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ORIGINAL RESEARCH

Reinventing Undergraduate Clinical Placements with a Switch to Delivery by Clinical Teaching Fellows

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Purpose: Undergraduate clinical placements have the potential for significant improvement. Previous research has shown the growing value of clinical teaching fellows (CTFs) within medical education. Changing traditional placements to a model whereby CTFs have defined roles and lead the majority of teaching can positively reinvent undergraduate clinical teaching. We wanted to see how a structured teaching programme delivered by CTFs could affect student experience and personal development within a large associate teaching hospital. We consider how such a model could be implemented and explore the opportunities for CTFs to develop in personal and professional capacities.

Methods: A mixed methods study was organised to assess student experience of a CTF-led placement. A novel structured teaching programme was delivered by 14 CTFs, who provided or were involved with the majority of teaching for all medical students. Thematic analysis was conducted on focus groups with 48 final year medical students from Queen Mary University of London following completion of their clinical placements. The same students were asked to complete an anonymous survey from which results were analysed using modified 5-point Likert scales.

Results: Eight themes were identified from the focus groups. Students appreciated the increased individualisation, relevance and variety of teaching and the ability to record progress. Other perceived effects were higher teacher to student ratios, more learning opportunities and increased familiarity and reliability with CTFs. Of the students surveyed, 96% felt their overall placement experience was very good in comparison to previous placements elsewhere. Survey results supported focus group themes and demonstrated perceived growth in students' personal development.

Conclusion: Placement models where CTFs lead most teaching can improve medical undergraduate experience and training. A move towards CTF-delivered teaching can be of financial benefit to hospital trusts whilst allowing time for junior doctors to explore different clinical specialities and hone their teaching skills.

Keywords: student, study, experience, education, programme, doctors

Introduction

Undergraduate clinical teaching in UK hospitals has the potential for large-scale modernization, leading to an improved experience for students, tutors and patients.[1] Many UK medical degrees comprise five years of training, with an initial two years of preclinical basic science education followed by three years of clinical placements in local hospitals; whilst others favour a run-through clinical curriculum interspersed with the basic science across all years. Various factors

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have been identified as contributing to suboptimal teaching placements.[2] Students are expected to attend wards for a daily ward round, then to help the team with ward tasks throughout the day. There can be a disregard for the acclimatisation into different specialities, and for how teaching may fit into busy clinical environments with an increasing focus on productivity and efficacy in the NHS. Furthermore, good ward doctors do not necessarily make good teachers, due to a combination of time constraints and lack of training in medical education. Ever-changing hospital rotas and temporary ward staff can result in a lack of familiarity between students and doctors, and a subsequent disengagement with clinical activities.

Broomfield Hospital employed 14 clinical teaching fellows (CTFs), each with 20 hours per week of dedicated undergraduate teaching time. This facilitated provision of a range of placement learning opportunities for students across all year groups from two medical schools: one established London university school and one new medical school, with three years of intake. The placements for the year had been rapidly modified in light of the Covid pandemic, with a focus on splitting elective (covid-free) activity from emergency care in order to prevent students from crossing from one area to another with potential contamination.

CTFs are already known to be a useful resource for medical students but our approach differs by the sheer volume of hours spent with the CTFs compared to common place CTF models.[3] There is limited research to show how a structured CTF-led approach to teaching a large cohort of medical students can affect student placement experience and personal development.

Increasingly, post-graduate trainees are taking time out of training for personal or professional reasons. This contributes to understaffing in the NHS which could benefit from the employment of CTFs who work part-time in a specialty of their choice. This allows the CTFs an opportunity to sample specialisms before they commit to run-through training programmes whilst gaining further experience in teaching, audit, governance and academia.

Aims

1. To assess how a structured CTF-led approach to teaching can affect placement experience and personal development of final year students.
2. To consider how such a model can be financed and implemented in acute trusts.
3. To explore the benefits to the clinical teaching fellow of time spent outside of a training programme on their professional development and teaching skills.

Methods

We created a mixed methods study involving final year medical students from Queen Mary University of London, who completed a clinical rotation at Broomfield Hospital over the course of the 2020–2021 academic year.

Intervention

The vision at this Trust was for 14 CTFs to lead and provide the majority of clinical experiences and teaching for all medical students placed at the hospital. Each CTF was on a 0.5 WTE (Working Time Equivalent) split between teaching and clinical duties. We are a large associate teaching hospital, with over 300 students from two medical schools attending placements each academic year. These placements are of varying intensity depending on year group and medical school cohort. It was hoped that teaching activities provided by the CTFs would develop traditional methods of medical education in ward environments and optimise student experience. At Broomfield Hospital, a teaching programme was created and delivered which structured around the large number of CTFs available. CTFs provided many learning opportunities including:

·Near daily personal teaching and facilitation of learning events on ward rounds and in clinical environments

·Simulation training via a "simulation package" of multiple virtual reality (VR), bleep and ward simulations

·Weekly lectures on common medical scenarios

·Weekly clinical skill sessions

·Weekly medical quizzes

·Prescribing sessions

·CTF mentorship scheme

·Mock OSCEs

The requesting of sessions and recording of progress occurred through the OSLR™ teaching application. This platform is designed to connect students and doctors within an organisation, allowing for the requesting and arrangement of teaching as per student requests and learning needs.[4,5] The CTFs at Broomfield would arrange a session when students requested one on the application. All formal teaching was recorded on the application, with the ability to record session attendance and for the students to provide feedback. This allowed the educators to collect

data on the sessions they provided. Links to online resources could be shared on the platform to encourage further learning. As an OSLR™ trial centre the OSLR™ statistical analytical tools were provided to the Trust free of charge. These tools allowed deep dive analysis into the optimal timing of sessions, group size and method of delivery. We could then use this data to improve further teaching.

Participant Selection and Characteristics

All final year students with placements at the Trust partook in the qualitative narrative study, a total of 48 students. At the end of their rotation, students were asked to attend focus groups after a compulsory teaching session to feedback on their placement experience.

To delve deeper into their placement experience, all the final year students were also asked to respond to an anonymous survey via link sent via rotation WhatsApp group and email at the end of their rotations. For the survey, 45 out of 48 students (94%) responded.

The researchers chose to focus on final year students as they were some of the largest cohorts and all had over a two-month period at Broomfield Hospital, with each student experiencing at least one nine-week placement at the Trust between September 2020 to March 2021. They were required to attend wards and teaching every weekday during this time, therefore having a lot of contact with the teaching activities and programmes set out by the teaching fellows. Resources were available for CTFs to spend an approximate equal time with students in all areas of general medicine, general surgery, anaesthetics/ITU and emergency medicine. The researchers felt that the final years would have the necessary placement experience to fairly judge teaching quality at the Trust, as they would be able to compare this to other hospitals.

Focus Groups

Six focus groups in total were organised in three cycles of data collection, with two eight person focus groups happening simultaneously in each of October 2020, January 2021 and March 2021, respectively. The focus groups were conducted in private seminar rooms in the hospital education centre in order to avoid clinical distractions. Each focus group lasted between 30 and 40 minutes, with audio recording of the sessions. Students were randomly allocated into either "Focus Group A" (facilitated by researchers SH1 and AD) or Focus Group B (facilitated by researchers SS and AH). To minimise facilitator style-bias these four researchers led all six focus groups. Questions for all focus groups were identical and decided on by the paper authors; nine open-ended or semi-structured questions were sequentially asked to acquire a narrative based on these qualitative data. The nine questions used to obtain this narrative are shown in Appendix 1. Eight questions aimed to focus on holistic placement experience at the Trust, with one question asking students to compare their experience to other placements they had completed. In each focus group facilitator SH or SS asked the nine sequential questions in an open style to the group with the other facilitator ensuring no implicit bias in the facilitation. All focus group sessions were transcribed by researchers SH1, AD, JS, SS and AH.

Transcripts were analysed by author-researchers SH1, SS, JS, AD and AH using Ritchie and Spencer's Qualitative Framework Analysis in five steps; familiarisation, identifying a thematic framework, indexing charting, mapping and interpretation.[6] The most popular key words from transcripts were coded and charted alongside appropriate themes. Charts were mapped to produce eight main themes from which study results could be interpreted. The results provided in this paper are summarised according to the eight main identified themes regarding the whole placement experience at Broomfield, with the most popular key words represented by a word cloud in Figure 1.

To verify qualitative analysis two senior authors not involved in data collection (SH2, JJ) read the full transcripts independently of other researchers to ensure validity. Saturation of identified themes was achieved quickly, with the use of identical questions for all focus groups and homogenous nature of the study population.

Quantitative Survey

To improve study credibility and delve deeper into placement experience, the researchers used a concurrent triangulation design with an anonymous quantitative survey to gather simple descriptive stats regarding the students' placements.[7] This was completed alongside the focus groups within the same study population. Students were asked to respond to an anonymous survey with ten questions using modified 5-point Likert scales which focused on reflection of personal development once the placement was complete. Forty-five out of 48 students (94%) responded to the survey. Statistical

analysis was undertaken to calculate each question's respective mean scores and standard deviation, providing a measure of data variability. Results from the survey could be integrated with themes from the focus group analysis to support and make further inferences about the CTF-led programme at Broomfield.

Ethics

Ethical approval for the study was sought and gained by Mid and South Essex Hospitals Trust Research and Development Committee. All participants were supplied with an information sheet outlining the aims of the study with the reasons for the focus groups and anonymous survey. Informed written consent from all participants was obtained to attend the focus group and audio record the session. Implied consent was obtained when students completed the anonymous survey.

Results

Focus Groups - Word Cloud and Themes

The most popular key words from the focus groups are shown in Figure 1. Many students mentioned the wide variety of teaching activities, high number of learning opportunities and increased teacher to student ratio. The range of simulation training, a focus towards F1 preparation and supervised working was also spoken about by multiple students.

The eight main themes identified on detailed analysis of the transcripts regarding the CTF-led Broomfield teaching placement are described below with supporting quotes.

Reliability

Teaching sessions would begin on time and would go ahead consistently as planned. This helped to motivate the students and increase their engagement with clinical activities compared to other placements. The CTFs' dedicated teaching time enabled this to go ahead, with adequate time to organise and set up teaching activities – students reported that "I never thought I'm going to turn up and think 'is this going to happen or not' - I always felt 'I'm going to learn something today".

Familiarity

CTFs were friendly anchors in unfamiliar surroundings. Students had a point of contact in each department and regular teaching from CTFs who got to know the students well. This allowed for monitoring of their progress and consistent feedback for them to improve their skills. "It was just nice to have some consistency through the placement," "I think the CTFs provide such an anchor point" and "It was quite nice having someone regular, that you could build a rapport with." One element for improvement to improve familiarity was for the potential to have more CTFs in specialities such as general medicine, where there

Figure 1 A word cloud showing the most popular key words mentioned in the focus groups.

are a larger number of wards compared to other placements and fellows were spread more thinly.

Relevance

The narrative showed that the majority of teaching was perceived to be pitched at an appropriate level and covered particular areas students were concerned about, such as prescribing and common practical skills required for foundation junior doctors.

> The CTFs say 'this is what you actually need to know, this is what you are going to be doing on the job' – it is more realistic and I feel like it's more helpful for us.

The placements were a good mix of teaching in preparation for exams and preparing for the vocation. Gaps in knowledge could be rectified and assessed later in the module. There was a perception of comfort with CTFs rather than more senior staff - "The teaching with the CTFs is a bit more informal in a good way and there is less need to worry."

Teacher/Student Ratio

A high teacher/student ratio in all ward-based teaching made students feel comfortable and optimised learning in the environment. High-quality feedback could be provided, with students having many opportunities to practice skills under supervision. Furthermore, teaching during the pandemic has needed to be with small numbers, while fewer students examining can increase patient ease and comfort.

> The ratio between the students and the fellows was the key thing, because at other hospitals you have fellows but you might have two fellows for 15 students. I really enjoyed the fact that we had one-to-one sessions with our teaching fellows.

Individualisation of Teaching

Students with particular weaknesses were confident in seeking help to address these. A mentorship scheme was highly regarded as a way for students to discuss concerns, gather advice and practice skills in individual sessions.

> The CTFs are very happy to adapt teaching to what suits you and what you need to learn. They are always asking 'what do you need to know?' or 'what do you feel weak at?' so I feel like I have learnt a lot now.

The OSLR™ teaching application could be used by students to request specific teaching sessions, which could then be scheduled by the CTFs on the same platform.

Variety of Teaching Activities

The broad range of organised teaching activities was consistently praised. A wide range of teaching styles – some lectures, some practical procedures, group sessions and simulations really helped to prepare us for finals and real life. Students appreciated a variety of simulation sessions consisting of ward, bleep and VR sims. The ward simulation enabled students to complete common F1 jobs and patient management scenarios, while the bleep simulation meant they could practice prioritising tasks and handovers as if they were covering wards on call. "The simulations were really great – VR sims, bleep sims – all as good as each other. The way they approached different cases was good."

Increased Teaching Opportunities

There was an overall increase in learning opportunities compared to other placements - "I appreciate all the teaching, because we don't get that elsewhere." A busy timetable of organised teaching was combined with a high amount of focused and supervised sessions in clinical environments. A number of CTFs in different specialties enabled a consistently high standard of teaching to be maintained across all student placements - "CTFs really even it out across the placements so that no matter what placement you're on you still feel like you're getting good teaching and good engagement." CTFs were also able to highlight important learning points from ward rounds -

> Normally on ward rounds you're stuck at the back, not really learning much. With the CTFs they'd talk to you about why they are doing something (e.g. investigations), how to write in the notes properly, that was really useful.

The one-to-one mentorship scheme was particularly highly valued by students, meaning specific areas of clinical skills or knowledge could be covered in a comfortable environment - "Having your own CTF mentor and getting one-to-one teaching, that's not something I've had on any placement before and really helped."

Recording Clinical Progress

The OSLR™ app could be used as a register and reminder for students, acting as a logbook of sessions. The students appreciated the opportunity to demonstrate key competencies required by the medical school – they

found that the sessions "really helped getting sign offs." Students found that organised sessions "provided structure to the week, knowing you had allocated teaching". Students mentioned that the application had room for improvement, with its ability to crash and have bugs, but its potential as a logbook is an idea for teaching fellow schemes to build on going forward. There is the opportunity to liaise with the application's makers to improve its quality.

Quantitative Survey Results

The quantitative survey (Appendix 2 - Table 1) showed that the students' impressions of their placement led by the teaching fellows were very positive in a number of ways: the majority of students felt that the placement had led to a large increase in clinical confidence. There was also a greater feeling of student comfort in the ward environment by the end of the rotations. Integration into ward teams was high and most felt that the placement was well matched with the aims of the medical school curriculum. In addition to these findings, the survey results can be integrated with the focus group results to support the themes of familiarity, an increased student–teacher ratio and an increased number of teaching activities. Standard deviation for all questions was <0.8, indicating a low degree of response distribution in relation to the mean for the survey. Specific results that the research team would like to highlight revealed:

- 43/45 students rated their placement at Broomfield as very good compared with previous placements at other hospitals. 2/45 rated it as good (5-point Likert scale ranging from very bad to very good).
- 40/45 students rated the student to educator ratio as very good. 5/45 rated it as good (5-point Likert scale ranging from very poor ratio to very good ratio).
- 38/45 students rated the amount of contact time with teachers as very good. 7/45 rated it as good. (5-point Likert scale ranging from very minimal amount of contact time to very good amount of contact time)

The results from the survey indicate that there are a large number of benefits to delivering undergraduate clinical placements led by clinical teaching fellows such as in this study.

The full questionnaire with the corresponding scores can be found in (Appendix 2 Table 1).

Study Limitations

The main limitation of the study design is the potential for bias from the author-researchers involved with the intervention despite the measures described being implemented to limit bias potential. Researcher JJ was not affiliated with the CTF scheme at Broomfield Hospital.

This study only focused on final year students from one university whose final exams were approaching. Future studies could explore the effects on all year groups and on students from universities with different curricula such as those with a less clear preclinical/clinical divide. Student engagement and motivation varies throughout their course and we have not identified at which points the fellows can influence learning most. It may be that early clinical exposure is best led by more senior clinicians – we did not explore this in this limited study.

Discussion

Potential Disadvantages to Implementing a CTF-Led Teaching Programme

One potential problem with this model is that it relies on junior doctors having significant freedom over time management and teaching methods employed. Following foundation training, it is unlikely they will have acquired enough teaching experience to know the range of techniques available to them and which are likely to be most effective or time efficient. At this stage in their career most doctors still require significant guidance from seniors in how to structure their days and will not have had the free reign given to them in this post. The more senior fellows were an invaluable resource for those just finishing foundation training in providing a structured framework to approach the curriculum and fulfil undergraduate requirements. This was reinforced by the consultant faculty. Furthermore, funded postgraduate medical education degrees could support juniors in developing their teaching skills. Consultant time was also required to supervise research projects, which must be taken into account when setting up such a programme.

How to Use CTFs to Optimise and Modernise Clinical Medical Education

A recent report by the Royal College of Physicians laid out a blueprint for the process of doubling the number of medical student places a year to 15,000 by 2029, with five new medical schools having been created since 2017. One of the recommendations to facilitate this

expansion is for the NHS to increase the number of clinical educators.[8] An increase in the effective utilisation of CTFs could provide part of the answer to fulfil this recommendation. The number of CTFs employed by Trusts to deliver medical education has risen rapidly over recent years, with hundreds of jobs now being advertised across the NHS each year from 77 across 15 medical schools in 2008.[9,10]

CTFs may also be able to optimise and modernise hospital placement teaching by combating known problems and challenges of traditional teaching in clinical environments.[2] For example, ward rounds can be inadequate in providing engaging learning opportunities and CTFs can supplement them and motivate students.[11] It may be that consultants are best placed to identify learning experiences on the ward rounds, but due to time pressures may delegate the actual experience or time with the patient and student to the CTFs. CTFs can pull undergraduates aside from the round and focus on relevant patients, going through the history, investigations, differentials and management plans.

CTFs can have a variety of roles; however, their importance can vary between Trusts, with factors such as the number of students, facilities, teaching activities provided, clinical commitments and number of employed fellows affecting their influence.[12] Although the potential benefits of CTFs in education have been noted previously, there is no clear structure or guidelines for the teaching activities that CTFs may be able to provide.[3] With an increased number of CTFs for example, individuals can be given specific roles to look after a particular cohort of students, such as a specific year or specialty. There is a lack of published evidence showing whether CTF led educational programmes and activities can improve students' experiences on hospital placements. However, local comparison data are now possible with our surrounding hospitals due to a tri-merger of trusts, where the other two sites continue teaching in a more traditional manner with minimal exposure to CTFs. Broomfield scored highest in a large majority of categories including medical undergraduate facilities, supervision, teaching and learning, teamwork and overall experience.[1]

Dedicated teaching time enables CTFs to be reliable educators, attending and leading sessions consistently, while simultaneously reducing the "idle-time" traditionally experienced by students on wards. The sessions themselves are able to last longer, with the opportunity to create a dialogue and discuss complex patient cases. This is valuable in modern medical education in order to gain full benefit from learning opportunities.[13]

Supervision and good quality feedback is an important part of teaching, generating high levels of satisfaction from medical students.[14] Continuity with the same clinical teachers throughout placement builds strong student–teacher relationships and students benefit from being supervised by educators who know them. This leads to more personalised feedback, with early identification of particular strengths or weaknesses. Familiarity with the teaching fellows can provide students with a valuable anchor, particularly in busy departments where it may be otherwise difficult to integrate into the clinical team.

CTFs, as junior doctors, will have ordinarily graduated medical school recently and can therefore choose and deliver content which is appropriate to the level of the student. This leads to high yield learning experiences which are relevant to student exams while also preparing them for the medical vocation. However, in contrast to most newly qualified junior doctors, CTFs usually have at least two years of clinical experience, meaning that they are able to provide more professional insight and clinical knowledge than their more junior colleagues. Teaching fellows tend to be FY3 or CT3 level, reflecting the natural breaks in medical training popular in the UK.

A good educator requires skills such as communication, patience and the ability to actively engage students. These skills are not necessarily developed at medical school and therefore medical graduates do not always make good teachers.[15] The training and experience required for CTFs to gain the roles can lead to an uplift in the quality of undergraduate medical education, with doctors who have a desire and ability to teach well. A competitive selection process which focuses on teaching skills, clinical knowledge and professionalism can help to select appropriate CTFs. CTFs are likely to make good mentors and role models, the presence of which can have a significant positive impact on student placements.[16]

Both a high teacher–student ratio for ward activities and a large number of CTFs leads to increased teaching exposure and opportunities for clinical supervision. A variety of organised teaching activities can be provided to help students progress their skills. Simulation training in particular has been shown to benefit students through scenario engineering, curriculum integration and feedback and debriefing.[17]

Overall student feedback for their placements was excellent, with students reporting a positive experience relative to their placements in other hospitals without a comparable CTF led programme.

Increasing the Recruitment of CTFs

There are a number of incentives for junior doctors to become CTFs. Hospital trusts and medical schools can also benefit from the employment of increased numbers of CTFs.

CTFs are usually recruited from doctors taking time out training, particularly after completion of their two-year foundation programmes in the UK. The number of doctors taking a career break at this point in training has increased significantly over the last decade. In 2018, a survey of 6407 doctors who completed the UK foundation programme showed that only 37.7% intended to go straight into speciality training, compared to 83.1% of 5192 doctors in 2010.[18] There are a few reasons for this change from traditional training pathways. By postponing the uptake of specialty training posts, junior doctors have the chance to recover from increasing work-related stress and the "burnout" phenomenon. There is the opportunity to gain more clinical experience in individual specialities, to take more time to choose a field of medicine and to develop a portfolio. Flexible rotas also allow for an increased amount of autonomy over work patterns.[19] There are many opportunities for personal development in areas of teaching, management and research. There is often opportunity to complete formal part-time qualifications in medical education, alongside other teaching and clinical responsibilities.[20] Given these opportunities, CTFs have the ability to develop as educators, doctors and individuals.[21]

In addition to fulfilling and optimising undergraduate medical education, the recruitment of large numbers of CTFs by Trusts can have a significant impact on filling rota gaps and addressing staffing issues. To fill an SHO post for a year with locums can cost a Trust upwards of £100,000.[22] As registered practitioners who are likely to have done a variety of jobs in foundation and core training, CTFs can work in SHO or registrar posts in multiple areas. Patient safety is likely improved by nature of the continuity of care provided by a regular CTF versus temporary locum staff. Similar arguments have previously been used to advocate the use of Physicians Associates in the NHS.[23] Finally, with the hospital adequately staffed the morale of full-time juniors at the Trust is likely to be improved, which could positively impact on the retention of staff and future training.[24]

Splitting costs of CTFs between clinical and educational departments is a potential way for Trusts to fund structured CTF programmes. Although difficult to compare, we have attempted to give example costings below by comparing the clinical work done by a CTF to the money a Trust may spend on a locum to deliver the same clinical work with no out-of-hours shifts:

- The cost of employing one CTF at ST1 level is £33,000 to £39,000 not including employer "on costs" such as National Insurance and Pension (usually around 25–30% of salary).[25] Although it is very difficult to calculate "on-costs," for our argument we will estimate the employer's total cost to be £48,000 with no out-of-hours work.
- The weekly cost of a locum ST1 at 40 hours a week with no out-of-hours work can be estimated at £1,940 (using Mid and South Essex Trust SHO rates of core £48.50/hour) or a yearly cost of over £100,000, not including any agency fees.
- Therefore, by employing fellows to backfill vacant posts, the clinical department saves approximately £52,000 per post.
- In our intervention, the clinical post was shared by two fellows working 50% clinical and 50% teaching. As the clinical department funded only the 50% salary associated with clinical hours, if two ST1s filled the CTF posts in the department, they only had to spend the equivalent of approximately one ST1 salary (in our estimate £48,000 not including any out-of-hours work) compared to at least £100,000 if a locum had filled those shifts at the Trust.

This financial saving is a compelling reason to liberate SIFT funds for the teaching component – with the increase in medical school places announced recently,[8] many hospitals will notice the uplift in their total SIFT allowance. By employing CTFs in this way, hospital Trusts can provide high quality teaching while minimising locum usage.

With the expansion of undergraduate medicine places, UK medical schools will require an increasing amount of support from associate teaching hospitals to supervise students on placements. By having an increased number of CTFs at hospital trusts, medical schools can be more confident that students are obtaining a comprehensive

medical education whilst on placement, along with vital pastoral support. Positive mentorship programmes can be arranged between students and educators, sharing this responsibility with the medical school.

Conclusion

This study gives an example of how a large cohort of CTFs at a hospital can be utilised to significantly improve and modernise student experience on hospital placements. There were a variety of activities and schemes delivered by the CTFs. Eight aspects of student rotations have been highlighted as having a positive impact on the students. The quantitative survey results provide further support to themes from the focus groups, while also demonstrating perceived growth in personal development and clinical confidence from the placement. Given that a doubling of medical school places is planned in the UK within the next 10 years, an increased number of CTFs is likely to be necessary to deliver teaching. There are significant potential benefits on clinical staffing for Trusts who recruit CTFs and for medical schools who can rely on them to provide pastoral support and dedicated medical education. Potential cost savings for clinical departments are outlined and there is an opportunity to provide better continuity of care for patients with more permanent staff. The recruitment of CTFs should be encouraged to the overall benefit of medical student training whilst on clinical placements, as well as the professional development of postgraduate trainees. The results of this study support a switch to CTF-led delivery of teaching on undergraduate clinical placements across all hospitals.

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Funding for the 14 posts was split between SIFT (Service Increment for Teaching - the undergraduate tariff provided to Trusts from HEE) and the clinical department that the CTF would be working in. Costings are outlined further in the discussion section.

The CTFs were supported by a robust faculty of consultant educators and administrators who help with all aspects of student placement such as pastoral support, accommodation, and educational supervision. At our trust, the fellows were incentivized to think about career progression by being fully funded to undertake a postgraduate certificate in medical education whilst in post.

Disclosure

Sabir Hossain (SH1), Shilen Shah (SS), Jonathan Scott (JS), Abigail Dunn (AD) and Alexander W Hartland (AH) are CTFs employed at Broomfield Hospital.

Jo-Anne Johnson (JJ) is the senior lecturer in Child and Family Health at Anglia Ruskin University.

Sonia Hudson (SH2) is a consultant in Critical Care Medicine at Broomfield Hospital, Clinical Sub-Dean for Anglia Ruskin University and an Associate Dean for Queen Mary University of London.

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