

## EDUCATION AND TRAINING Hot Cases: A platform to improve digital literacy during the COVID-19 pandemic

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### ABSTRACT

The COVID-19 pandemic engendered an era of virtual teaching, supporting the digital aspirations outlined in *The Topol Review*. We recognise that to fulfil these aspirations, clinicians must be equipped with the technical skills to effectively deliver such teaching. At Kingston Hospital NHS Foundation Trust, we implemented a case-based teaching programme that improved presenters' confidence in delivering online teaching. Through our work, we offer a sustainable solution for the continued education of medical professionals while simultaneously enhancing competency in digital literacy.

**KEYWORDS:** digital literacy, case-based teaching, virtual teaching

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### Introduction

The NHS Health Education England future doctor report (*The Future Doctor Programme: A co-created vision for the future clinical team*), which builds on *The Topol Review*, recommends that 'Education and training must rapidly incorporate digital and technological solutions effectively'.<sup>1,2</sup> The COVID-19 pandemic served as a catalyst for the implementation of virtual medical education programmes, while face-to-face teaching was curtailed. It highlighted the importance of clinician competency in digital literacy to effectively deliver virtual teaching. We recognise that, as such methods of teaching become rife, there has been comparatively little focus on evaluating medical educators' confidence in delivering such teaching.

When considering teaching methods, learning through clinical cases is often valued by doctors as it stimulates transfer of information from theoretical to clinical settings and, thus, lends itself well to application in the workplace.<sup>3</sup>

We assembled a quality improvement team consisting of one medical registrar and three senior house officers (SHOs) working at Kingston Hospital, a district general hospital in the UK. The aim of our project was two-fold: implement a junior-doctor-led virtual case-based teaching programme that would enable continued learning during the COVID-19 pandemic and evaluate how the programme may improve confidence in delivery of virtual teaching.

### Method

A survey was disseminated to foundation year-1 (FY1) through to specialist registrar (SpR) grade doctors via institutional mailing lists and WhatsApp to ascertain the prevalence and nature of case-based teaching at Kingston Hospital.

A virtual case-based teaching programme called 'Hot Cases' was conceived to fulfil clinician desire for case-based teaching. Hot Cases ran fortnightly via MS Teams from March 2021 to July 2021. Sessions were taught by a junior doctor, who chose the case, and chaired by an SpR or consultant. Presenters were volunteers. The interactive polling tool Slido was used enabling presenters to 'live quiz' the audience. Posters advertising Hot Cases were circulated via institutional mailing lists and WhatsApp (Fig 1).

**HOT CASES**

**What?** Junior Doctor led (from FY1 to SpR) case-based teaching sessions

**Why?**

- ✓ Learn from interesting cases
- ✓ Get SLEs signed off
- ✓ Receive feedback on your teaching (necessary for specialty applications!)

**How?** Registrar/Consultant facilitators support case discussion and Q&A. Initially sessions are via MS Teams while social distancing mandatory

**JOIN US FOR THE FIRST SESSION**

**COLLAPSE CONUNDRUM**

**24<sup>TH</sup> MARCH 2021 13:00-14:00**  
via MS Teams (link to be emailed)

All presenters, facilitators and attendees will receive certificates of teaching/attendance

Fig 1. Poster advertising Hot Cases.

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Attendees, facilitators and presenters received certificates for their portfolios and presenters received feedback on their teaching.

Feedback was collected via post-session Google Forms surveys. Quantitative domains for attendee feedback included presentation-specific feedback, utility, interactivity, willingness to attend future sessions, Slido use and barriers to attendance. Qualitative data were analysed using thematic content analysis and categorisation.

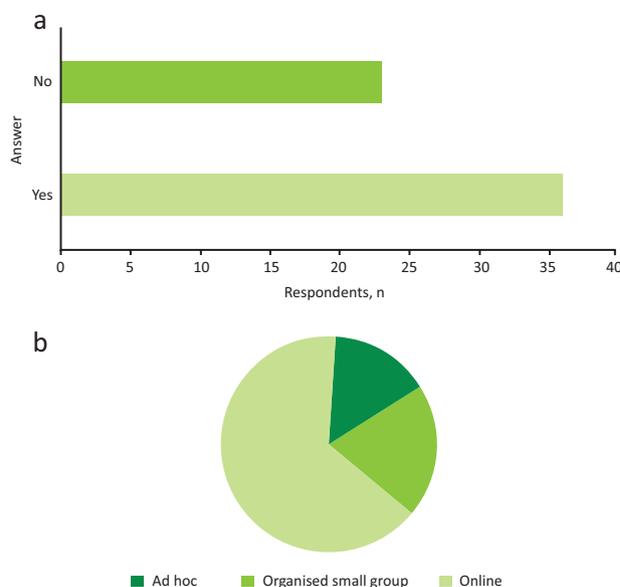
We evaluated presenters' virtual teaching experience, pre- and post-teaching confidence, and willingness to deliver virtual teaching in the future. Semi-structured interviews were conducted with presenters to identify measures to improve confidence in delivering teaching.

All data were collated, analysed and graphically displayed using MS Excel.

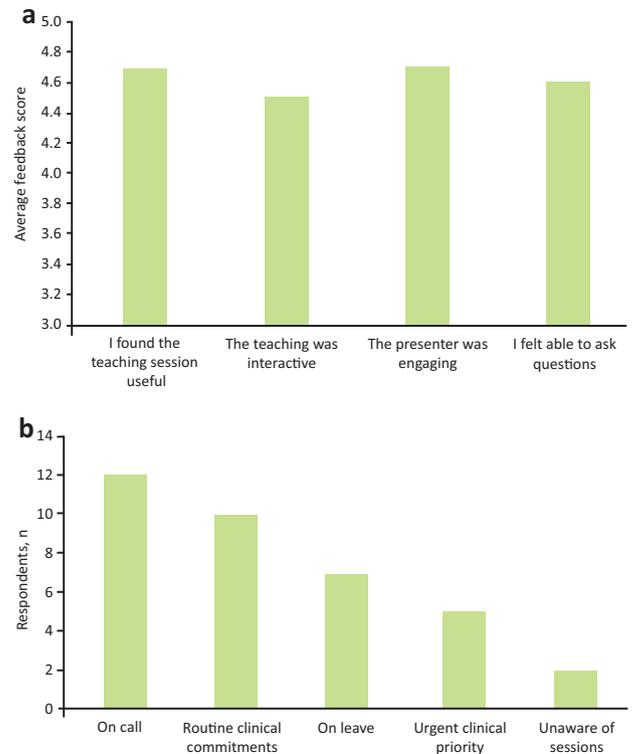
## Results

In our initial survey, of the 59 respondents, 14% were FY1s, 64% were SHO, 7% were SpRs and 15% were physician associates. Thirty-six of the 59 (61%) experienced case-based teaching since August 2020, including ad hoc ward-based teaching (19%), organised small group teaching (22%) and online teaching (75%; Fig 2). Two-thirds received fewer than five sessions and one-third received 5–10 sessions. One-hundred per cent of respondents felt case-based teaching was effective for their learning and that they preferred it over subject-specific teaching.

Hot Cases attracted 97 attendees across nine sessions. Sixty of the 97 (62%) attendees completed the feedback survey. One-hundred per cent strongly agreed that the teaching was useful and interactive, 100% agreed or strongly agreed that they felt able to ask questions and 100% of respondents stated that they would attend again (Fig 3a). The polling platform Slido was well received: 32/60 (53%) utilised the tool and, of these, 97% agreed that they would prefer more Slido questions in future.



**Fig 2. Experience of case-based teaching.** a) Response to the question 'Have you had any case-based teaching since August 2020?' b) The type of case-based teaching experienced by respondents that have had it.



**Fig 3. Responses to the feedback survey regarding the Hot Cases sessions.** a) General questions. b) Barriers to attendance.

The most frequently cited barrier to attendance was competing clinical commitments (27/31), such as being on call, clinical emergencies or routine work. A minority (2/31) cited lack of awareness of the programme as a reason for not attending, suggesting that advertising was successful (Fig 3b).

We evaluated presenters' experience of delivering virtual teaching. Three out of five (60%) presenters had not previously delivered virtual teaching. The average level of confidence in delivering virtual teaching improved from 2.8/5 to 4.2/5 after the teaching session. All presenters agreed that Hot Cases inspired them to deliver more virtual teaching in the future. Qualitative feedback supporting this related to the pedagogical value of virtual teaching and the availability of an interactive polling platform (Box 1). Semi-structured interviews conducted with presenters demonstrated that prior circulation of a crib sheet

### Box 1. Feedback relating to virtual teaching

#### Value of virtual teaching:

- > more convenient
- > user friendly
- > less nerve wracking than presenting in person
- > strengthened teaching and presentation skills
- > built confidence in delivering virtual teaching.

#### Live polling platform:

- > integrated within the presentation to engage the audience
- > a novel way to deliver content
- > enjoyed using the online polling platform
- > interactive.

on the technical aspects of the session would have improved their confidence.

## Discussion

Case-based teaching through Hot Cases is an effective method of learning and demonstrated a positive impact, thus, achieving level 1 in the Kirkpatrick model for learning evaluation.<sup>4</sup> Competing clinical commitments hindered attendance. This may be circumvented by increasing consultant awareness so that juniors are encouraged to attend, trialling different start times to prevent clashes with lunchtime board rounds and recording sessions.

Hot Cases enhanced medical educators' confidence in delivering virtual teaching. Anxiety about the technical aspects of presenting online could be alleviated by distributing a crib sheet to presenters prior to sessions. Furthermore, appointing a Hot Cases committee that ensures continued responsibility for the programme would enhance its sustainability.

Overall, Hot Cases helps initiate medical educators into digital literacy supporting the aims of the NHS Health Education England future doctor report and *The Topol Review*.<sup>1,2</sup>

Limitations of this study include the small sample size and selection bias may have accounted for the positive experience of presenters as those more willing to improve their teaching skills were more likely to have volunteered to present.

## Conclusion

Hot Cases offers a sustainable solution for the continued education of medical professionals during the era of hybrid methods of teaching and provides an opportunity for medical educators to improve digital literacy. In future, the programme could be translated to other specialties to extend its benefits. ■

## References

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