

# Augmented reality medical student teaching within primary care

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Fig 1. Students viewing the consultation.

## Introduction

The coronavirus pandemic has had a significant impact on medical education worldwide, particularly for medical students.<sup>1</sup> As NHS hospitals and primary care services around the UK prepared for the pandemic, university students were sent home and clinical placements abruptly ended. Experiential learning is key in medical education and the pandemic has interrupted this passage of development.<sup>2</sup> At a time where the progression of medical students is more vital than ever, the use of innovation technology will be essential in allowing them to develop clinical skills and knowledge remotely. The HoloLens Augmented Reality (AR) headset allows students to be virtually present in a consultation and interact with both user and patient (Fig 1).

## Materials and methods

In September 2020, an AR teaching session was piloted for the first time in a primary care setting in the UK with a group of medical students from Oxford University. The students were socially distanced in a separate teaching room, while the primary care physician trainer carried out a consultation wearing an AR headset (Fig 2). The headset allowed the students to view the consultation virtually from a 'doctor's perspective', while the trainer could see and interact with both patient and students. The trainer was able to open and view images in an augmented construct, which the students could view, these included example scans and observations. Medical student experience was collected using questionnaires and a brief interview.

## Results and discussion

From the feedback provided by the three students, all would recommend the session to their peers. Thematic analysis of

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Fig 2. GP trainer wearing AR headset.

interviews gives insight to key areas of learning. The first was being able to 'see' the consultation from a doctor's perspective

and the second was interacting with an 'actual patient'. All agreed AR would be a beneficial addition to their course if they were to be removed from clinical placement due to COVID-19, or to supplement hospital or primary care education.

One limitation highlighted by our patient was that they were unable to see the students and screens in the GP trainers augmented reality construct. This changed the dynamic of the consultation and further work integrating patient feedback will be needed to assess the impact of AR on the patient experience. The limitations raised by the students were centred around technical issues. These should be quick to resolve with AR training and preparing the AR screens before each session.

### Conclusion

Augmented reality teaching offers live patient contact remotely, allowing students to develop their practical skills and knowledge amid the COVID-19 restrictions. In a time where both students and trainers are required to adapt their teaching and learning styles quicker than ever before, it has great potential to ensure continuity of education as a second wave of COVID-19 threatens. ■

### Conflicts of interest

None declared.

### References

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