to the significant cognitive challenges faced on commencing work (37, 38). Support and team inclusion can mitigate these challenges (39, 40) however experience of support and supervision can be variable (4, 13, 35, 41-43), with some doctors reporting feeling isolated and alone (8, 10) and reluctant to ask senior doctors for help (44-46). Near-peers, one or two years ahead on the training pathway, can play an important role in new doctors' learning through work. (47-49) and are a potential resource to support the transition to practice. It is easier to approach near-peers for support (50, 51). Near-peers are cognitively congruent, as their knowledge base is similar (50), and socially congruent as they are at the same level of training (48, 52). Traditionally, when new graduates enter clinical practice, there are near-peers available to them to provide support, however these near-peers are also transitioning to roles of greater responsibility as they move up the training ladder, so they may not be able to provide the level of support new graduates need. Despite the presence of these near-peers, new doctors are known to spend a significant amount of time working alone and have been described as 'isolates' (53, 54).

In 2020, the Sars-CoV-2 pandemic led to the early graduation and accelerated entry to the workplace of final year medical students in many countries, such as Ireland, Italy, the United States and the United Kingdom (55). Published research to date has highlighted generally positive perceptions towards this period of early entry to the workplace (56-58). To our knowledge, however, no studies have focussed on the

increased support provided by the working overlap between the newly qualified doctors and their near-peers, the cohort of doctors the year ahead. The early graduation and accelerated entry to work of medical graduates from Irish universities provided an opportunity to explore the affordances of this period of overlap, at the point of transition to clinical practice. Both cohorts of doctors worked alongside each other in the same role for six weeks, in contrast to the usual scenario where the more senior cohort would progress to the next level of training as the new graduates commenced work.

Our aim was to explore the experience of transition to practice for these newly graduated doctors, supported by near-peers who remained in the role of first year doctor and worked alongside the newly graduated cohort.

Methodology

This study is situated within the interpretivist paradigm with Interpretative Phenomenological Analysis (IPA) as a methodological framework (59). IPA is a contemporary phenomenological approach whose theoretical underpinnings include phenomenology, focusing on the exploration of lived experience, hermeneutics, which is concerned with interpretation, and idiography, indicating an attention to the particular, with each individual transcript analysed fully prior to moving onto the next transcript (59).

We drew on the cognitive apprenticeship model as a sensitising influence on the analysis of our data (60). This model focuses on making the cognitive processes constituting expertise explicit to the learner (60). Learning is facilitated by modelling

(where the expert makes their own cognitive processes explicit), coaching (with guidance, encouragement and feedback), scaffolding (provision of sufficient support which is gradually withdrawn, or faded, as the learner develops competence) articulation (encouragement of learner expression of knowledge and thought processes), reflection and exploration (of thought processes and learning goals by the learner) (60, 61). The learning environment, situated in authentic settings, with the learner becoming part of a community of practice, the *content* of knowledge (facts, problem solving, metacognitive and learning strategies), and appropriate *sequencing* of tasks of increasing difficulty and complexity, are also components of this model (60, 62).

Context

This study was carried out in Ireland, with recent medical graduates of the class of 2020 from University College Cork (UCC), one of six medical schools in Ireland. The Irish undergraduate medical degree is between 4 and 5 years in duration, depending on whether students enter directly from second-level education (high school) or have a prior degree. Internship is a yearlong period of transition from medical student to fully registered medical practitioner. It corresponds to foundation year one (FY1) and postgraduate year one (PGY1) in the UK and Australia respectively, and to a first-year resident in countries where there is no provisional registration phase.

Because the entire class of medical graduates of the class of 2020 commenced work earlier than originally planned, they had a six-week period of working overlap with the previous years' cohort of interns prior to the traditional, annual, changeover of jobs for all levels of doctor-in-training. For the purpose of this study, we will refer to the

incoming interns as 'junior interns' relative to the prior cohort, who we will refer to as 'senior interns'. However, we emphasise that the newly graduated doctors had the full status and terms and conditions of employment of 'Intern' as in any other year. These doctors commenced work early in advance of an anticipated wave of SARS-CoV-2 infection. Fortunately, this first wave was not as severe as anticipated and hospitals in the regions where these doctors worked did not experience disruptions such as were experienced in other jurisdictions, therefore the interns' roles and responsibilities remained largely unchanged by the pandemic during the study period (63).

Ethics

Ethical approval for this study was granted by the Social Research Ethics Committee of the Cork Teaching Hospitals, Ireland. NC, POL, DB and AW have roles in the undergraduate medical programme in University College Cork. POL also has a role in the Southern Intern Training Network. NC, who had no oversight of participants as interns, undertook all recruitment and interviews. These were anonymised prior to analysis by the rest of the research team. Pseudonyms were used in the reporting of results.

Recruitment

All participants were recruited from the 2020 final medical class of one Irish University. Participants were purposively recruited with respect to gender and either graduate entry

or entry directly from high school so that a variety of perspectives would be explored and included only those graduates who were commencing jobs within the Irish Intern Training Network The school of medicine provided a list of names and email addresses for the graduating class of 2020. Participants were invited to participate via email with information regarding the study provided and participants gave informed consent prior to their voluntary participation in the study.

Data Collection

Each participant was invited to keep audio-diaries relating to their experience from their first day of starting work. In addition, a semi-structured interview was carried out and audio-recorded by NC with each participant, approximately 3 months after starting work. The focus of the audio-diaries and interviews were on participants' experience of commencing practice in the context of the 6 weeks of working overlap with senior interns and in the context of the Sars-CoV-2 pandemic (semi-structured interview guide supplemental material). The working overlap was the focus of this study. We were interested in capturing participants' interpretations of their experience in different ways with audio-diaries providing immediacy and interviews a more holistic overview.

Data Analysis

Interviews and audio-diaries were transcribed verbatim and anonymised. The entire dataset for each individual, comprising the interview and audio diaries was analysed as a whole. Initial analysis was carried out by NC and AW, using IPA (59). The initial stage involved immersion in and familiarisation with the data. Then followed identification of experiential themes, (recurrent experiential assertions) which were meaningful in respect of the focus of this research and linked to verbatim extracts of text. NVivo software was used as a data management tool (QRS International Pty Ltd. Version 102014). NC, AW, DB and POL met regularly throughout the analysis to discuss themes which they organised into clusters, called superordinate themes and a summary table was constructed. Each participant's transcript was fully analysed prior to moving onto the next one. When all transcripts were analysed, integration of themes across transcripts was carried out, with both commonality and divergence noted. (59, 64). An audit trail was with maintained with each stage of the process documented for the duration of the study.

We supported each other's reflexivity and kept reflexive diaries throughout the research process.

Patient and public involvement

Patients and the public were not involved directly in this study

Results

Nine participants were recruited, three males and six females. Two held prior degrees and had studied medicine on a medical course specifically tailored for graduates; the

remainder had commenced their medical degrees directly from high school. All but one participant held intern posts in the Southern Intern Training Network. A summary of the data set of each participant can be found in table 1. All participants, with the exception of Fiona, worked on a team with their senior intern colleagues for the duration of the overlap. Fiona worked with her senior intern colleagues for the first week only.

	AD1	AD2	AD3	AD4	Int2	Total
Alan	12m45s	9m13s	6m05s	-----	36m57s	64m55s
Barbara	34m50s	37m26s	-----	-----	73m03s	145m19s
***Caroline**	4m46s	37m08s	-----	-----	56m00s	97m52s
Denise	-----	-----	-----	-----	51m47s	51m47s
Evan	11m02s	12m13s	7m21s	10m37s	66m24s	107m37s
***Fiona**	7m12s	8m59s	7m20s	-----	39m31s	63m2s
Grace	16m44s	12m07s	-----	-----	58m58s	87m49s
Hugh	-----	-----	-----	-----	68m09s	68m09s

Kate	6m37s	-----	-----	----	40m06s	46m43s

*Graduate Entrants. AD=Audiodiary. Int=Interview. m=minute. s=second.

Table 1

Figure1 Superordinate themes and their subthemes identified in the data

The superordinate themes identified as illustrated in figure 1, were *a safe start*, *space to progress* and *'the greatest gift'*. Senior interns supported participants' learning, as they gradually assumed more responsibility, and developed increasing levels of competence during the overlap period, with participants perceiving the overlap as enhancing their transition experience and advocating it for future intern cohorts.

A safe start

The first superordinate theme of *a safe start* comprises subthemes of *safe to seek support* and *safe to embrace challenge.* On commencing practice, participants felt reassured and less apprehensive than they had expected to be, due to the presence of the senior interns. Their senior interns facilitated articulation and exploration, in that participants expressed comfort approaching them for guidance and were motivated to embrace challenge to further their learning while working in this protected environment.

Safe to seek support

In anticipation of commencing work and in the early days of practice, participants' awareness of the presence of senior interns for support in the workplace greatly reassured them and allayed any anxiety associated with the transition from student to doctor.

> *I thought I would be much more nervous going in the first day, but just knowing there would be another intern there to show me how to do everything ...so that was great not to be worried Kate Int*

Participants felt comfortable seeking the support and supervision of the senior interns without fear of scrutiny or negative evaluation. Many particularly mentioned the ease with which they felt they could ask 'stupid' questions, and that they could communicate with their near-peers in a more informal way than they would with more senior doctors, thus enhancing learner articulation. Evan felt that his senior intern would be more empathic, having recently being in the same position of commencing work himself.

> *I feel I can text or I can call .. I don't have to be overly polite and professional too, I can just chat to them like a buddy which I imagine is much easier than speaking to someone you might have felt was a senior and you might have to impress in a way and show that you are better than you are Alan AD1*

It's really comforting having the senior intern there .. Just knowing you have someone to ask those potentially stupid questions to and they won't look down on you .. Because they were here literally 10 months ago .. Some of the more senior members of the team might have a shorter memory Evan AD2

Safe to embrace challenge

Participants' awareness of the support of the senior interns resulted in their perception of a secure and protected environment which motivated them to increase their participation in practice and exploration of their learning goals, as they challenged themselves by stepping outside their comfort zones.

Even when I didn't really need to call him too much, it was just nice to know that I could if I needed to, and I was able to take on a few more things then Alan Int

They were very obliging and that made us much more comfortable then, because we were like 'I know I can take this so far and, when, or if, I get stuck, someone else is going to step in' Barbara Int

Space to progress

The next superordinate theme, *space to progress*, comprises subthemes of *supported to learn,* and *passing the baton*. The learning interactions between senior interns and participants fostered their growth in competence and confidence. Their near-peers

scaffolded their learning, as they were supported to gradually take on increasing levels of responsibility, culminating in them eventually assuming all aspects of the intern role independently. In addition, participants' overlap experience contributed to them making a valuable contribution during the annual doctor-in-training changeover of jobs.

Supported to learn

Participants described many different aspects of practice that they learnt from their senior intern colleagues. Content of knowledge included practical skills, the structure of the intern job during the day and on call, and the expectations of them by their colleagues. They learnt about the IT system, prioritisation of their tasks, and the social and emotional aspects of practice.

> *It was mostly .. practical things, it was also team dynamics ... which Consultant liked different things and the way they do things' 'The tricks of the trade .. or the politics in the hospital .. It was how to apply our knowledge is what they really taught us. Denise Int*

> *They were great at making sure we got out in the evening .. And how to prioritise certain tasks, that was huge .. 'that's not urgent tell the nurse it can wait' Barbara Int*

They learnt aspects of the job that would have taken time otherwise to pick up.

He showed me how to set up order sets for booking bloods for the next morning, it takes two minutes rather than twenty you know which is probably something I wouldn't have learned for a couple of weeks. I probably would have heard it in passing from someone who had figured it out. Alan Int

The senior interns supported participants' learning in different ways. They provided modelling, coaching, facilitated reflection, acted as role models, and encouraged participants to challenge themselves.

Our two interns were brilliant for teaching us and .. everything they did with us, they took time afterwards to chat with us about how it went and talk to us about how we could maybe do things differently the next time .. they did reflect on things with us quite a lot. Caroline Int

It's mad seeing how confident he is with all his jobs .. just the 10 month level of experience is massive compared with where I am now, hopefully after 10 months I can have somewhere near his level of knowledge Evan AD1

Not everything that was transmitted by the senior interns was positive however, Caroline described a particular incident where negative workplace culture was being perpetuated.

I had a conversation with the senior intern about [recording a patient's consent for an unfamiliar procedure, which doctors should not do] *and he said 'but that's the way it is here, you're expected to consent and that's that' Caroline AD2*

Caroline also described fewer opportunities to engage in clinical practice due to overstaffing which negatively impacted on her learning experience.

It wasn't a bad start to intern year compared with what other interns have experienced in the past .. it wasn't necessarily the best either because there were too many of us. Caroline Int

Barbara expressed an awareness that she was entering the workplace with the legitimacy of her position as a paid employee, but recognised nonetheless the affordances for learning provided by the overlap.

We were thrown into work .. and the interns certainly weren't going to baby us when they knew we were being paid for it as well .. It wasn't going to be a cushy 7 weeks but it was definitely beneficial Barbara Int

I've enjoyed it, I've enjoyed the learning experience and just how much you are learning everyday Evan AD 2

Passing the Baton

The senior interns sequenced the tasks for the junior interns based on their learning needs, entrusting them with tasks of increasing complexity and demonstrating gradual fading of scaffolding. As participants' competence and confidence developed, their level of participation increased incrementally during the overlap period as they assumed greater levels of responsibility, taking on more and more of the intern tasks, leading to them sharing and finally taking over the role from their near-peers.

> *As time went on we would share the jobs more equally .. for the first few weeks, the more difficult jobs* [the senior intern] *would take on.. I guess as the weeks went on I would be doing more of them .. you felt like you were moving forward and it would be ok when she left Kate Int*

> *The training wheels came off after the first 2 weeks, we were definitely .. doing more of the day to day jobs and towards the end .. we were .. taking over the day to day jobs .. There was definitely a transition as well where they took a step back .. and we just took over from them Caroline int*

Over time, a tension was described between the support provided by the senior interns and the responsibility the participants wished to assume. They perceived a limit to the

learning opportunities afforded by the support provided by the senior interns. By the time the senior interns left, the junior interns were ready and eager to assume more independent responsibility.

> *Three weeks .. it's enough time.. you can learn all the procedures .. they can teach you all their tricks .. maybe teach you on-call .. After that period you need to start doing stuff by yourself because you start to stagnate Evan Int*

> *It was great to finally have that bit more responsibility because towards the end of the 6 weeks we were getting a bit frustrated by just being sent to do jobs .. so that was a nice new bit of responsibility Grace Int*

The senior interns departed when the annual doctor-in-training changeover occurred, where, usually, all levels of junior doctors change jobs on the same day. Participants remained on the same teams, while most of the other doctors-in-training changed. Participants felt that they were able to make a positive contribution to the new team as now they were often the team members with the most experience and familiarity with the workings of the team.

> *We had the insight to give the whole team about how it ran which I think everyone found useful .. It made [*us*] feel really valued .. and.. the least trained*

and least skilled people were more comfortable with what they were doing and that can be nothing but safer Denise Int

Interestingly now it's the interns most familiar with how the team works and its quite rewarding to be the most junior member of the team but also the one who can help out the senior members .. So I think it has taken a lot of pressure off the team Alan AD

'The greatest gift'

The final superordinate theme identified is *'the greatest gift',* which comprises the subthemes of *feeling fortunate* and *seal of approval for overlap.* Participants felt fortunate to have experienced the working overlap with the senior interns, who scaffolded their learning in their first weeks of practice. They expressed disbelief at how previous cohorts commenced practice in the absence of this overlap, and would advocate a similar system for future intern cohorts.

Feeling fortunate

Participants in this study felt that the provision of a working overlap with the previous year's interns was very beneficial for them in easing their transition to clinical practice.

*We started with the interns overlapping and that was the greatest gift ever from the *HSE, almost an apology gift for everything else you know' Barbara Int* (*Health Service Executive, the healthcare system of the Republic of Ireland)

Fiona, was the only participant who did not work alongside her senior intern colleagues for most of the overlap period, and felt that she had missed out on a learning opportunity.

[It was] *unfair because we didn't have the interns we were expecting to be learning from, available to us Fiona Int*

The prospect of commencing work in the absence of the learning opportunities provided by the overlap with the senior interns was met with disbelief by most participants. Grace and Caroline questioned the usual system of starting work at the annual doctor-in-training changeover with all other grades of doctor-in-training and felt that this would have adversely affected the support provided to first year doctors.

*I just absolutely don't understand how the other interns in previous years had to just start at changeover .. I presume they just learned from *SHOs and asking each other and just learning on the job Grace Int* (* senior house officers, postgraduate years 2 and 3)

I don't know how I would have coped with just being landed into a job with no guidance at all .. All starting on a new team together and trying to just muddle our way through Caroline Int

Seal of approval for overlap

All advocated the provision of this support in the future, citing the benefit of the enhanced learning experience for interns. In addition, some participants expressed the perception that the overlap period resulted in improved patient care and safety during the transition to practice of new graduates, and during the annual doctor-in-training changeover.

It definitely made a huge difference having the senior intern there. I would very, very, highly recommend that. I would be an advocate for having interns overlapping in the future, absolutely Alan Int 2

It would be hugely beneficial and very much in the interest of patient care I would say Alan AD3

I think it would be a really good chance to make the middle of July less dangerous for the population as a whole, just to give us a kind of buffer period to get our feet wet while we have got dual cover Fiona Int

Discussion

Principal Findings

The well supported transition described in this study contrasts strongly with the extant literature on the transition to practice, which describes it as a challenging period which has adverse effects on new doctors' health and wellbeing (4, 13, 65). New medical graduates have previously expressed apprehension about commencing practice even prior to their first day of work, and uncertainty about the support available to them, based on their experience as undergraduates (66). As a result of the overlap, participants in this study found that they were more reassured and less apprehensive than they had expected they would be, on commencing work.

Participants commenced this period with the status and responsibility of interns, an aspect of the transition from student to doctor that is difficult to simulate in the undergraduate setting. The senior interns scaffolded their learning, empowered them to gradually assume increasing levels of responsibility, and motivated them to challenge themselves to further their learning. Although participants strongly endorsed this model, we did note that over time, a tension developed between their desire for more autonomy and the support provided by the senior interns. As the period of working overlap neared completion, participants positively anticipated the departure of the senior interns, and the opportunity for greater independence. Furthermore, the early commencement of work of the junior intern cohort, prior to the changeover of all other grades of doctor-in training was perceived by participants as enhancing their professional identity and beneficial for patient safety.

We have highlighted the affordances of a period of overlap between newly qualified doctors and the cohort of interns from the year ahead. This study demonstrates how the

transition to practice can be eased by this period of enhanced support for incoming interns, working alongside their near peer colleagues in the same role, in a cognitive apprenticeship. Resonating with the experience of participants in this study, the social and cognitive congruence of near-peers can result in more supportive tutors who are interested, approachable and responsive to their learners' needs (48, 52). They may be perceived as less threatening and may have an understanding of any difficulties encountered by learners, enabling them to explain challenging concepts at their level, and with appropriate language, resulting in a relaxed learning atmosphere (48, 52). Doctors in their early years of practice demonstrate a hesitance to request support from senior doctors in their desire to establish their identity as doctor, fearing that asking for help may negatively affect their professional credibility and future evaluations (44, 45). A perception of psychological safety was described by participants in their interactions with the senior interns (67). Psychological safety refers to the belief that one can ask questions or report errors without fear of negative repercussions (68). It empowers learners to engage fully with learning opportunities, embrace challenge (69) and creates an environment of educational safety, where learners are less preoccupied with the need to present themselves as competent, freeing them to concentrate on learning rather than constant self-evaluation (69).

As they worked side by side in the same role, the senior interns demonstrated and guided participants in practical skills and higher-level thinking corresponding with the cognitive apprenticeship model (60). However, as participant competence developed, a tension was apparent regarding the degree of scaffolding, and subsequent fading that was provided by the senior interns, with participants eager to assume more responsibility and tasks of increasing complexity than were being entrusted to them. New doctors learn through taking on challenge with adequate support (70). Appropriate

entrustment promotes the development of knowledge, competence and professional identity formation (71), however, as was seen in this study, entrusting the learner with too little responsibility can lead to dissatisfaction, and frustration at lost learning opportunities (71, 72). The zone of proximal development as described by Vygotsky can inform the scaffolding process, with maximum learner development occurring with the setting of tasks that are marginally more difficult than the learner can perform independently (73). The social and cognitive congruence of near-peers may facilitate the recognition of the zone of proximal development more easily than by more senior colleagues.

The more supported introduction to work described in this study, involved participants who were doctors now, rather than medical students, engaged in meaningful work, and interacting with other members of the community of practice, which is an important dimension of the cognitive apprenticeship framework (60, 62). Their new status and responsibility granted them legitimacy, permitting and requiring them to accept shared responsibility for patient care and afforded them some autonomy in practice (36). Other beneficial elements in this study, which are dimensions of the cognitive apprenticeship framework included: the content of the knowledge imparted by the senior interns in the form of tips, 'insider' knowledge, problem solving strategies, and factual content, and the sequencing of tasks focused on meeting learner needs, with senior interns allocating tasks of increasing complexity with increasing participant competence (60).

Many healthcare jurisdictions have an annual changeover, where the bulk of the doctor-in-training cohort change jobs simultaneously. It has been suggested that this system may negatively impact on patient care, patient safety, and junior doctor training (1, 74,

75). There have been calls for a change so that doctors-in-training do not all change jobs at the same time (75). By commencing work early, participants in this study were able to orientate their new, more senior colleagues to the team when the annual doctor-in-training changeover occurred, positively reinforcing their professional identities (76, 77), and resulting in participant perceptions of enhanced patient safety.

Implications for practice

Our study has highlighted the benefit of a cognitive apprenticeship with enhanced near-peer support provided by a period of working overlap with senior intern colleagues for new doctors commencing practice. The conferral of new graduates with the status and responsibility of doctors legitimised and promoted their participation in the workplace during this transitional intervention. This will inform undergraduate and postgraduate curricular design regarding the benefit of a period of enhanced near-peer support by senior interns working alongside their new doctor colleagues, the value of a cognitive apprenticeship framework, and the importance of feeling the status and responsibility of doctor in designing transitional interventions. To fully realise the potential of a period of working overlap with near-peers demonstrated in this study, faculty development should focus on preparing and supporting senior interns in their role as near peer teachers, and at undergraduate level medical students' reflection, articulation and exploration skills should be promoted and developed to strengthen learning via the cognitive apprenticeship model.

Earlier commencement of work by future cohorts of new graduates would also remove this group from the annual simultaneous transition of other grades of doctor-in-training to new roles, potentially improving patient care and safety. It is to be acknowledged

that there would be resource implications in employing new graduates to facilitate a period of working overlap with near-peers as described in this study. We believe, however, that the many potential benefits we have demonstrated justifies consideration of allocation of resources for this intervention to support the transition to clinical practice.

Implications for Research

This study explored the experiences of newly qualified doctors of a more supported transition to work. The perspectives of their near-peer teachers and other stakeholders in the clinical context would further inform development of this framework as a transitional intervention, and should be a focus of future research. Further research could also evaluate the optimal duration of a working senior intern overlap.

Strengths and Limitations

The study has provided an in depth exploration, in real time, of the experience of participants, of a near-peer transitional intervention informed by a cognitive apprenticeship framework. The insights obtained will inform curricular design at undergraduate and postgraduate level and furthers our knowledge regarding optimum preparation for clinical practice and easing the experience of transition for medical graduates.

There are some limitations to this study to consider. All participants were recruited from the same university, which has potential consequences for wider applicability,

however it is our intention that the reader may evaluate the transferability of conclusions in the context of this study, to similar settings. NC who carried out all interviews, as a member of faculty, may be known to participants. Although she had no oversight of participants at postgraduate level, it is possible that participants may not have been fully open in their accounts.

Conclusions

Enhanced near-peer support for new doctors on commencing clinical practice offers a potential solution to the abrupt and stressful transition from student to doctor. This study also highlights the benefit of new doctors commencing work prior to the annual job transition of other grades of doctor-in-training.

Contributorship

DB conceived of this study. NC recruited participants and acquired the data. NC, AW, POL and DB contributed to data analysis and interpretation. NC drafted the paper which was critically revised for important intellectual content and approved by all authors. All authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Competing interests

One author, POL, has a role in the Southern Intern Training Network. No competing interests to declare.

Funding

Southern Intern Training Network, Ireland.

Data availability

Data is available from the corresponding author on reasonable request.

Ethics Approval

Social Research Ethics Committee, Cork Teaching Hospitals, Ireland.

Figure 1 legend

Superordinate themes and their subthemes identified in the data.

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Figure 1

Interview Schedule

What was your initial experience of commencing work?

How did your experience evolve over time?

What challenges did you face?

What was your relationship with the 'senior interns'?

Did you feel supported in the workplace?

What was your experience of seeking support?

What was your experience of the support provided by the 'senior interns'?

- What did you do/What did they do?
- How did this evolve over time?

What was your experience of working at the end of the overlap when the 'senior interns' changed over to new roles?

How do you feel now about the overlap period?

How do you feel your experience would have been different if you had commenced work in 'normal circumstances', prior to the pandemic?

Standards for Reporting Qualitative Research (SRQR)*

http://www.equator-network.org/reporting-guidelines/srqr/

	Location
Title and abstract	
Title - Concise description of the nature and topic of the study Identifying the study as qualitative or indicating the approach (e.g., ethnography, grounded theory) or data collection methods (e.g., interview, focus group) is recommended	Title Pg 1 and Pg 3
Abstract - Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions	Abstract Pg 3 and Pg 4
Introduction	
Problem formulation - Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement	Introduction Pg 8-10
Purpose or research question - Purpose of the study and specific objectives or questions	Introduction para 5 Pg 10
Methods	
Qualitative approach and research paradigm - Qualitative approach (e.g., ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g., postpositivist, constructivist/ interpretivist) is also recommended; rationale**	Methodology para 1 Pg 10
Researcher characteristics and reflexivity - Researchers' characteristics that may influence the research, including personal attributes, qualifications/experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability	Ethics Pg 12 Data analysis para 2 Pg 14
Context - Setting/site and salient contextual factors; rationale**	Context Pg 11-12 Recruitment Pg 12-13
Sampling strategy - How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g., sampling saturation); rationale**	Recruitment Pg 12-13
Ethical issues pertaining to human subjects - Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	Ethics Pg 12 Recruitment Pg 13
Data collection methods - Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale**	Data Collection Pg 13

Data collection instruments and technologies - Description of instruments (e.g., interview guides, questionnaires) and devices (e.g., audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study	Data collection Pg 13 Supplemental material
Units of study - Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	Results table 1 Pg 14
Data processing - Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/de-identification of excerpts	Data analysis para 1 Pg 14
Data analysis - Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale**	Methodology para 2 Pg 10-11 Data analysis Pg 14
Techniques to enhance trustworthiness - Techniques to enhance trustworthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale**	Data analysis Pg 14

Results/findings

Synthesis and interpretation - Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	Results Pg 14-26
Links to empirical data - Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings	Results verbatim quotes Pg 14-26

Discussion

Integration with prior work, implications, transferability, and contribution(s) to the field - Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field	Discussion Pg 26-32
Limitations - Trustworthiness and limitations of findings	Strengths and limitations Pg 31

Other

Conflicts of interest - Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed	Pg 34
Funding - Sources of funding and other support; role of funders in data collection, interpretation, and reporting	Pg 34

*The authors created the SRQR by searching the literature to identify guidelines, reporting standards, and critical appraisal criteria for qualitative research; reviewing the reference lists of retrieved sources; and contacting experts to gain feedback. The SRQR aims to improve the transparency of all aspects of qualitative research by providing clear standards for reporting qualitative research.

**The rationale should briefly discuss the justification for choosing that theory, approach, method, or technique rather than other options available, the assumptions and limitations implicit in those choices, and how those choices influence study conclusions and transferability. As appropriate, the rationale for several items might be discussed together.

Reference:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. **Standards for reporting qualitative research: a synthesis of recommendations.** *Academic Medicine*, Vol. 89, No. 9 / Sept 2014
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EXPERIENCE OF ENHANCED NEAR-PEER SUPPORT FOR NEW MEDICAL GRADUATES OF AN IRISH UNIVERSITY: A PHENOMENOLOGICAL STUDY

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Abstract

Context

Factors contributing to the stressful transition from student to doctor include issues with preparedness for practice, adjusting to new status and responsibility, and variable support. Existing transitional interventions provide inconsistent participation, responsibility and legitimacy in the clinical environment. Enhanced support by near-peers for new doctors may ease the transition. Irish medical graduates of 2020 commenced work early, creating an unprecedented period of overlap between new graduates and the cohort one year ahead.

Objective

To explore the experience of commencing practice for these new doctors with this increased near-peer support.

Design

We used interpretive phenomenological analysis as our methodological approach, informed by the cognitive apprenticeship model, to explore the experience of enhanced near-peer support at the transition to practice. Participants recorded audio-diaries from their commencement of work, and a semi-structured interview was conducted with each, after three months, concerning their experience of their overlap with the previous year's interns.

Setting

University College Cork, one of six medical schools in Ireland.

Participants

Nine newly qualified medical doctors.

Main outcome measures

An exploration of their experience of transition to clinical practice, in the context of this enhanced near-peer support will inform strategies to ease the transition from student to doctor.

Results

Participants felt reassured by having a near-peer in the same role and safe to seek their support. This empowered them to gradually assume increasing responsibility, and to challenge themselves to further their learning. Participants perceived that commencing work before the annual changeover of other grades of doctor-in-training enhanced their professional identities and improved patient safety.

Conclusions

Enhanced near-peer support for new doctors offers a potential solution to the stressful transition to practice. Participants were legitimate members of the community of practice, with the status and responsibility of first-year doctor. Furthermore, this study reinforces the benefit of asynchronous job changeover for doctors-in-training.

Strengths and Limitations

- We used Interpretative Phenomenological Analysis to conduct a theory driven study.
- The cognitive apprenticeship model was a sensitising influence on the analysis of our data.
- A rich data set was collected using audio-diaries for immediacy and in-depth semi-structured interviews for a more holistic approach.

Introduction

The transition from medical student to doctor is a challenging period which can have adverse effects on newly qualified doctors' mental health and wellbeing, in addition to generating patient safety concerns (1-4). Preparedness for clinical practice is reported to have improved over recent years (5, 6), nonetheless concerns remain regarding preparedness for aspects of practice dependent on experiential learning in clinical environments such as working on-call, managing acutely ill patients, and time management and prioritisation skills (7). The abrupt change in status with increased responsibility that comes with the transition (8, 9), is compounded by variable levels of support and supervision (10-14). A variety of interventions have aimed to mitigate these factors and ease the experience for new medical graduates (15-21), however, the transition remains problematic (22).

Solutions to enhance preparedness for practice and alleviate the abrupt increase in responsibility perceived by first year doctors, have tended to focus on providing greater hands-on experience at undergraduate level (7). Apprenticeship-type rotations such as sub-internships and assistantships, where students approximate the role of intern under supervision, aim to empower students to experience increased responsibility for patient care (7, 12, 13, 19, 23-26). Other apprenticeship-type transitional interventions closer to commencing work include 'shadowing' the doctor in the post they are about to commence (7, 8, 13, 14, 27, 28). However, despite some success in improving new graduates' self-assessed preparedness (12, 17, 18, 20, 27, 29-31), these undergraduate interventions have critical limitations. Students are afforded varying levels of participation and responsibility, and they may lack legitimacy to act 'as a doctor' within the community of practice (21, 30).

The status and responsibility conferred on new doctors triggers a transformation in personal perspective and identity, for which it is, arguably, not possible to fully prepare (8, 32-36). This new responsibility can be overwhelming and contributes to the significant cognitive challenges faced on commencing work (37, 38). Support and team inclusion can mitigate these challenges (39, 40) however experience of support and supervision can be variable (4, 13, 35, 41-43), with some doctors reporting feeling isolated and alone (8, 10) and reluctant to ask senior doctors for help (44-46). Near-peers, one or two years ahead on the training pathway, can play an important role in new doctors' learning through work. (47-49) and are a potential resource to support the transition to practice. It is easier to approach near-peers for support (50, 51). Near-peers are cognitively congruent, as their knowledge base is similar (50), and socially congruent as they are at the same level of training (48, 52-54). Traditionally, when new graduates enter clinical practice, there are near-peers available to them to provide support, however these near-peers are also transitioning to roles of greater responsibility as they move up the training ladder, so they may not be able to provide the level of support new graduates need. Despite the presence of these near-peers, new doctors are known to spend a significant amount of time working alone and have been described as 'isolates' (55, 56).

In 2020, the Sars-CoV-2 pandemic led to the early graduation and accelerated entry to the workplace of final year medical students in many countries, such as Ireland, Italy, the United States and the United Kingdom (57). Published research to date has highlighted generally positive perceptions towards this period of early entry to the workplace (58-60). To our knowledge, however, no studies have focussed on the increased support provided by the working overlap between the newly qualified doctors and their near-peers, the cohort of doctors the year ahead. The early graduation and

accelerated entry to work of medical graduates from Irish universities provided an opportunity to explore the affordances of this period of overlap, at the point of transition to clinical practice. Both cohorts of doctors worked alongside each other in the same role for six weeks, in contrast to the usual scenario where the more senior cohort would progress to the next level of training as the new graduates commenced work

Our aim was to explore the experience of transition to practice for these newly graduated doctors, supported by near-peers who remained in the role of first year doctor and worked alongside the newly graduated cohort.

Methodology

This study is situated within the interpretivist paradigm with Interpretative Phenomenological Analysis (IPA) as a methodological approach (61). IPA is a contemporary phenomenological approach whose theoretical underpinnings include phenomenology, focusing on the exploration of lived experience, hermeneutics, which is concerned with interpretation, and idiography, indicating an attention to the particular, with each individual transcript analysed fully prior to moving onto the next transcript (61).

We drew on the cognitive apprenticeship model as a sensitising influence on the analysis of our data (62). This model focuses on making the cognitive processes constituting expertise explicit to the learner (62). Learning is facilitated by modelling (where the expert makes their own cognitive processes explicit), coaching (with guidance, encouragement and feedback), scaffolding (provision of sufficient support which is gradually withdrawn, or faded, as the learner develops competence) articulation (encouragement of learner expression of knowledge and thought

processes), reflection and exploration (of thought processes and learning goals by the learner) (62, 63). The learning environment, situated in authentic settings, with the learner becoming part of a community of practice, the *content* of knowledge (facts, problem solving, metacognitive and learning strategies), and appropriate *sequencing* of tasks of increasing difficulty and complexity, are also components of this model (62, 64).

Context

This study was carried out in Ireland, with recent medical graduates of the class of 2020 from University College Cork (UCC), one of six medical schools in Ireland. Almost one thousand undergraduate medical students attend UCC, with approximately two hundred students graduating annually with a MB BCh BAO (Hons) qualification (Bachelor in Medicine, Bachelor in Surgery and Bachelor in the Art of Obstetrics). The undergraduate medical degree is between 4 and 5 years in duration. The 5 year programme is available to Irish and international school-leaver students and the 4-year programme is available to Irish and international graduates who hold a primary degree in any discipline. Internship is a yearlong period of transition from medical student to fully registered medical practitioner. It corresponds to foundation year one (FY1) and postgraduate year one (PGY1) in the UK and Australia respectively, and to a first-year resident in countries where there is no provisional registration phase.

Because the entire class of medical graduates of the class of 2020 commenced work earlier than originally planned, they had a six-week period of working overlap with the previous years' cohort of interns prior to the traditional, annual, changeover of jobs for all levels of doctor-in-training. For the purpose of this study, we will refer to the incoming interns as 'junior interns' relative to the prior cohort, who we will refer to as

'senior interns'. However, we emphasise that the newly graduated doctors had the full status and terms and conditions of employment of 'Intern' as in any other year. In addition to the enhanced support provided by the overlap, these 'junior interns' would also have access to supports which have been present in previous years for example, allied healthcare professionals, the team and more senior doctors. These new doctors commenced work early in advance of an anticipated wave of SARS-CoV-2 infection. Fortunately, this first wave was not as severe as anticipated and hospitals in the regions where these doctors worked did not experience disruptions such as were experienced in other jurisdictions, therefore the interns' roles and responsibilities remained largely unchanged by the pandemic during the study period (65).

Ethics

Ethical approval for this study was granted by the Social Research Ethics Committee of the Cork Teaching Hospitals, Ireland. NC, POL, DB and AW have roles in the undergraduate medical programme in University College Cork. POL also has a role in the Southern Intern Training Network. NC, who had no oversight of participants as interns, undertook all recruitment and interviews. These were anonymised prior to analysis by the rest of the research team. Pseudonyms were used in the reporting of results. The SRQR (Standards for Reporting Qualitative Research) guidelines were adhered to in this research (66).

Patient and public involvement

There was no patient or public involvement in this research.

Recruitment

All participants were recruited from the 2020 final medical class of one Irish University. Participants were purposively recruited with respect to gender and either graduate entry or entry directly from high school so that a variety of perspectives would be explored and included only those graduates who were commencing jobs within the Irish Intern Training Network. The school of medicine provided a list of names and email addresses for the graduating class of 2020, which comprised 204 students. Participants were invited to participate via email with information regarding the study provided and participants gave informed consent prior to their voluntary participation in the study.

Data Collection

Each participant was invited to keep audio-diaries relating to their experience from their first day of starting work. In addition, a semi-structured interview was carried out and audio-recorded by NC with each participant, approximately 3 months after starting work. The focus of the audio-diaries and interviews were on participants' experience of commencing practice in the context of the 6 weeks of working overlap with senior interns and in the context of the Sars-CoV-2 pandemic (semi-structured interview guide appendix 1). The working overlap was the focus of this study. We were interested in capturing participants' interpretations of their experience in different ways with audio-diaries providing immediacy and interviews a more holistic overview.

Data Analysis

Interviews and audio-diaries were transcribed verbatim and anonymised. The entire dataset for each individual, comprising the interview and audio diaries was analysed as a whole. Initial analysis was carried out by NC and AW, using IPA (61). The initial stage involved immersion in and familiarisation with the data. Then followed identification of experiential themes, (recurrent experiential assertions) which were meaningful in respect of the focus of this research and linked to verbatim extracts of text. Nvivo software was used as a data management tool. NC, AW, DB and POL met regularly throughout the analysis to discuss themes which they organised into clusters, called superordinate themes and a summary table was constructed. Each participant's transcript was fully analysed prior to moving onto the next one. When all transcripts were analysed, integration of themes across transcripts was carried out, with both commonality and divergence noted. (61, 67). An audit trail was with maintained with each stage of the process documented for the duration of the study.

We supported each other's reflexivity and kept reflexive diaries throughout the research process.

Results

Twenty-four recent graduates were invited to participate and nine participants were recruited for this study, three males and six females. Two held prior degrees and had studied medicine on a medical course specifically tailored for graduates; the remainder had commenced their medical degrees directly from high school. All but one participant held intern posts in the Southern Intern Training Network. A summary of the data set of each participant can be found in table 1. All participants, with the exception of Fiona,

worked on a team with their senior intern colleagues for the duration of the overlap. Fiona worked with her senior intern colleagues for the first week only.

		AD1	AD2	AD3	AD4	Int	Total
Alan		12m45s	9m13s	6m05s	-----	36m57s	64m55s
Barbara		34m50s	37m26s	-----	-----	73m03s	145m19s
***Caroline**		4m46s	37m08s	-----	-----	56m00s	97m52s
Denise		-----	-----	-----	-----	51m47s	51m47s
Evan		11m02s	12m13s	7m21s	10m37s	66m24s	107m37s
***Fiona**		7m12s	8m59s	7m20s	-----	39m31s	63m02s
Grace		16m44s	12m07s	-----	-----	58m58s	87m49s
Hugh		-----	-----	-----	-----	68m09s	68m09s
Kate		6m37s	-----	-----	----	40m06s	46m43s

*Graduate Entrants. AD=Audiodiary. Int=Interview. m=minute. s=second.

Names=pseudonyms

Table 1

Figure1

The superordinate themes identified as illustrated in figure 1, were *a safe start*, *space to progress* and *'the greatest gift'*. Senior interns supported participants' learning, as they gradually assumed more responsibility, and developed increasing levels of competence during the overlap period, with participants perceiving the overlap as enhancing their transition experience and advocating it for future intern cohorts.

A safe start

The first superordinate theme of *a safe start* comprises subthemes of *safe to seek support* and *safe to embrace challenge.* On commencing practice, participants felt reassured and less apprehensive than they had expected to be, due to the presence of the senior interns. Their senior interns facilitated articulation and exploration, in that participants expressed comfort approaching them for guidance and were motivated to embrace challenge to further their learning while working in this protected environment.

Safe to seek support

In anticipation of commencing work and in the early days of practice, participants' awareness of the presence of senior interns for support in the workplace greatly reassured them and allayed any anxiety associated with the transition from student to doctor.

> *I thought I would be much more nervous going in the first day, but just knowing there would be another intern there to show me how to do everything …so that was great not to be worried Kate Int*

Participants described how they felt comfortable seeking the support and supervision of the senior interns without fear of scrutiny or negative evaluation. Many particularly mentioned the ease with which they felt they could ask 'stupid' questions, and that they could communicate with their near-peers in a more informal way than they would with more senior doctors, thus enhancing learner articulation. Evan felt that his senior intern would be more empathic than more senior doctors, having recently being in the same position of commencing work himself.

> *I feel I can text or I can call .. I don't have to be overly polite and professional too, I can just chat to them like a buddy which I imagine is much easier than speaking to someone you might have felt was a senior and you might have to impress in a way and show that you are better than you are Alan AD1*

> *It's really comforting having the senior intern there .. Just knowing you have someone to ask those potentially stupid questions to and they won't look down on you .. Because they were here literally 10 months ago .. Some of the more senior members of the team might have a shorter memory Evan AD2*

Safe to embrace challenge

Participants' awareness of the availability and approachability of the senior interns resulted in their perception of a secure and protected environment which motivated them to increase their participation in practice and exploration of their learning goals, as they challenged themselves by stepping outside their comfort zones.

They were very obliging and that made us much more comfortable then, because we were like 'I know I can take this so far and, when, or if, I get stuck, someone else is going to step in' Barbara Int

Space to progress

The next superordinate theme, *space to progress*, comprises subthemes of *supported to learn,* and *passing the baton*. The learning interactions between senior interns and participants fostered their growth in competence and confidence. Their near-peers scaffolded their learning, as they were supported to gradually take on increasing levels of responsibility, culminating in them eventually assuming all aspects of the intern role independently. In addition, participants' overlap experience contributed to them making a valuable contribution during the annual doctor-in-training changeover of jobs.

Supported to learn

Participants described many different aspects of practice that they learnt from their senior intern colleagues. Content of knowledge included practical skills, the structure of the intern job during the day and on call, and the expectations of them by their colleagues. They learnt about the IT system, prioritisation of their tasks, and the social and emotional aspects of practice. They learnt aspects of the job that would have taken time otherwise to pick up.

It was mostly .. practical things, it was also team dynamics ... which Consultant liked different things and the way they do things' 'The tricks of the trade .. or

the politics in the hospital .. It was how to apply our knowledge is what they really taught us. Denise Int

He showed me how to set up order sets for booking bloods for the next morning, it takes two minutes rather than twenty you know which is probably something I wouldn't have learned for a couple of weeks. I probably would have heard it in passing from someone who had figured it out. Alan Int

The senior interns supported participants' learning in different ways. They provided modelling, coaching, facilitated reflection, acted as role models, and encouraged participants to challenge themselves. Participants appreciated their constructive feedback and mutual agreement of learning goals for the future.

Our two interns were brilliant for teaching us and .. everything they did with us, they took time afterwards to chat with us about how it went and talk to us about how we could maybe do things differently the next time .. they did reflect on things with us quite a lot. Caroline Int

It's mad seeing how confident he is with all his jobs .. just the 10 month level of experience is massive compared with where I am now, hopefully after 10 months I can have somewhere near his level of knowledge Evan AD1

Not everything that was transmitted by the senior interns was positive however, Caroline described a particular incident where negative workplace culture was being perpetuated. Having expressed reluctance to carry out a particular task, she was advised by her senior intern to carry it out as it was an expectation of this particular post. Caroline also described fewer opportunities to engage in clinical practice due to overstaffing which negatively impacted on her learning experience.

> *I had a conversation with the senior intern about* [recording a patient's consent for an unfamiliar procedure, which doctors should not do] *and he said 'but that's the way it is here, you're expected to consent and that's that' Caroline AD2*

> *It wasn't a bad start to intern year compared with what other interns have experienced in the past .. it wasn't necessarily the best either because there were too many of us. Caroline Int*

Barbara expressed an awareness that she was entering the workplace with the legitimacy of her position as a paid employee, but recognised nonetheless the affordances for learning provided by the overlap.

> *We were thrown into work .. and the interns certainly weren't going to baby us when they knew we were being paid for it as well .. It wasn't going to be a cushy 7 weeks but it was definitely beneficial Barbara Int*

Passing the Baton

The senior interns sequenced the tasks for the junior interns based on their learning needs, entrusting them with tasks of increasing complexity and demonstrating gradual fading of scaffolding. As participants' competence and confidence developed, their level of participation increased incrementally during the overlap period as they assumed greater levels of responsibility, taking on more and more of the intern tasks, leading to them sharing and finally taking over the role from their near-peers.

> *The training wheels came off after the first 2 weeks, we were definitely .. doing more of the day to day jobs and towards the end .. we were .. taking over the day to day jobs .. There was definitely a transition as well where they took a step back .. and we just took over from them Caroline int*

Over time, a tension was described between the support provided by the senior interns and the responsibility the participants wished to assume. They perceived a limit to the learning opportunities afforded by the support provided by the senior interns. By the time the senior interns left, the junior interns were ready and eager to assume more independent responsibility.

> *Three weeks .. it's enough time.. you can learn all the procedures .. they can teach you all their tricks .. maybe teach you on-call .. After that period you need to start doing stuff by yourself because you start to stagnate Evan Int*

It was great to finally have that bit more responsibility because towards the end of the 6 weeks we were getting a bit frustrated by just being sent to do jobs .. so that was a nice new bit of responsibility Grace Int

The senior interns departed when the annual doctor-in-training changeover occurred, where, usually, all levels of junior doctors change jobs on the same day. Participants remained on the same teams, while most of the other doctors-in-training changed. Participants felt that they were able to make a positive contribution to the new team as now they were often the team members with the most experience and familiarity with the workings of the team. This enhanced their sense of belonging within the team.

*We had the insight to give the whole team about how it ran which I think everyone found useful .. It made [*us*] feel really valued .. and.. the least trained and least skilled people were more comfortable with what they were doing and that can be nothing but safer Denise Int*

Interestingly now it's the interns most familiar with how the team works and its quite rewarding to be the most junior member of the team but also the one who can help out the senior members .. So I think it has taken a lot of pressure off the team Alan AD

'The greatest gift'

The final superordinate theme identified is *'the greatest gift',* which comprises the subthemes of *feeling fortunate* and *seal of approval for overlap.* Participants felt fortunate to have experienced the working overlap with the senior interns, who scaffolded their learning in their first weeks of practice. They expressed disbelief at how previous cohorts commenced practice in the absence of this overlap, and would advocate a similar system for future intern cohorts.

Feeling fortunate

Participants in this study felt that the provision of a working overlap with the previous year's interns was very beneficial for them in easing their transition to clinical practice. Fiona, was the only participant who did not work alongside her senior intern colleagues for most of the overlap period, and felt that she had missed out on a learning opportunity.

> *We started with the interns overlapping and that was the greatest gift ever from the *HSE, almost an apology gift for everything else you know' Barbara Int*
> (*Health Service Executive, the healthcare system of the Republic of Ireland)

> [It was] *unfair because we didn't have the interns we were expecting to be learning from, available to us Fiona Int*

The prospect of commencing work in the absence of the learning opportunities provided by the overlap with the senior interns was met with disbelief by most participants. Grace

and Caroline questioned the usual system of starting work at the annual doctor-in-training changeover with all other grades of doctor-in-training and felt that this would have adversely affected the support provided to first year doctors.

> *I just absolutely don't understand how the other interns in previous years had to just start at changeover .. I presume they just learned from *SHOs and asking each other and just learning on the job Grace Int* (* senior house officers, postgraduate years 2 and 3)
>
> *I don't know how I would have coped with just being landed into a job with no guidance at all .. All starting on a new team together and trying to just muddle our way through Caroline Int*

Seal of approval for overlap

All advocated the provision of this support in the future, citing the benefit of the enhanced learning experience for interns. In addition, some participants expressed the perception that the overlap period resulted in improved patient care and safety during the transition to practice of new graduates, and during the annual doctor-in-training changeover.

> *It definitely made a huge difference having the senior intern there. I would very, very, highly recommend that. I would be an advocate for having interns overlapping in the future, absolutely Alan Int*
>
> *I think it would be a really good chance to make the middle of July less dangerous for the population as a whole, just to give us a kind of buffer period to get our feet wet while we have got dual cover Fiona Int*

Discussion

Principal Findings

The well supported transition described in this study contrasts strongly with the extant literature on the transition to practice, which describes it as a challenging period which has adverse effects on new doctors' health and wellbeing (4, 13, 68). New medical graduates have previously expressed apprehension about commencing practice even prior to their first day of work, and uncertainty about the support available to them, based on their experience as undergraduates (69). As a result of the overlap, participants in this study found that they were more reassured and less apprehensive than they had expected they would be, on commencing work.

Participants commenced this period with the status and responsibility of interns, an aspect of the transition from student to doctor that is difficult to simulate in the undergraduate setting. The senior interns scaffolded their learning, empowered them to gradually assume increasing levels of responsibility, and motivated them to challenge themselves to further their learning. Although participants strongly endorsed this model, we did note that over time, a tension developed between their desire for more autonomy and the support provided by the senior interns. As the period of working overlap neared completion, participants positively anticipated the departure of the senior interns, and the opportunity for greater independence. Furthermore, the early commencement of work of the junior intern cohort, prior to the changeover of all other grades of doctor-in training was perceived by participants as enhancing their professional identity and beneficial for patient safety.

We have highlighted the affordances of a period of overlap between newly qualified doctors and the cohort of interns from the year ahead. This study suggests that the transition to practice can be eased by this period of enhanced support for incoming interns, working alongside their near peer colleagues in the same role, in a cognitive apprenticeship. Resonating with the experience of participants in this study, the social and cognitive congruence of near-peers can result in more supportive tutors who are interested, approachable and responsive to their learners' needs (48, 52). They may be perceived as less threatening and may have an understanding of any difficulties encountered by learners, enabling them to explain challenging concepts at their level, and with appropriate language, resulting in a relaxed learning atmosphere (48, 52, 70). Doctors in their early years of practice demonstrate a hesitance to request support from senior doctors in their desire to establish their identity as doctor, fearing that asking for help may negatively affect their professional credibility and future evaluations (44, 45). A perception of psychological safety was described by participants in their interactions with the senior interns (71). Psychological safety refers to the belief that one can ask questions or report errors without fear of negative repercussions (72). It empowers learners to engage fully with learning opportunities, embrace challenge (73) and creates an environment of educational safety, where learners are less preoccupied with the need to present themselves as competent, freeing them to concentrate on learning rather than constant self-evaluation (73). Psychological safety is crucial for newly qualified doctors as they transition to clinical practice. Enablers of psychological safety, in addition to peer support as seen in this study, include the provision of a welcoming inclusionary environment where support seeking is normalized, and the process of asking for help made explicit ((45, 74, 75). Strong leadership is important and supervisors should reinforce the importance of open communication, where the contributions of all team

members are invited and valued, and discussion and reflection actively encouraged ((74, 76, 77).

As they worked side by side in the same role, the senior interns demonstrated and guided participants in practical skills and higher-level thinking corresponding with the cognitive apprenticeship model (62). However, as participant competence developed, a tension was apparent regarding the degree of scaffolding, and subsequent fading that was provided by the senior interns, with participants eager to assume more responsibility and tasks of increasing complexity than were being entrusted to them. New doctors learn through taking on challenge with adequate support (78). Appropriate entrustment promotes the development of knowledge, competence and professional identity formation (79), however, as was seen in this study, entrusting the learner with too little responsibility can lead to dissatisfaction, and frustration at lost learning opportunities (79, 80). The zone of proximal development as described by Vygotsky can inform the scaffolding process, with maximum learner development occurring with the setting of tasks that are marginally more difficult than the learner can perform independently (81). The social and cognitive congruence of near-peers may facilitate the recognition of the zone of proximal development more easily than by more senior colleagues.

The more supported introduction to work described in this study, involved participants who were doctors now, rather than medical students, engaged in meaningful work, and interacting with other members of the community of practice, which is an important dimension of the cognitive apprenticeship framework (62, 64). Their new status and responsibility granted them legitimacy, permitting and requiring them to accept shared

responsibility for patient care and afforded them some autonomy in practice (36). Other beneficial elements in this study, which are dimensions of the cognitive apprenticeship framework included: the content of the knowledge imparted by the senior interns in the form of tips, 'insider' knowledge, problem solving strategies, and factual content, and the sequencing of tasks focused on meeting learner needs, with senior interns allocating tasks of increasing complexity with increasing participant competence (62).

Many healthcare jurisdictions have an annual changeover, where the bulk of the doctor-in-training cohort change jobs simultaneously. It has been suggested that this system may negatively impact on patient care, patient safety, and junior doctor training (1, 82, 83). There have been calls for a change so that doctors-in-training do not all change jobs at the same time (83). By commencing work early, participants in this study were able to orientate their new, more senior colleagues to the team when the annual doctor-in-training changeover occurred, positively reinforcing their professional identities (84, 85), and resulting in participant perceptions of enhanced patient safety.

Implications for practice

Our study has highlighted the benefit of a cognitive apprenticeship with enhanced near-peer support provided by a period of working overlap with senior intern colleagues for new doctors commencing practice. The conferral of new graduates with the status and responsibility of doctors legitimised and promoted their participation in the workplace during this transitional intervention. This will inform undergraduate and postgraduate curricular design regarding the benefit of a period of enhanced near-peer support by senior interns working alongside their new doctor colleagues, the value of a cognitive apprenticeship framework, and the importance of feeling the status and responsibility of doctor in designing transitional interventions. To fully realise the potential of a

period of working overlap with near-peers demonstrated in this study, faculty development should focus on preparing and supporting senior interns in their role as near peer teachers, and at undergraduate level medical students' reflection, articulation and exploration skills should be promoted and developed to strengthen learning via the cognitive apprenticeship model.

Earlier commencement of work by future cohorts of new graduates would also remove this group from the annual simultaneous transition of other grades of doctor-in-training to new roles, potentially improving patient care and safety. It would be important to structure posts so there would be a match between numbers of incoming and outgoing interns to avoid the possibility of 'too much staff, not enough to do' as was the experience of one participant. It is also to be acknowledged that there would be resource implications in employing new graduates to facilitate a period of working overlap with near-peers as described in this study. We believe, however, that the many potential benefits we have demonstrated justifies consideration of allocation of resources for this intervention to support the transition to clinical practice.

Implications for Research

This study explored the experiences of newly qualified doctors of a more supported transition to work. The perspectives of their near-peer teachers and other stakeholders in the clinical context would further inform development of this framework as a transitional intervention, and should be a focus of future research. Further research could also evaluate the optimal duration of a working senior intern overlap.

Strengths and Limitations

The study has provided an in depth exploration, in real time, of the experience of participants, of a near-peer transitional intervention informed by a cognitive apprenticeship framework. The insights obtained will inform curricular design at undergraduate and postgraduate level and furthers our knowledge regarding optimum preparation for clinical practice and easing the experience of transition for medical graduates.

There are some limitations to this study to consider. All participants were recruited from the same university, which has potential consequences for wider applicability, however it is our intention that the reader may evaluate the transferability of conclusions in the context of this study, to similar settings NC who carried out all interviews, as a member of faculty, may be known to participants. Although she had no oversight of participants at postgraduate level, it is possible that participants may not have been fully open in their accounts.

Conclusions

Enhanced near-peer support for new doctors on commencing clinical practice offers a potential solution to the abrupt and stressful transition from student to doctor. This study also highlights the benefit of new doctors commencing work prior to the annual job transition of other grades of doctor-in-training.

Contributorship

NC recruited the participants, collected the data, contributed to analysis and interpretation of the data, drafted the paper and revised it in response to feedback from other authors. AW contributed to analysis and interpretation of the data, and critically revised the paper. POL contributed to analysis and interpretation of the data, and critically revised the paper. DB conceived of the study, contributed to analysis and

interpretation of the data, and critically revised the paper. All authors approve the final version.

Competing interests

There are no competing interests for any author.

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Data sharing statement

No additional data is available.

Ethics approval

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Figure Legend

Figure 1: Superordinate themes and their subthemes

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Figure 1

Interview Schedule

What was your initial experience of commencing work?

How did your experience evolve over time?

What challenges did you face?

What was your relationship with the 'senior interns'?

Did you feel supported in the workplace?

What was your experience of seeking support?

What was your experience of the support provided by the 'senior interns'?

- What did you do/What did they do?
- How did this evolve over time?

What was your experience of working at the end of the overlap when the 'senior interns' changed over to new roles?

How do you feel now about the overlap period?

How do you feel your experience would have been different if you had commenced work in 'normal circumstances', prior to the pandemic?

Standards for Reporting Qualitative Research (SRQR)*

http://www.equator-network.org/reporting-guidelines/srqr/

	Location
Title and abstract	
Title - Concise description of the nature and topic of the study Identifying the study as qualitative or indicating the approach (e.g., ethnography, grounded theory) or data collection methods (e.g., interview, focus group) is recommended	Title Pg 1 and Pg 3
Abstract - Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions	Abstract Pg 3 and Pg 4
Introduction	
Problem formulation - Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement	Introduction Pg 8-10
Purpose or research question - Purpose of the study and specific objectives or questions	Introduction para 5 Pg 10
Methods	
Qualitative approach and research paradigm - Qualitative approach (e.g., ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g., postpositivist, constructivist/ interpretivist) is also recommended; rationale**	Methodology para 1 Pg 10
Researcher characteristics and reflexivity - Researchers' characteristics that may influence the research, including personal attributes, qualifications/experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability	Ethics Pg 12 Data analysis para 2 Pg 14
Context - Setting/site and salient contextual factors; rationale**	Context Pg 11-12 Recruitment Pg 12-13
Sampling strategy - How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g., sampling saturation); rationale**	Recruitment Pg 12-13
Ethical issues pertaining to human subjects - Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	Ethics Pg 12 Recruitment Pg 13
Data collection methods - Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale**	Data Collection Pg 13

Data collection instruments and technologies - Description of instruments (e.g., interview guides, questionnaires) and devices (e.g., audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study	Data collection Pg 13 Supplemental material
Units of study - Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	Results table 1 Pg 14
Data processing - Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/de-identification of excerpts	Data analysis para 1 Pg 14
Data analysis - Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale**	Methodology para 2 Pg 10-11 Data analysis Pg 14
Techniques to enhance trustworthiness - Techniques to enhance trustworthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale**	Data analysis Pg 14

Results/findings

Synthesis and interpretation - Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	Results Pg 14-26
Links to empirical data - Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings	Results verbatim quotes Pg 14-26

Discussion

Integration with prior work, implications, transferability, and contribution(s) to the field - Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field	Discussion Pg 26-32
Limitations - Trustworthiness and limitations of findings	Strengths and limitations Pg 31

Other

Conflicts of interest - Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed	Pg 34
Funding - Sources of funding and other support; role of funders in data collection, interpretation, and reporting	Pg 34

*The authors created the SRQR by searching the literature to identify guidelines, reporting standards, and critical appraisal criteria for qualitative research; reviewing the reference lists of retrieved sources; and contacting experts to gain feedback. The SRQR aims to improve the transparency of all aspects of qualitative research by providing clear standards for reporting qualitative research.

**The rationale should briefly discuss the justification for choosing that theory, approach, method, or technique rather than other options available, the assumptions and limitations implicit in those choices, and how those choices influence study conclusions and transferability. As appropriate, the rationale for several items might be discussed together.

Reference:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. **Standards for reporting qualitative research: a synthesis of recommendations.** *Academic Medicine*, Vol. 89, No. 9 / Sept 2014
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EXPERIENCE OF ENHANCED NEAR-PEER SUPPORT FOR NEW MEDICAL GRADUATES OF AN IRISH UNIVERSITY: A PHENOMENOLOGICAL STUDY

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Abstract

Context

Factors contributing to the stressful transition from student to doctor include issues with preparedness for practice, adjusting to new status and responsibility, and variable support. Existing transitional interventions provide inconsistent participation, responsibility and legitimacy in the clinical environment. Enhanced support by near-peers for new doctors may ease the transition. Irish medical graduates of 2020 commenced work early, creating an unprecedented period of overlap between new graduates and the cohort one year ahead.

Objective

To explore the experience of commencing practice for these new doctors with this increased near-peer support.

Design

We used interpretive phenomenological analysis as our methodological approach, informed by the cognitive apprenticeship model, to explore the experience of enhanced near-peer support at the transition to practice. Participants recorded audio-diaries from their commencement of work, and a semi-structured interview was conducted with each, after three months, concerning their experience of their overlap with the previous year's interns.

Setting

University College Cork, one of six medical schools in Ireland.

Participants

Nine newly qualified medical doctors.

Main outcome measures

An exploration of their experience of transition to clinical practice, in the context of this enhanced near-peer support will inform strategies to ease the transition from student to doctor.

Results

Participants felt reassured by having a near-peer in the same role and safe to seek their support. This empowered them to gradually assume increasing responsibility, and to challenge themselves to further their learning. Participants perceived that commencing work before the annual changeover of other grades of doctor-in-training enhanced their professional identities and improved patient safety.

Conclusions

Enhanced near-peer support for new doctors offers a potential solution to the stressful transition to practice. Participants were legitimate members of the community of practice, with the status and responsibility of first-year doctor. Furthermore, this study reinforces the benefit of asynchronous job changeover for doctors-in-training.

Strengths and Limitations

- We used Interpretative Phenomenological Analysis to conduct a theory driven study.
- The cognitive apprenticeship model was a sensitising influence on the analysis of our data.
- A rich data set was collected using audio-diaries for immediacy and in-depth semi-structured interviews for a more holistic approach.

Introduction

The transition from medical student to doctor is a challenging period which can have adverse effects on newly qualified doctors' mental health and wellbeing, in addition to generating patient safety concerns (1-4). Preparedness for clinical practice is reported to have improved over recent years (5, 6), nonetheless concerns remain regarding preparedness for aspects of practice dependent on experiential learning in clinical environments such as working on-call, managing acutely ill patients, and time management and prioritisation skills (7). The abrupt change in status with increased responsibility that comes with the transition (8, 9), is compounded by variable levels of support and supervision (10-14). A variety of interventions have aimed to mitigate these factors and ease the experience for new medical graduates (15-21), however, the transition remains problematic (22).

Solutions to enhance preparedness for practice and alleviate the abrupt increase in responsibility perceived by first year doctors, have tended to focus on providing greater hands-on experience at undergraduate level (7). Apprenticeship-type rotations such as sub-internships and assistantships, where students approximate the role of intern under supervision, aim to empower students to experience increased responsibility for patient care (7, 12, 13, 19, 23-26). Other apprenticeship-type transitional interventions closer to commencing work include 'shadowing' the doctor in the post they are about to commence (7, 8, 13, 14, 27, 28). However, despite some success in improving new graduates' self-assessed preparedness (12, 17, 18, 20, 27, 29-31), these undergraduate interventions have critical limitations. Students are afforded varying levels of participation and responsibility, and they may lack legitimacy to act 'as a doctor' within the community of practice (21, 30).

The status and responsibility conferred on new doctors triggers a transformation in personal perspective and identity, for which it is, arguably, not possible to fully prepare (8, 32-36). This new responsibility can be overwhelming and contributes to the significant cognitive challenges faced on commencing work (37, 38). Support and team inclusion can mitigate these challenges (39, 40) however experience of support and supervision can be variable (4, 13, 35, 41-43), with some doctors reporting feeling isolated and alone (8, 10) and reluctant to ask senior doctors for help (44-46). Near-peers, one or two years ahead on the training pathway, can play an important role in new doctors' learning through work. (47-49) and are a potential resource to support the transition to practice. It is easier to approach near-peers for support (50, 51). Near-peers are cognitively congruent, as their knowledge base is similar (50), and socially congruent as they are at the same level of training (48, 52-54). Traditionally, when new graduates enter clinical practice, there are near-peers available to them to provide support, however these near-peers are also transitioning to roles of greater responsibility as they move up the training ladder, so they may not be able to provide the level of support new graduates need. Despite the presence of these near-peers, new doctors are known to spend a significant amount of time working alone and have been described as 'isolates' (55, 56).

In 2020, the Sars-CoV-2 pandemic led to the early graduation and accelerated entry to the workplace of final year medical students in many countries, such as Ireland, Italy, the United States and the United Kingdom (57). Published research to date has highlighted generally positive perceptions towards this period of early entry to the workplace (58-60). To our knowledge, however, no studies have focussed on the increased support provided by the working overlap between the newly qualified doctors and their near-peers, the cohort of doctors the year ahead. The early graduation and

accelerated entry to work of medical graduates from Irish universities provided an opportunity to explore the affordances of this period of overlap, at the point of transition to clinical practice. While no specific strategy was implemented with respect to the provision of support by the doctors of the year ahead, both cohorts of doctors worked alongside each other in the same role for six weeks, in contrast to the usual scenario where the more senior cohort would progress to the next level of training as the new graduates commenced work.

Our aim was to explore the experience of transition to practice for these newly graduated doctors, supported by near-peers who remained in the role of first year doctor and worked alongside the newly graduated cohort.

Methodology

This study is situated within the interpretivist paradigm with Interpretative Phenomenological Analysis (IPA) as a methodological approach (61). IPA is a contemporary phenomenological approach whose theoretical underpinnings include phenomenology, focusing on the exploration of lived experience, hermeneutics, which is concerned with interpretation, and idiography, indicating an attention to the particular, with each individual transcript analysed fully prior to moving onto the next transcript (61).

We drew on the cognitive apprenticeship model as a sensitising influence on the analysis of our data (62). This model focuses on making the cognitive processes constituting expertise explicit to the learner (62). Learning is facilitated by modelling (where the expert makes their own cognitive processes explicit), coaching (with guidance, encouragement and feedback), scaffolding (provision of sufficient support

which is gradually withdrawn, or faded, as the learner develops competence) articulation (encouragement of learner expression of knowledge and thought processes), reflection and exploration (of thought processes and learning goals by the learner) (62, 63). The learning environment, situated in authentic settings, with the learner becoming part of a community of practice, the *content* of knowledge (facts, problem solving, metacognitive and learning strategies), and appropriate *sequencing* of tasks of increasing difficulty and complexity, are also components of this model (62, 64).

Context

This study was carried out in Ireland, with recent medical graduates of the class of 2020 from University College Cork (UCC), one of six medical schools in Ireland. Almost one thousand undergraduate medical students attend UCC, with approximately two hundred students graduating annually with a MB BCh BAO (Hons) qualification (Bachelor in Medicine, Bachelor in Surgery and Bachelor in the Art of Obstetrics). The undergraduate medical degree is between 4 and 5 years in duration. The 5 year programme is available to Irish and international school-leaver students and the 4-year programme is available to Irish and international graduates who hold a primary degree in any discipline. Internship is a yearlong period of transition from medical student to fully registered medical practitioner. It corresponds to foundation year one (FY1) and postgraduate year one (PGY1) in the UK and Australia respectively, and to a first-year resident in countries where there is no provisional registration phase.

Because the entire class of medical graduates of the class of 2020 commenced work earlier than originally planned, they had a six-week period of working overlap with the previous years' cohort of interns prior to the traditional, annual, changeover of jobs for

all levels of doctor-in-training. For the purpose of this study, we will refer to the incoming interns as 'junior interns' relative to the prior cohort, who we will refer to as 'senior interns'. However, we emphasise that the newly graduated doctors had the full status and terms and conditions of employment of 'Intern' as in any other year. In addition to the enhanced support provided by the overlap, these 'junior interns' would also have access to supports which have been present in previous years for example, allied healthcare professionals, the team and more senior doctors. These new doctors commenced work early in advance of an anticipated wave of SARS-CoV-2 infection. Fortunately, this first wave was not as severe as anticipated and hospitals in the regions where these doctors worked did not experience disruptions such as were experienced in other jurisdictions, therefore the interns' roles and responsibilities remained largely unchanged by the pandemic during the study period (65).

Ethics

Ethical approval for this study was granted by the Social Research Ethics Committee of the Cork Teaching Hospitals, Ireland. NC, POL, DB and AW have roles in the undergraduate medical programme in University College Cork. POL also has a role in the Southern Intern Training Network. NC, who had no oversight of participants as interns, undertook all recruitment and interviews. These were anonymised prior to analysis by the rest of the research team. Pseudonyms were used in the reporting of results. The SRQR (Standards for Reporting Qualitative Research) guidelines were adhered to in this research (66).

Patient and public involvement

There was no patient or public involvement in this research.

Recruitment

All participants were recruited from the 2020 final medical class of one Irish University. Participants were purposively recruited with respect to gender and either graduate entry or entry directly from high school so that a variety of perspectives would be explored and included only those graduates who were commencing jobs within the Irish Intern Training Network. The school of medicine provided a list of names and email addresses for the graduating class of 2020, which comprised 204 students. Participants were invited to participate via email with information regarding the study provided and participants gave informed consent prior to their voluntary participation in the study.

Data Collection

Each participant was invited to keep audio-diaries relating to their experience from their first day of starting work. In addition, a semi-structured interview was carried out and audio-recorded by NC with each participant, approximately 3 months after starting work. The focus of the audio-diaries and interviews were on participants' experience of commencing practice in the context of the 6 weeks of working overlap with senior interns and in the context of the Sars-CoV-2 pandemic (semi-structured interview guide appendix 1). The working overlap was the focus of this study. We were interested in capturing participants' interpretations of their experience in different ways with audio-diaries providing immediacy and interviews a more holistic overview.

Data Analysis

Interviews and audio-diaries were transcribed verbatim and anonymised. The entire dataset for each individual, comprising the interview and audio diaries was analysed as a whole. Initial analysis was carried out by NC and AW, using IPA (61). The initial stage involved immersion in and familiarisation with the data. Then followed identification of experiential themes, (recurrent experiential assertions) which were meaningful in respect of the focus of this research and linked to verbatim extracts of text. Nvivo software was used as a data management tool. NC, AW, DB and POL met regularly throughout the analysis to discuss themes which they organised into clusters, called superordinate themes and a summary table was constructed. Each participant's transcript was fully analysed prior to moving onto the next one. When all transcripts were analysed, integration of themes across transcripts was carried out, with both commonality and divergence noted. (61, 67). An audit trail was with maintained with each stage of the process documented for the duration of the study.

We supported each other's reflexivity and kept reflexive diaries throughout the research process.

Results

Twenty-four recent graduates were invited to participate and nine participants were recruited for this study, three males and six females. Two held prior degrees and had studied medicine on a medical course specifically tailored for graduates; the remainder had commenced their medical degrees directly from high school. All but one participant held intern posts in the Southern Intern Training Network. A summary of the data set of each participant can be found in table 1. All participants, with the exception of Fiona,

worked on a team with their senior intern colleagues for the duration of the overlap. Fiona worked with her senior intern colleagues for the first week only.

		AD1	AD2	AD3	AD4	Int	Total
Alan		12m45s	9m13s	6m05s	-----	36m57s	64m55s
Barbara		34m50s	37m26s	-----	-----	73m03s	145m19s
***Caroline**		4m46s	37m08s	-----	-----	56m00s	97m52s
Denise		-----	-----	-----	-----	51m47s	51m47s
Evan		11m02s	12m13s	7m21s	10m37s	66m24s	107m37s
***Fiona**		7m12s	8m59s	7m20s	-----	39m31s	63m02s
Grace		16m44s	12m07s	-----	-----	58m58s	87m49s
Hugh		-----	-----	-----	-----	68m09s	68m09s
Kate		6m37s	-----	-----	----	40m06s	46m43s

*Graduate Entrants. AD=Audiodiary. Int=Interview. m=minute. s=second.

Names=pseudonyms

Table 1

Figure1

The superordinate themes identified as illustrated in figure 1, were *a safe start*, *space to progress* and *'the greatest gift'*. Senior interns supported participants' learning, as they gradually assumed more responsibility, and developed increasing levels of competence during the overlap period, with participants perceiving the overlap as enhancing their transition experience and advocating it for future intern cohorts.

A safe start

The first superordinate theme of *a safe start* comprises subthemes of *safe to seek support* and *safe to embrace challenge.* On commencing practice, participants felt reassured and less apprehensive than they had expected to be, due to the presence of the senior interns. Their senior interns facilitated articulation and exploration, in that participants expressed comfort approaching them for guidance and were motivated to embrace challenge to further their learning while working in this protected environment.

Safe to seek support

In anticipation of commencing work and in the early days of practice, participants' awareness of the presence of senior interns for support in the workplace greatly reassured them and allayed any anxiety associated with the transition from student to doctor.

> *I thought I would be much more nervous going in the first day, but just knowing there would be another intern there to show me how to do everything …so that was great not to be worried Kate Int*

Participants described how they felt comfortable seeking the support and supervision of the senior interns without fear of scrutiny or negative evaluation. Many particularly mentioned the ease with which they felt they could ask 'stupid' questions, and that they could communicate with their near-peers in a more informal way than they would with more senior doctors, thus enhancing learner articulation. Evan felt that his senior intern would be more empathic than more senior doctors, having recently being in the same position of commencing work himself.

> *I feel I can text or I can call .. I don't have to be overly polite and professional too, I can just chat to them like a buddy which I imagine is much easier than speaking to someone you might have felt was a senior and you might have to impress in a way and show that you are better than you are Alan AD1*

> *It's really comforting having the senior intern there .. Just knowing you have someone to ask those potentially stupid questions to and they won't look down on you .. Because they were here literally 10 months ago .. Some of the more senior members of the team might have a shorter memory Evan AD2*

Safe to embrace challenge

Participants' awareness of the availability and approachability of the senior interns resulted in their perception of a secure and protected environment which motivated them to increase their participation in practice and exploration of their learning goals, as they challenged themselves by stepping outside their comfort zones.

They were very obliging and that made us much more comfortable then, because we were like 'I know I can take this so far and, when, or if, I get stuck, someone else is going to step in' Barbara Int

Space to progress

The next superordinate theme, *space to progress*, comprises subthemes of *supported to learn,* and *passing the baton*. The learning interactions between senior interns and participants fostered their growth in competence and confidence. Their near-peers scaffolded their learning, as they were supported to gradually take on increasing levels of responsibility, culminating in them eventually assuming all aspects of the intern role independently. In addition, participants' overlap experience contributed to them making a valuable contribution during the annual doctor-in-training changeover of jobs.

Supported to learn

Participants described many different aspects of practice that they learnt from their senior intern colleagues. Content of knowledge included practical skills, the structure of the intern job during the day and on call, and the expectations of them by their colleagues. They learnt about the IT system, prioritisation of their tasks, and the social and emotional aspects of practice. They learnt aspects of the job that would have taken time otherwise to pick up.

It was mostly .. practical things, it was also team dynamics ... which Consultant liked different things and the way they do things' 'The tricks of the trade .. or

the politics in the hospital .. It was how to apply our knowledge is what they really taught us. Denise Int

He showed me how to set up order sets for booking bloods for the next morning, it takes two minutes rather than twenty you know which is probably something I wouldn't have learned for a couple of weeks. I probably would have heard it in passing from someone who had figured it out. Alan Int

The senior interns supported participants' learning in different ways. They provided modelling, coaching, facilitated reflection, acted as role models, and encouraged participants to challenge themselves. Participants appreciated their constructive feedback and mutual agreement of learning goals for the future.

Our two interns were brilliant for teaching us and .. everything they did with us, they took time afterwards to chat with us about how it went and talk to us about how we could maybe do things differently the next time .. they did reflect on things with us quite a lot. Caroline Int

It's mad seeing how confident he is with all his jobs .. just the 10 month level of experience is massive compared with where I am now, hopefully after 10 months I can have somewhere near his level of knowledge Evan AD1

Not everything that was transmitted by the senior interns was positive however, Caroline described a particular incident where negative workplace culture was being perpetuated. Having expressed reluctance to carry out a particular task, she was advised by her senior intern to carry it out as it was an expectation of this particular post. Caroline also described fewer opportunities to engage in clinical practice due to overstaffing which negatively impacted on her learning experience.

> *I had a conversation with the senior intern about* [recording a patient's consent for an unfamiliar procedure, which doctors should not do] *and he said 'but that's the way it is here, you're expected to consent and that's that' Caroline AD2*

> *It wasn't a bad start to intern year compared with what other interns have experienced in the past .. it wasn't necessarily the best either because there were too many of us. Caroline Int*

Barbara expressed an awareness that she was entering the workplace with the legitimacy of her position as a paid employee, but recognised nonetheless the affordances for learning provided by the overlap.

> *We were thrown into work .. and the interns certainly weren't going to baby us when they knew we were being paid for it as well .. It wasn't going to be a cushy 7 weeks but it was definitely beneficial Barbara Int*

Passing the Baton

The senior interns sequenced the tasks for the junior interns based on their learning needs, entrusting them with tasks of increasing complexity and demonstrating gradual fading of scaffolding. As participants' competence and confidence developed, their level of participation increased incrementally during the overlap period as they assumed greater levels of responsibility, taking on more and more of the intern tasks, leading to them sharing and finally taking over the role from their near-peers.

> *The training wheels came off after the first 2 weeks, we were definitely .. doing more of the day to day jobs and towards the end .. we were .. taking over the day to day jobs .. There was definitely a transition as well where they took a step back .. and we just took over from them Caroline int*

Over time, a tension was described between the support provided by the senior interns and the responsibility the participants wished to assume. They perceived a limit to the learning opportunities afforded by the support provided by the senior interns. By the time the senior interns left, the junior interns were ready and eager to assume more independent responsibility.

> *Three weeks .. it's enough time.. you can learn all the procedures .. they can teach you all their tricks .. maybe teach you on-call .. After that period you need to start doing stuff by yourself because you start to stagnate Evan Int*

It was great to finally have that bit more responsibility because towards the end of the 6 weeks we were getting a bit frustrated by just being sent to do jobs .. so that was a nice new bit of responsibility Grace Int

The senior interns departed when the annual doctor-in-training changeover occurred, where, usually, all levels of junior doctors change jobs on the same day. Participants remained on the same teams, while most of the other doctors-in-training changed. Participants felt that they were able to make a positive contribution to the new team as now they were often the team members with the most experience and familiarity with the workings of the team. This enhanced their sense of belonging within the team.

*We had the insight to give the whole team about how it ran which I think everyone found useful .. It made [*us*] feel really valued .. and.. the least trained and least skilled people were more comfortable with what they were doing and that can be nothing but safer Denise Int*

Interestingly now it's the interns most familiar with how the team works and its quite rewarding to be the most junior member of the team but also the one who can help out the senior members .. So I think it has taken a lot of pressure off the team Alan AD

'The greatest gift'

The final superordinate theme identified is *'the greatest gift',* which comprises the subthemes of *feeling fortunate* and *seal of approval for overlap.* Participants felt fortunate to have experienced the working overlap with the senior interns, who scaffolded their learning in their first weeks of practice. They expressed disbelief at how previous cohorts commenced practice in the absence of this overlap, and would advocate a similar system for future intern cohorts.

Feeling fortunate

Participants in this study felt that the provision of a working overlap with the previous year's interns was very beneficial for them in easing their transition to clinical practice. Fiona, was the only participant who did not work alongside her senior intern colleagues for most of the overlap period, and felt that she had missed out on a learning opportunity.

> *We started with the interns overlapping and that was the greatest gift ever from the *HSE, almost an apology gift for everything else you know' Barbara Int*
> (*Health Service Executive, the healthcare system of the Republic of Ireland)

> [It was] *unfair because we didn't have the interns we were expecting to be learning from, available to us Fiona Int*

The prospect of commencing work in the absence of the learning opportunities provided by the overlap with the senior interns was met with disbelief by most participants. Grace

and Caroline questioned the usual system of starting work at the annual doctor-in-training changeover with all other grades of doctor-in-training and felt that this would have adversely affected the support provided to first year doctors.

> *I just absolutely don't understand how the other interns in previous years had to just start at changeover .. I presume they just learned from *SHOs and asking each other and just learning on the job Grace Int* (* senior house officers, postgraduate years 2 and 3)
>
> *I don't know how I would have coped with just being landed into a job with no guidance at all .. All starting on a new team together and trying to just muddle our way through Caroline Int*

Seal of approval for overlap

All advocated the provision of this support in the future, citing the benefit of the enhanced learning experience for interns. In addition, some participants expressed the perception that the overlap period resulted in improved patient care and safety during the transition to practice of new graduates, and during the annual doctor-in-training changeover.

> *It definitely made a huge difference having the senior intern there. I would very, very, highly recommend that. I would be an advocate for having interns overlapping in the future, absolutely Alan Int*
>
> *I think it would be a really good chance to make the middle of July less dangerous for the population as a whole, just to give us a kind of buffer period to get our feet wet while we have got dual cover Fiona Int*

Discussion

Principal Findings

The well supported transition described in this study contrasts strongly with the extant literature on the transition to practice, which describes it as a challenging period which has adverse effects on new doctors' health and wellbeing (4, 13, 68). New medical graduates have previously expressed apprehension about commencing practice even prior to their first day of work, and uncertainty about the support available to them, based on their experience as undergraduates (69). As a result of the overlap, participants in this study found that they were more reassured and less apprehensive than they had expected they would be, on commencing work.

Participants commenced this period with the status and responsibility of interns, an aspect of the transition from student to doctor that is difficult to simulate in the undergraduate setting. The senior interns scaffolded their learning, empowered them to gradually assume increasing levels of responsibility, and motivated them to challenge themselves to further their learning. Although participants strongly endorsed this model, we did note that over time, a tension developed between their desire for more autonomy and the support provided by the senior interns. As the period of working overlap neared completion, participants positively anticipated the departure of the senior interns, and the opportunity for greater independence. Furthermore, the early commencement of work of the junior intern cohort, prior to the changeover of all other grades of doctor-in training was perceived by participants as enhancing their professional identity and beneficial for patient safety.

We have highlighted the affordances of a period of overlap between newly qualified doctors and the cohort of interns from the year ahead. This study suggests that the transition to practice can be eased by this period of enhanced support for incoming interns, working alongside their near peer colleagues in the same role, in a cognitive apprenticeship. Resonating with the experience of participants in this study, the social and cognitive congruence of near-peers can result in more supportive tutors who are interested, approachable and responsive to their learners' needs (48, 52). They may be perceived as less threatening and may have an understanding of any difficulties encountered by learners, enabling them to explain challenging concepts at their level, and with appropriate language, resulting in a relaxed learning atmosphere (48, 52, 70). Doctors in their early years of practice demonstrate a hesitance to request support from senior doctors in their desire to establish their identity as doctor, fearing that asking for help may negatively affect their professional credibility and future evaluations (44, 45). A perception of psychological safety was described by participants in their interactions with the senior interns (71). Psychological safety refers to the belief that one can ask questions or report errors without fear of negative repercussions (72). It empowers learners to engage fully with learning opportunities, embrace challenge (73) and creates an environment of educational safety, where learners are less preoccupied with the need to present themselves as competent, freeing them to concentrate on learning rather than constant self-evaluation (73). Psychological safety is crucial for newly qualified doctors as they transition to clinical practice. Enablers of psychological safety, in addition to peer support as seen in this study, include the provision of a welcoming inclusionary environment where support seeking is normalized, and the process of asking for help made explicit ((45, 74, 75). Strong leadership is important and supervisors should reinforce the importance of open communication, where the contributions of all team

members are invited and valued, and discussion and reflection actively encouraged ((74, 76, 77).

As they worked side by side in the same role, the senior interns demonstrated and guided participants in practical skills and higher-level thinking corresponding with the cognitive apprenticeship model (62). However, as participant competence developed, a tension was apparent regarding the degree of scaffolding, and subsequent fading that was provided by the senior interns, with participants eager to assume more responsibility and tasks of increasing complexity than were being entrusted to them. New doctors learn through taking on challenge with adequate support (78). Appropriate entrustment promotes the development of knowledge, competence and professional identity formation (79), however, as was seen in this study, entrusting the learner with too little responsibility can lead to dissatisfaction, and frustration at lost learning opportunities (79, 80). The zone of proximal development as described by Vygotsky can inform the scaffolding process, with maximum learner development occurring with the setting of tasks that are marginally more difficult than the learner can perform independently (81). The social and cognitive congruence of near-peers may facilitate the recognition of the zone of proximal development more easily than by more senior colleagues.

The more supported introduction to work described in this study, involved participants who were doctors now, rather than medical students, engaged in meaningful work, and interacting with other members of the community of practice, which is an important dimension of the cognitive apprenticeship framework (62, 64). Their new status and responsibility granted them legitimacy, permitting and requiring them to accept shared

responsibility for patient care and afforded them some autonomy in practice (36). Other beneficial elements in this study, which are dimensions of the cognitive apprenticeship framework included: the content of the knowledge imparted by the senior interns in the form of tips, 'insider' knowledge, problem solving strategies, and factual content, and the sequencing of tasks focused on meeting learner needs, with senior interns allocating tasks of increasing complexity with increasing participant competence (62).

Many healthcare jurisdictions have an annual changeover, where the bulk of the doctor-in-training cohort change jobs simultaneously. It has been suggested that this system may negatively impact on patient care, patient safety, and junior doctor training (1, 82, 83). There have been calls for a change so that doctors-in-training do not all change jobs at the same time (83). By commencing work early, participants in this study were able to orientate their new, more senior colleagues to the team when the annual doctor-in-training changeover occurred, positively reinforcing their professional identities (84, 85), and resulting in participant perceptions of enhanced patient safety.

Implications for practice

Our study has highlighted the benefit of a cognitive apprenticeship with enhanced near-peer support provided by a period of working overlap with senior intern colleagues for new doctors commencing practice. The conferral of new graduates with the status and responsibility of doctors legitimised and promoted their participation in the workplace during this transitional intervention. This could inform undergraduate and postgraduate curricular design regarding the benefit of a period of enhanced near-peer support by senior interns working alongside their new doctor colleagues, the value of a cognitive apprenticeship framework, and the importance of feeling the status and responsibility of doctor in designing transitional interventions. To fully realise the potential of a

period of working overlap with near-peers demonstrated in this study, faculty development should focus on preparing and supporting senior interns in their role as near peer teachers, and at undergraduate level medical students' reflection, articulation and exploration skills should be promoted and developed to strengthen learning via the cognitive apprenticeship model. In addition, on a broader level, the early transition period should be formally recognised, with education of all staff, and structures in place regarding the provision of increased early supervision and support, and the promotion of a psychologically safe environment.

Earlier commencement of work by future cohorts of new graduates would also remove this group from the annual simultaneous transition of other grades of doctor-in-training to new roles, potentially improving patient care and safety. It would be important to structure posts so there would be a match between numbers of incoming and outgoing interns to avoid the possibility of 'too much staff, not enough to do' as was the experience of one participant. It is also to be acknowledged that there would be resource implications in employing new graduates to facilitate a period of working overlap with near-peers as described in this study. We believe, however, that the many potential benefits we have demonstrated justifies consideration of allocation of resources for this intervention to support the transition to clinical practice.

Implications for Research

This study explored the experiences of newly qualified doctors of a more supported transition to work. The perspectives of their near-peer teachers and other stakeholders in the clinical context would further inform development of this framework as a transitional intervention, and should be a focus of future research. Further research could also evaluate the optimal duration of a working senior intern overlap.

Strengths and Limitations

The study has provided an in depth exploration, in real time, of the experience of participants, of a near-peer transitional intervention informed by a cognitive apprenticeship framework. The insights obtained will inform curricular design at undergraduate and postgraduate level and furthers our knowledge regarding optimum preparation for clinical practice and easing the experience of transition for medical graduates.

There are some limitations to this study to consider. All participants were recruited from the same university, which has potential consequences for wider applicability, however it is our intention that the reader may evaluate the transferability of conclusions in the context of this study, to similar settings NC who carried out all interviews, as a member of faculty, may be known to participants. Although she had no oversight of participants at postgraduate level, it is possible that participants may not have been fully open in their accounts.

Conclusions

Enhanced near-peer support for new doctors on commencing clinical practice offers a potential solution to the abrupt and stressful transition from student to doctor. This study also highlights the benefit of new doctors commencing work prior to the annual job transition of other grades of doctor-in-training.

Contributorship

NC recruited the participants, collected the data, contributed to analysis and interpretation of the data, drafted the paper and revised it in response to feedback from

other authors. AW contributed to analysis and interpretation of the data, and critically revised the paper. POL contributed to analysis and interpretation of the data, and critically revised the paper. DB conceived of the study, contributed to analysis and interpretation of the data, and critically revised the paper. All authors approve the final version.

Competing interests

There are no competing interests for any author.

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Data sharing statement

No additional data is available.

Ethics approval

Ethical approval was obtained from Social Research Ethics Committee, Cork Teaching Hospitals, Ireland. Log 2020-077.

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Figure Legend

Figure 1: Superordinate themes and their subthemes

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Figure 1

Interview Schedule

What was your initial experience of commencing work?

How did your experience evolve over time?

What challenges did you face?

What was your relationship with the 'senior interns'?

Did you feel supported in the workplace?

What was your experience of seeking support?

What was your experience of the support provided by the 'senior interns'?

- What did you do/What did they do?
- How did this evolve over time?

What was your experience of working at the end of the overlap when the 'senior interns' changed over to new roles?

How do you feel now about the overlap period?

How do you feel your experience would have been different if you had commenced work in 'normal circumstances', prior to the pandemic?

Standards for Reporting Qualitative Research (SRQR)*

http://www.equator-network.org/reporting-guidelines/srqr/

	Location
Title and abstract	
Title - Concise description of the nature and topic of the study Identifying the study as qualitative or indicating the approach (e.g., ethnography, grounded theory) or data collection methods (e.g., interview, focus group) is recommended	Title Pg 1 and Pg 3
Abstract - Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions	Abstract Pg 3 and Pg 4
Introduction	
Problem formulation - Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement	Introduction Pg 8-10
Purpose or research question - Purpose of the study and specific objectives or questions	Introduction para 5 Pg 10
Methods	
Qualitative approach and research paradigm - Qualitative approach (e.g., ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g., postpositivist, constructivist/ interpretivist) is also recommended; rationale**	Methodology para 1 Pg 10
Researcher characteristics and reflexivity - Researchers' characteristics that may influence the research, including personal attributes, qualifications/experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability	Ethics Pg 12 Data analysis para 2 Pg 14
Context - Setting/site and salient contextual factors; rationale**	Context Pg 11-12 Recruitment Pg 12-13
Sampling strategy - How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g., sampling saturation); rationale**	Recruitment Pg 12-13
Ethical issues pertaining to human subjects - Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	Ethics Pg 12 Recruitment Pg 13
Data collection methods - Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale**	Data Collection Pg 13

Data collection instruments and technologies - Description of instruments (e.g., interview guides, questionnaires) and devices (e.g., audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study	Data collection Pg 13 Supplemental material
Units of study - Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	Results table 1 Pg 14
Data processing - Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/de-identification of excerpts	Data analysis para 1 Pg 14
Data analysis - Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale**	Methodology para 2 Pg 10-11 Data analysis Pg 14
Techniques to enhance trustworthiness - Techniques to enhance trustworthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale**	Data analysis Pg 14

Results/findings

Synthesis and interpretation - Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	Results Pg 14-26
Links to empirical data - Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings	Results verbatim quotes Pg 14-26

Discussion

Integration with prior work, implications, transferability, and contribution(s) to the field - Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field	Discussion Pg 26-32
Limitations - Trustworthiness and limitations of findings	Strengths and limitations Pg 31

Other

Conflicts of interest - Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed	Pg 34
Funding - Sources of funding and other support; role of funders in data collection, interpretation, and reporting	Pg 34

*The authors created the SRQR by searching the literature to identify guidelines, reporting standards, and critical appraisal criteria for qualitative research; reviewing the reference lists of retrieved sources; and contacting experts to gain feedback. The SRQR aims to improve the transparency of all aspects of qualitative research by providing clear standards for reporting qualitative research.

**The rationale should briefly discuss the justification for choosing that theory, approach, method, or technique rather than other options available, the assumptions and limitations implicit in those choices, and how those choices influence study conclusions and transferability. As appropriate, the rationale for several items might be discussed together.

Reference:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. **Standards for reporting qualitative research: a synthesis of recommendations.** *Academic Medicine*, Vol. 89, No. 9 / Sept 2014
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