

# Participation in teaching opportunities during core medical training: barriers and enablers

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## ABSTRACT

The development of teaching ability is an essential part of the core medical training curriculum. Delivering teaching for foundation trainees is one way to achieve this while also enhancing the training of junior colleagues, yet there is no current evidence that this occurs. This study describes the extent to which core medical trainees in a UK training region are teaching juniors and identifies potential influencing factors. Questionnaires were completed by 61 core medical trainees and 20 of these participated in five focus groups. Participants had delivered a median number of two training sessions; however, 36% had not delivered any. Focus group data suggested a clear interest in involvement, but barriers such as lack of time and lack of encouragement inhibited this. Although there is a wealth of potential opportunities to teach juniors, this study suggests these are not being fully utilised by core medical trainees. Measures have been proposed to help overcome the identified barriers.

**KEYWORDS:** Core medical training, internal medicine, medical education, near-peer, postgraduate

## Introduction

Teaching is fundamental to the practice of a doctor. It is a key component of doctors' communications with patients and improved teaching ability has been associated with improved patient care.<sup>1</sup> The General Medical Council stipulates that all doctors should contribute to the teaching of their junior colleagues<sup>2</sup> and, in recent times, there has been growing attention placed upon the improvement of doctors' teaching ability.<sup>3</sup> Unfortunately, many clinicians currently involved in teaching have had little or no formal training as educators.<sup>4</sup>

In core medical training – the initial phase of UK general medical specialty training – the curriculum states that core medical trainees (CMTs) should 'progressively develop the ability to teach a variety of different audiences in a variety of different ways'.<sup>5</sup> During the 2-year training programme, CMTs are expected to deliver teaching sessions to achieve this.

One form of teaching that CMTs can engage in to achieve this objective is near-peer teaching (NPT).<sup>6</sup> NPT is defined as 'the phenomenon whereby senior trainees (one or more years senior in training on the same level of the medical education spectrum) teach more junior trainees'.<sup>7</sup> It is widely reported in undergraduate medical education literature and one of its attractive features is that educational benefits can be realised by both learners and teachers.

Reported benefits to teachers include development of teaching ability, increased confidence when teaching<sup>8,9</sup> and deeper learning of the subject being taught.<sup>10</sup> Moreover, engagement in activities like NPT during training can aid the development of important leadership skills.<sup>11</sup> Learners report improved knowledge as a result of teaching from near-peers and describe a more comfortable learning environment.<sup>8,12,13</sup>

Crucially, when assessment outcomes for learners taught by near-peers are analysed against those taught by faculty staff, numerous studies have found them to be comparable.<sup>14–16</sup> Interestingly, two reported more favourable results in some of the NPT groups<sup>17,18</sup> although these were small studies focused exclusively on clinical skills teaching. Despite the numerous potential benefits described in the undergraduate setting, no articles have explored the benefits of postgraduate trainees teaching their junior postgraduate colleagues.

All newly qualified doctors rotate through at least one general medical specialty during their 2-year foundation training programme and receive regular mandatory teaching. CMTs work closely with their junior foundation year colleagues and are therefore ideally placed to deliver some of this teaching. However, there is currently no reported evidence of NPT occurring in general medical specialties.

This study aimed to describe the extent to which CMTs in one region are teaching their junior foundation year colleagues and identify factors that may influence this. This information could then inform the development of further studies to determine the benefits of NPT in the postgraduate setting.

## Methods

CMTs in the Health Education England North East training region were recruited for this study, which was conducted between June and July 2015. Questionnaires were distributed to CMTs at their consultant-delivered teaching sessions. This was felt to be the most efficient method of recruiting participants

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and was effectively used by Bindal *et al*<sup>19</sup> to recruit paediatric specialty trainees.

The CMTs were asked to record their training grade and the number of formal teaching sessions they had personally delivered to foundation year doctors during their core medical training programme. For the purposes of this study, a formal teaching session was defined as a lecture, presentation, small group or bedside teaching session that occurred with prior arrangement. Teaching of medical students was not included as CMTs are not regarded as their near-peers.<sup>20</sup> The initial version was piloted with a group of three CMTs and was subsequently modified to ensure the final questionnaire was understood by all.<sup>21</sup>

The CMTs were also invited to participate in five focus groups to identify the factors that influence involvement. Focus groups were deemed appropriate because they provide access to a wide range of opinions and permit discussion of a range of views.<sup>22</sup> A topic guide was used to lead the discussion using semi-structured questioning. Each focus group was conducted and audio recorded by the first author.

Questionnaire data were analysed using Microsoft Excel (2016) and SPSS (Version 23.0, 2013). The focus group recordings were transcribed verbatim and then analysed using a modified version of the deductive content analysis approach described by Elo and Kyngäs.<sup>23</sup> This process (summarised in Fig 1) was conducted by the three authors – steps 1 to 3 individually and then steps 4 and 5 collaboratively, thus enabling researcher discussion and consensus.<sup>21</sup> The resulting subcategories were agreed as the final list of factors and were emailed to participants to check for concordance.

Ethical approval for the study was provided by the Newcastle University Faculty of Medical Sciences Ethical Committee and written consent was obtained from all participants.

## Results

### Questionnaire data

Questionnaires were distributed to 61 CMTs and all were returned completed. This was from a regional population of 136 CMTs, representing a sample size of 44.9%. The sample comprised CMTs in each of the region's training trusts; 36 participants were in their first year of core medical training (CT1) and 25 in their second year (CT2).

During the 2014/15 training year, participants delivered a median of two formal teaching sessions to their junior colleagues with a range of 0–15 sessions. The distribution is presented graphically in Fig 2A.

The responses from the 25 CT2 participants were also analysed to represent the number of sessions delivered throughout their 2-year core medical training programme (Fig 2B). The median number of sessions delivered during the 2-year programme was three (range 0–20) and six CT2s had delivered no sessions at all.

### Focus group data

Twenty CMTs agreed to participate in the focus groups. Fig 3 shows a summary of the factors, identified by the participants, that influenced their decision to deliver teaching to junior colleagues.

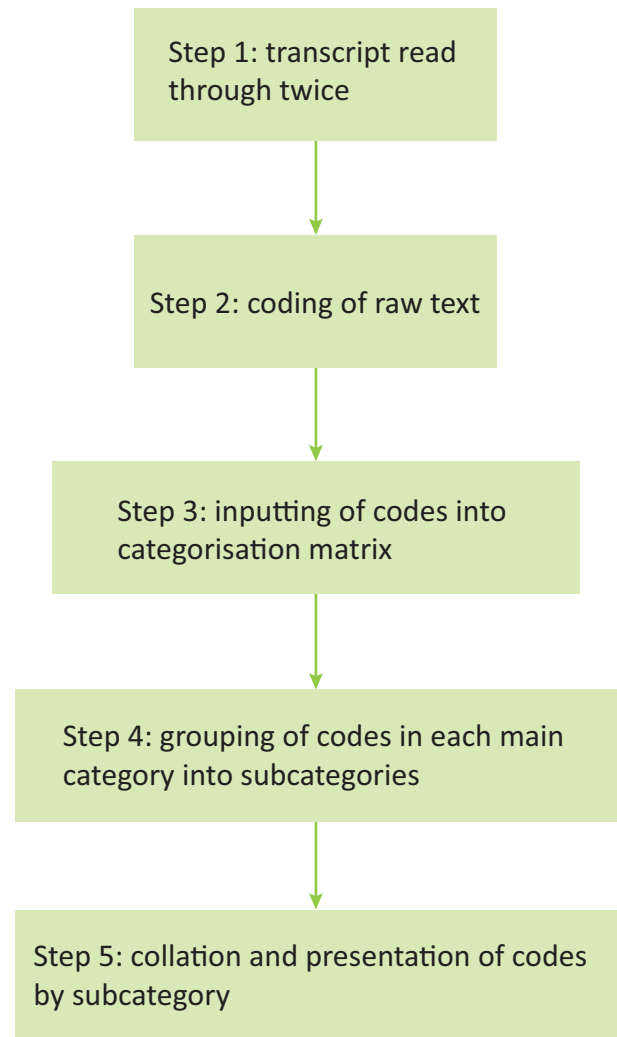


Fig 1. Content analysis sequence.

### Factors related to clinical work commitments

Several participants commented on the high clinical workload and the large proportion of their working time dedicated to providing service. Although they accepted that service provision would always take priority, they felt that the amount was often overwhelming and resulted in tension with their training.

*I think it's recognised that core medical training has a strong emphasis on service rather than training of the doctors.*

Participants reported that because of the high workload, involvement in teaching activities would occasionally lead to staying at work beyond their hours to complete jobs. The negative consequences on their personal life therefore discouraged them from further involvement. Some participants stated that to avoid this tension altogether they would arrange to teach during annual leave. They also described concerns over leaving the ward to teach because of potential impacts on patient safety.

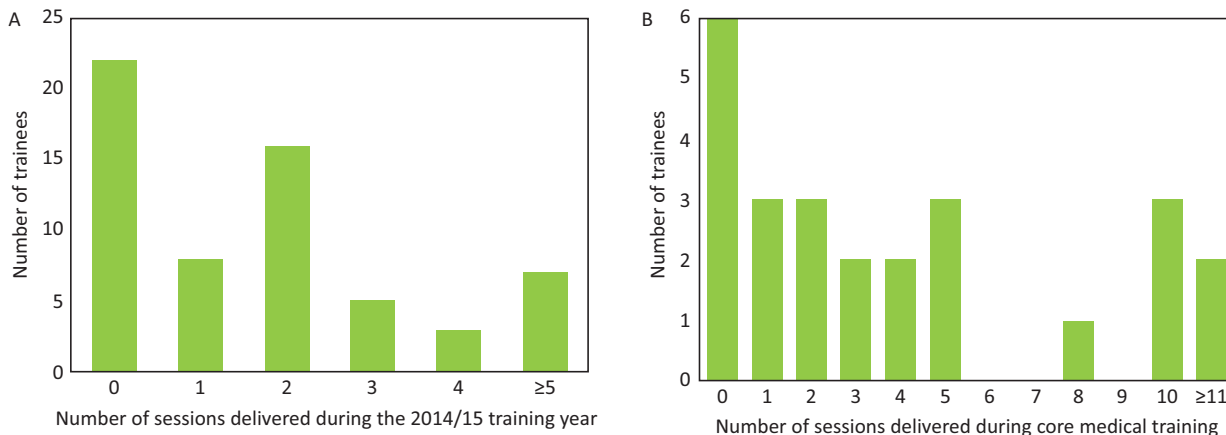


Fig 2. The number of sessions delivered by trainees during the 2014/15 training year (A) and during their 2-year core medical training programme (B).

*Factors related to encouragement from seniors, education departments and the training programme*

There was a widespread view that there was little encouragement for CMTs to deliver teaching to their junior colleagues. It was commented that education departments overlooked CMTs in favour of registrars and consultants, particularly in the larger tertiary referral centres.

Participants also felt senior colleagues did not see their involvement in teaching as necessary, particularly in the presence of high service pressures. Furthermore, there was no guidance on how to organise teaching sessions and it

was perceived that the teaching culture among seniors had diminished.

*There's no real guidance from anyone senior about what you should be teaching, how much time you should spend.*

Lack of encouragement was also described at the level of the core medical training scheme itself. Again, lack of guidance was highlighted, as was lack of training in how to deliver effective teaching. The observed teaching assessment form that all CMTs must complete was described as a 'tick-box exercise' that does not promote improvement in teaching ability. It was

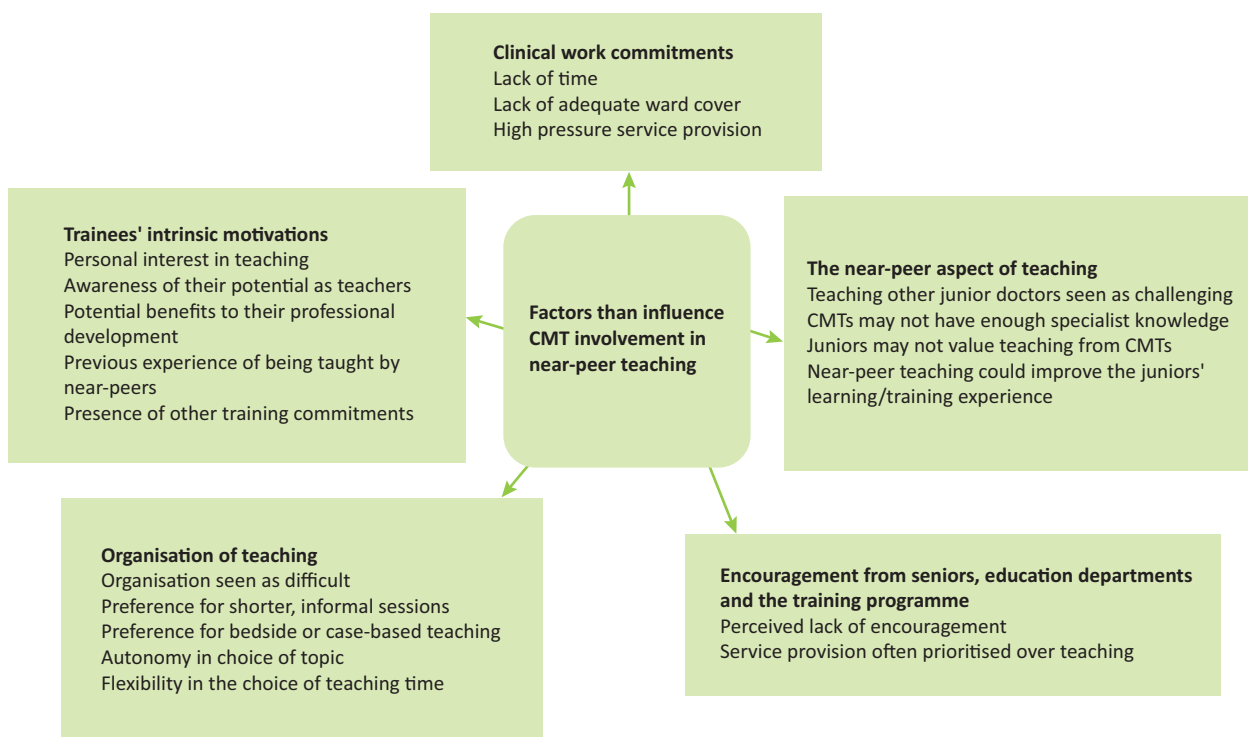


Fig 3. The factors, identified by participants, that influenced the decision to deliver teaching to junior colleagues.. CMT = core medical trainee

felt that if the scheme were to make involvement in NPT a mandatory requirement for progression, clinical departments would be forced to provide allocated time and encourage CMT involvement.

*I think that [making NPT compulsory] would help because... anything that is compulsory tends to get more support from senior colleagues.*

#### Factors related to the organisation of teaching sessions

Difficulties locating an adequate teaching room, arranging an appropriate time and publicising the sessions reduced the incentive to organise sessions. Participants stated that they preferred to teach shorter, opportunistic, informal sessions as these were easier to organise.

Participants felt that autonomy in the choice of topic was essential and described a lack of confidence in teaching unfamiliar subjects or topics that are not relevant to their juniors' current work and future careers.

*Teaching, I think, on subjects people aren't interested in tends to be very poor quality and just ticking boxes.*

They also preferred case-based or bedside teaching focused on practical topics or clinical skills. The importance of flexibility regarding the time to teach and collaborative planning of this with the learners was highlighted.

#### Factors related to trainees' intrinsic motivations

All participants described a personal interest and enjoyment in teaching their juniors and felt this was shared among their colleagues. They also showed an awareness of their ability, as medical trainees, to teach a wide range of general topics and share their experiences.

*CMTs are probably more able to teach a wide variety of people who... have other specialties in mind.*

A number mentioned that previous positive experience of receiving teaching from near-peers enhanced their desire to teach juniors. They also recognised the potential benefits to their own professional development from teaching junior colleagues, citing improved clinical knowledge, improved teaching skill and the possibility of helping their future career aspirations.

It was noted that the presence of other essential training commitments, particularly membership examinations, discouraged involvement as they had to spend their limited free time concentrating on these.

#### Factors related to teaching near-peers

Generally, participants believed that teaching junior doctors was more challenging than teaching medical students and thus were less inclined to take opportunities to do so. They felt that learners may not value teaching from them, particularly from CT1s or those who have not completed their membership examinations. They suggested that they may not have enough specialist knowledge to benefit their junior colleagues and teaching from more senior colleagues may be preferred.

They also described the concern of looking stupid because of a lack of teaching skill, being asked difficult questions or juniors being more knowledgeable about a subject. They did, however,

recognise that as near-peers they may have a better insight into the level of juniors' understanding and their teaching may be more useful to juniors' day-to-day practice.

*It's a bit easier in that what they... want to learn is probably more closely aligned to what you can offer.*

Furthermore, they felt that juniors would be less intimidated by them, thus creating a more comfortable learning environment. Interestingly, they stated that they would have appreciated teaching from CMTs when they were foundation year doctors.

## Discussion

The aim of this study was to describe the extent to which CMTs in one region are teaching their junior colleagues and identify the factors that influenced this. The questionnaire results showed that the majority of the CMTs had delivered formal teaching sessions to their junior colleagues, which concurs with findings of similar studies.<sup>24,25</sup>

However, over a third of participants had not taught foundation year doctors during 2014/15 and this was the case for almost a quarter of CT2s during their entire 2-year training programme. Moreover, the majority of participants had delivered two sessions or less in 2014/15. Although NPT is proposed as an effective method of improving doctors' teaching skills,<sup>6</sup> Mann *et al*<sup>26</sup> suggest that delivering one-off teaching sessions is unlikely to produce a lasting improvement in teaching ability.

Most training hospitals organise weekly teaching sessions to meet their obligation to provide foundation doctors with a regular teaching programme. As foundation year 1 and year 2 doctors are taught separately, this equates to approximately 100 teaching sessions during a calendar year per training hospital, providing a wealth of opportunities for CMTs to deliver teaching, yet the results of this study suggest that these are not being fully utilised.

The focus group data suggested that there was a clear interest in teaching junior colleagues among the participants. There was an acknowledgement of the benefits, both to developing their own clinical and teaching skills and improving the learning of junior colleagues. However, this eagerness was superseded by the pressure of service provision and concerns about the level of ward cover, resulting in a perceived lack of time for involvement in teaching activities. Lack of time has been a recurring theme among studies involving medical trainees.<sup>27-29</sup>

The study was limited by a small sample size and only one region was investigated, so the findings may not be generalisable to other training regions. Participants were asked about teaching sessions they had performed up to 2 years previously creating significant potential for recall bias. Furthermore, as only CMTs that were willing to participate in the study were included, there was a possibility of selectivity bias, particularly in the focus groups. However, the focus groups did include CMTs who were not teaching as well as those who were and a wide range of views were expressed.

Despite these limitations, this study provides some insight into a relatively unknown but relevant aspect of postgraduate medical training. The results highlight a range of barriers to CMTs teaching their junior colleagues and suggest that

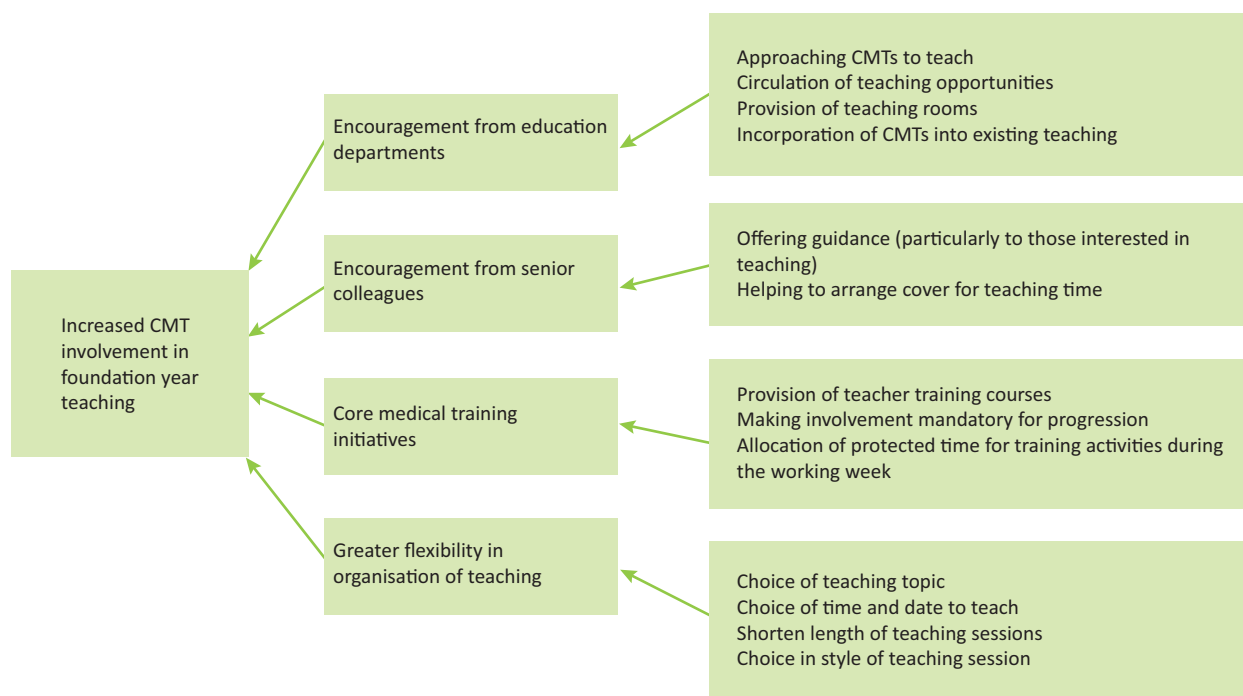


Fig 4. Driver diagram of measures to increase core medical trainee (CMT) involvement in foundation year teaching.

increased encouragement from training institutions is required to help overcome these.

Simply being approached to teach by education departments was described as particularly encouraging by study participants. It was suggested that education departments could facilitate involvement by providing teaching rooms, circulating teaching opportunities to CMTs and incorporating them into existing teaching schedules. Senior colleagues could also support this by providing CMTs with guidance about teaching opportunities, as suggested by Tasker *et al.*<sup>30</sup>

Participants indicated that the core medical training programme could also encourage them by making involvement mandatory and agreed with the assertions of Norman and Dogra<sup>28</sup> that CMTs should have protected time for training-related activities like teaching. There was concern regarding their value as teachers for junior colleagues; however, evidence suggests that learners value NPT.<sup>8,12,14</sup> Promoting awareness of this, possibly through provision of teacher-training sessions, may help overcome this concern. Participants also emphasised the importance of flexibility in the choice of topic and preferred shorter sessions, focused mainly on clinical skills and cases relevant to their juniors' training.

## Conclusions

CMTs are expected to develop their teaching skills during their 2-year training programme. NPT offers a route to achieving this while also contributing to the training of foundation year doctors and a wealth of opportunities are available for this to occur. Although this is a small study, the results suggest these opportunities are not being fully utilised and our anecdotal experience is that this is not unique to the region studied.

Several potential barriers to involvement were identified and measures have been suggested to overcome these (Fig 4). Medical educators interested in developing NPT initiatives in the postgraduate setting and studying their benefits may find the factors delineated in this study helpful in accomplishing this aim. ■

## Conflicts of interests

The authors have no conflicts of interest to declare.

## Author contributions

OA designed the study, conducted the focus group interviews, analysed data and significantly contributed to the writing of the article. CM analysed the data and significantly contributed to the writing of the article. HZ analysed the data and significantly contributed to the writing of the article.

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