

# Med22

RCP annual  
conference

## Education, training and medical professionalism abstracts



Royal College  
of Physicians

## A prototype for training teams: type 1 diabetes clinic and multidisciplinary meeting simulation

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### Background

Medical education aims to equip physicians with the knowledge and skills required to deliver effective and safe patient care. Simulation-based education provides experiential learning and a safe environment for trainees to learn and develop their technical and non-clinical skills. We hosted an endocrinology and diabetes specialist registrar training day and aimed to simulate scenarios akin to those seen on a standard working day for a diabetes and endocrinology trainee. This included holding a referrals bleep, assessing a patient in clinic, and discussing cases in a multidisciplinary team (MDT) meeting. The clinic and multidisciplinary meeting (MDM) simulation aimed to improve trainees' data interpretation, presentation skills and knowledge of relevant technology while considering key psychosocial factors in management of patients with type 1 diabetes (T1D).

### Methods

Trainees were divided into groups of 3–4, with those of similar seniority grouped together. In the clinic scenario each group was presented with a different case. The information provided included the patient's background, concerns and diabetes technology data. Small group discussion followed to discuss the information available and construct the management plan. Each group then presented their case to a multidisciplinary team (diabetologist, diabetes specialist nurse, diabetes specialist dietitian, psychiatrist) structured in a similar format to the type 1 diabetes multidisciplinary meeting at an inner-city teaching hospital. The trainees were asked to present the cases to the MDM and discuss management plan to inform the MDT discussion. Following each case there was a debrief to discuss the learning points.

### Results

13 specialist registrars attended the session, ten (77%) answered the pre- and post-session questionnaire. Six (60%) were from ST3–4 and four (40%) were from ST5–7. The training day was rated using a Likert scale (poor (1) to excellent (5)) with a mean score of  $4.7 \pm 0.64$ . The qualitative feedback included trainees enjoying the 'interactive sessions' with 'problem-solving aspects', 'MDT approach' and an 'abundance of educators'. Scores (Likert scale 1=strongly disagree to 5=strongly agree) of skills increased after the session compared to pre-session scores in 'Performing an outpatient assessment of a complex patient with type 1 diabetes' ( $3.64 \pm 0.88$  to  $4.38 \pm 0.7$ ), 'Analysing data from diabetes technology and using this to inform the consultation' ( $3.45 \pm 0.99$  to  $4.13 \pm 0.78$ ), 'Initiating appropriate diabetes technology according to relevant guidelines' ( $3.27 \pm 0.86$  to  $4.13 \pm 0.78$ ), and 'Considering the psychosocial factors in diabetes consultations' ( $3.64 \pm 0.88$  to  $4.25 \pm 0.83$ ).

### Conclusions

Simulating a clinic and MDM setting, in which small groups of trainees discuss challenging aspects of a case and how they would approach the consultation, encourages collaborative learning and promotes problem-solving skills. Presenting the cases in front of a simulated MDT enables feedback from experts with different perspectives on a case. The feedback suggests this method of teaching improved trainees' confidence in performing outpatient assessments, analysing data, initiating technology and considering psychosocial aspects. The presence of the members of the MDT provides different perspectives to the management of

patients and offers unique learning opportunities to develop a team approach to the care of patients with T1D.

## Application support for IMT – a bridge towards a future career

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### Introduction

The Internal Medicine Training (IMT) programme acts as an important entry point for junior doctors wishing to pursue a career in a medical specialty in the UK. Applying for higher training programmes, such as IMT, is a process that is often long and challenging, and not always successful. With the changes in how exams are structured and conducted, it can be quite challenging for non-UK graduates.

This is especially true in a district hospital in the east of England, which hosts a significant proportion of international medical graduates who are not familiar with the application process. This is an ongoing second cycle of a quality improvement project (QIP) that has been successful last year (2021 intake) and is now being continued for the 2022 intake by two internal medical trainees, and supervised by a geriatric medical consultant. It is also very well supported by a good number of medical consultants at the trust, as well as the Medical Education department.

### Methods and materials

A survey was sent to the participants prior to and after each intervention. The following sectors are involved in a cycle of the QIP:

- part 1: applying for IMT – online application, focused on the Oriel application
- part 2: interview preparation talk – focused on the new IMT interview structure format and predicted sample questions
- part 3: mock interviews – conducted in settings to reflect the actual interview environment, with detailed formal feedback for each candidate, and allowing mock observers
- part 4: preferencing talk.

A final survey will be sent after candidates have received their offers. All participants are part of a WhatsApp group and encouraged to raise any concerns or queries throughout the process.

### Improvements for 2022 intake

1. Conducting mock interviews that actual interviews.
2. Widening the scope of the QIP by allowing non-local international medical graduates from different regions of UK to join the talk.

### Results and discussions

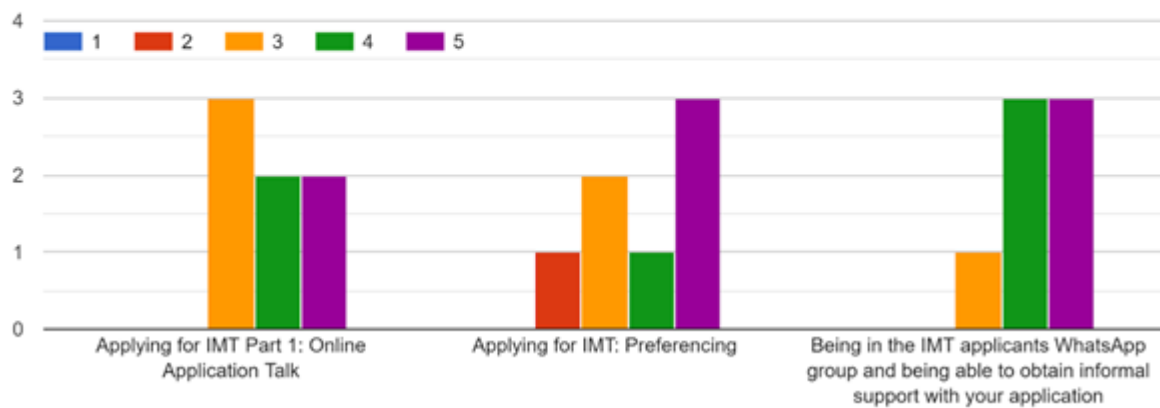
As offers have not yet been made for the 2022 intake, we do not have final results for this year at the time of writing. However, we have excellent informal and formal feedback for our talks and mock interviews.

### Results from 2021 intake

A final survey was sent out to assess whether participants had received offers and how helpful the different stages of the project had been. The results revealed that seven of the eight applicants (87.5%) who used the project interventions were offered a place in the IMT programme. Among those, six applicants (85.7%) either received their top choice or are satisfied with the offer and four out of seven successful individuals received upgraded offers.

**Fig 1. Feedback on the QIP.**

Please rate the usefulness of the interventions below for your IMT application process.



## Conclusion

This project has clearly demonstrated the effectiveness of near-peer mentoring support in postgraduate training application, despite the small scale. We are aiming to carry over this QIP to next year, which will complete 3rd cycle of QIP. We are also planning to expand the scope up to regional and national level.

## Effectiveness of simulation training on advanced life support algorithms in medical education

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### Introduction

The use of simulation in education has been increasingly prevalent in recent years and medical education is no exception to this phenomenon. Hence, there is no doubt that simulation training in advanced life support algorithms has significantly improved the quality of care provided by doctors during actual cardiac arrest events.<sup>1,2</sup>

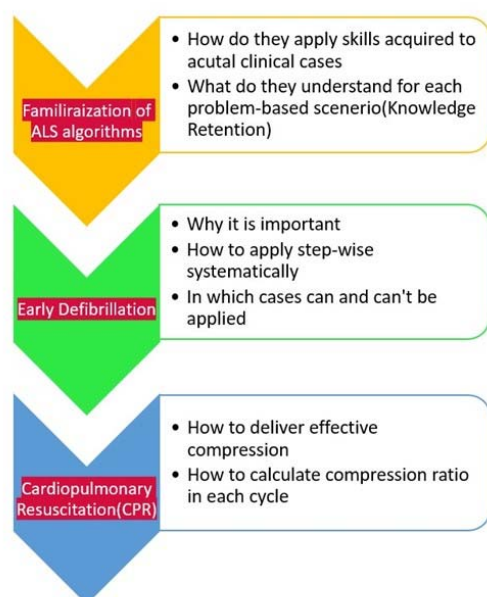
### Aim

This study aimed to assess the effectiveness of the use of simulation scenarios for advanced life support (ALS) algorithms for postgraduate doctors. Effectiveness was measured in terms of the extent of familiarisation of algorithms (knowledge retention) and ability to apply the skills learned in early defibrillation and chest compressions in subsequent real practices.<sup>2,3</sup>

### Methods

A total of 30 postgraduate doctors have attended ALS sessions from 1 April to 31 July 2021. Out of these 30, 15 have received simulation-based scenarios in ALS algorithms, while the remaining 15 underwent traditional lecture-based education. The survey questionnaires were created based on the student's perception of their level of confidence in applying algorithms in real-life practice.<sup>3</sup> This includes three main domains recorded in terms of familiarisations of ALS algorithms, early defibrillation, and cardiopulmonary resuscitation (Fig 1). A final survey was concluded upon knowledge retention and ability to apply skills acquired in real-life scenarios among two groups.

**Fig 1. Effectiveness measures in three domains.**



## Results and discussion

Simulator-trained doctors showed significantly higher adherence to familiarisation of ALS algorithms (mean responses 90%) vs traditionally trained doctors (mean responses 44%). In terms of students' perception of the level of confidence in applying early defibrillation and cardiopulmonary resuscitation skills in real-life scenarios, participants in simulation training showed 94% of positive responses, while only 50% of the response was noted in the traditionally trained group.

A post-simulation training survey revealed that doctors were generally in favour of incorporating cardiopulmonary simulator training in ALS algorithms and early defibrillation with case-based scenarios.<sup>2,3</sup>

## Conclusion

The role of simulation-based training in ALS algorithms is highly valued in postgraduate medical education, which helps acquire foundational skills in actual cardiac arrest situations.<sup>1</sup> Nevertheless, simulation aids the translation of pre-clinical knowledge into real-life clinical skills so that this should be implemented in the formal curriculum as an adjunct to traditional lecture-based training.<sup>2</sup>

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## The impact of burnout and short staffing levels on trainee satisfaction during the COVID-19 pandemic in a tertiary care hospital

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### Introduction

It is well recognised that trainee burnout and short staffing levels in medical training have become a global crisis in recent years.<sup>1,2</sup> A lack of effective strategies that are indicated by the NHS has led to significant trainee dissatisfaction and emotional distress, due to lack of trainee support and educational opportunities.<sup>3,4</sup>

### Materials and methods

This study aimed to assess the impact of burnout and short staffing on trainee satisfaction during the COVID-19 crisis. The further objectives were to understand the reasons for poor satisfaction among medicine trainees and to formulate the local guidelines to standardise the trainee competency commitment. A total of 35 medical trainee doctors were enrolled into medical specialty rotations from 4 August 2021 to 31 January 2022. Of this group, 30 have worked as full-time trainees whose work involved responsibility for covering the acute medical take as per rotation. The survey questionnaires were created based on the trainee's perception of their level of satisfaction in working commitment and opportunities for learning.<sup>3</sup> The level of satisfaction was assessed in three main areas, including out-of-hours working time, procedural competencies and trainee-based official teaching hours per rotation.

### Results and discussion

It was found that only eight out of 30 trainees (26%) met their level of satisfaction while 24 (80%) out of 30 trainees revealed poor satisfaction throughout their training periods.

In 18 (75%) out of 24 trainees who reported poor satisfaction, the main reasons were extreme short staffing levels within out-of-hours working time and burnout following the extreme workload and stress levels during the pandemic. The remaining trainee doctors (25%) reflected upon the lack of educational opportunities to achieve their level of competencies in procedural skills and protected teaching hours for self-directed learning during the pandemic.

### Conclusion

The input of the trainee's perspective is highly valued in postgraduate medical education, which helps understand the main reasons for poor satisfaction of doctors within their working time.<sup>3,4</sup> This study highlights the long-term impact of burnout and stress levels on trainee competencies and satisfaction, and highly recommends the early implementation of effective measures to combat the ongoing short-staffing issue following the COVID-19 crisis.

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## Improving medical trainee recruitment: the south-west regional internal medical training recruitment event 2021

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### Introduction

There are difficulties recruiting trainees into medical specialties and consultant physician posts are underfilled. Although the clinical casemix, teamwork and academic challenges are seen as attractive, many are deterred by the thought of being a medical registrar.<sup>1</sup> Additionally, the COVID-19 pandemic has significantly disrupted training and education opportunities, with many medical students and junior doctors unsure of what each specialty entails.

The new 2019 IMT curriculum enables a more supported transition to the role of medical registrar and the opportunity to encounter a range of medical specialties.<sup>1</sup> The Royal Devon and Exeter (RD&E) associate college tutors (ACTs) wanted to inspire medical students and junior doctors to undertake IMT and organised the first south-west regional recruitment event for this purpose.

### Materials and methods

Two ACTs organised the event with the help of their college tutor, postgraduate department, deanery and the RCP. It was held 6–8.30pm 4 November 2021 in the RD&E lecture theatre with the option of attending in-person or online via Microsoft Teams (advertised free of charge to south-west medical students and junior doctors). It was split into two parts with a range of speakers (open to questions): *‘Why you should consider a career in medicine’* and *‘Practicalities of IMT’*. Attendees completed a survey post-event.

### Results and discussion

84 people attended, with the majority (86%) viewing online. 68 completed the survey; 47 foundation doctors, 11 trust grade doctors and 8 medical students.

There was an increase in those choosing to apply for IMT, from 54% before the event to 70.5% after attending the event; with a decrease of 4.5% in those who initially said they would not be applying for IMT and a decrease of 12% in those that were unsure (see Table 1).

**Table 1**

	Yes	No	Maybe
<b>Prior to attending, were you planning on undertaking IMT?</b>	<b>54% (n=37)</b>	<b>6% (n=4)</b>	<b>40% (n=27)</b>
<b>After attending, are you planning on undertaking IMT?</b>	<b>70.5% (n=48)</b>	<b>1.5% (n=1)</b>	<b>28% (n=19)</b>

Attendees were asked to score themselves on a scale of 1–5 (1=knowing nothing, 5=knowing everything) regarding their knowledge of IMT and the application process. The average score prior to attending was 2.8 and the average score after attending was 4, demonstrating an increase of 1.2 points.

Overall, these data show that this recruitment event helped to educate and attract potential trainees for IMT.

## Conclusion

IMT can be perceived as a challenging undertaking to medical students and junior doctors, particularly the concept of being a medical registrar. This event provided an opportunity to encourage these groups to undertake IMT in the future by providing inspiring and relevant talks with the chance to question the speakers. Additionally, the hybrid format of being able to watch online or in-person allowed flexibility for both trainees and speakers to attend and ensured the location did not limit access. The online format was particularly important given the social distancing rules applied in the current COVID-19 pandemic.

It has been demonstrated that this IMT recruitment event has had a positive impact regarding future applications; most notably for those that were unsure about IMT prior to attending. It is important that medicine continues to recruit trainees to expand the national workforce numbers, and events like these may be invaluable to the recruitment process.

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## Modifiable factors influencing emotional intelligence among medical interns

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### Introduction

Emotional intelligence is crucial for medical professionals. Medical interns are expected to have a high degree of emotional intelligence to face their professional career challenges. Emotional intelligence, often measured as an emotional quotient (EQ), is the capacity to recognise and regulate emotion in oneself. It enables one to monitor one's own feelings and emotions and others; and guide decisions and actions, and is crucial to ensure a successful work-related outcome or good performance.<sup>1</sup> A medical intern, also known as a house officer or trainee doctor, is a junior doctor who has just completed medical school.<sup>2</sup> In Malaysia, medical graduates need to undergo an internship for at least 2 years at the Ministry of Health facilities before being able to register as a medical doctor; a period known to exert physical, mental, and emotional challenges. The potentially challenging period during the internship emphasises the importance of EQ among medical interns during this time.<sup>3</sup> A higher EQ enhances physician and patient wellbeing, increases patient safety and augments healthcare teamwork.<sup>4</sup> However, studies about EQ among medical interns are lacking. Therefore, this study intended to determine the level of EQ among medical interns and its associated factors.

### Materials and methods

This nationwide cross-sectional study recruited new medical interns reporting to 17 randomly selected Malaysian hospitals accredited for medical intern training from January to April 2020. They were invited to answer an online questionnaire incorporating the USM Emotional Quotient Inventory (USMEQ-i) to measure EQ, Connor-Davidson Resilience Scale-10 items (CD-RISC-10) for resilience, Brief-Cope to assess coping styles, the Preparedness for Hospital Practice Questionnaire (PHPQ) to assess internship preparedness, the Duke University Religion Index (DUREL) for religiosity, and questions related to sociodemographic and undergraduate training.

### Results and discussion

A total of 524 from 619 medical interns responded. Mean (SD) EQ score was 3.08(0.58). Significant factors positively associated with EQ include resilience score (adjusted  $b=0.65$ , 95% CI 0.58, 0.72,  $p<0.001$ ), preparedness for internship (adjusted  $b=0.11$ , 95% CI 0.09, 0.13,  $p<0.001$ ), approach-style coping (adjusted  $b=0.17$ , 95% CI 0.11, 0.24,  $p<0.001$ ), and religiosity (adjusted  $b=0.09$ , 95% CI 0.01, 0.17,  $p<0.001$ ). In contrast, avoidant-style coping (adjusted  $b=-0.19$ , 95% CI -0.28, 0.11,  $p<0.001$ ) is negatively associated with EQ. Adjusted  $R^2$  of 67.6% substantiated the goodness of fit of the regression model. This study showed that a few significant modifiable factors influenced EQ among medical graduates; namely resilience, coping style, preparedness for internship, and religiosity. It showed a positive association between emotional intelligence and approach coping style, and a negative relationship with avoidant coping. Approach coping encapsulates constructive responses to stress such as positive reframing, acceptance, seeking helpful information, and reaching for emotional support, while avoidant coping includes self-distraction, denial, venting, substance abuse, behavioural disengagement, and self-blame.<sup>4</sup>

### Conclusion

The significant factors influencing EQ in this study such as coping and resilience can be learnt and taught as a skill. Programs or inputs in medical education can be organized to improve EQ by improving coping

mechanisms, religiosity and resilience among the medical students. Thus, these findings will aid medical schools for efforts to increase EQ among medical graduates, the medical interns of the future.

### Funding statement

Ministry of Higher Education (RACER/1/2019/SKK01/UNISZA//1)

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## Factors predicting unsatisfactory work performance among medical interns

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### Introduction

Medical internship is usually a challenging period, meant to ensure that medical interns are adequately equipped with the skills required to be safe medical practitioners. Recent data has shown an increasing rate of medical interns with unsatisfactory work performance.<sup>1</sup> This affects the quality of care for patients and impacts the emotional state of the medical interns themselves. There is a lack of data determining the factors predicting the performance of medical interns. The objectives of this study were to determine the proportion of unsatisfactory work performance among medical interns and determine its predicting factors.

### Methodology

It was a prospective cohort study conducted among 524 medical interns. Subjects were selected from 17 Malaysian hospitals gazetted for internship using multistage cluster sampling. Selected medical interns who reported from January to April 2020 were invited to answer an online self-administered questionnaire through Google Forms, which consisted of background information, Preparedness for Hospital Practice questionnaire (PHPQ), Connor-Davidson Resilience scale 10 (CD-RISC 10), USM emotional intelligence inventory (USMEQ-i), Duke University Religion Index (DUREL) and Brief-COPE inventory. The respondents were followed up after 1 year of their internship to assess their work performance. Extension or quitting from the internship programme was considered as unsatisfactory work performance. Multiple logistic regression analysis was used to determine the associated factors for unsatisfactory work performance.

### Results and discussion

Completion of follow-up was 94.7%. The proportion of unsatisfactory work performance was 6.7% (CI: 4.0%, 9.0%). The significant factors predicting unsatisfactory work performance were preparedness in interpersonal skills (Adj OR: 0.91; 95% CI : 0.85, 0.98) and avoidant coping style (Adj OR: 2.53; 95% CI: 1.26, 5.08). The reduced proportion of unsatisfactory performance of medical interns may be due to success of the measures taken to improve, such as better supervision of medical interns,<sup>2</sup> restructuring of internship programme,<sup>1</sup> introduction of the mentor-mentee programme and flexi-shift system.<sup>3</sup> The significance of interpersonal skills and coping skills predicting work performance showed the importance of these elements in internship programme.

### Conclusion

This study showed that interpersonal skills were associated with lower odds for unsatisfactory work performance, while the avoidant coping style was associated with higher odds for unsatisfactory work performance among medical interns in Malaysia. Further study may need to be done on the role of interpersonal skills and coping styles on the quality of work performance among medical interns in Malaysia. The results suggested that medical schools increase efforts to improve preparedness in interpersonal skills and positive coping skills among medical students, which will help them to perform better as medical interns of the future.

### Funding statement

Ministry of Higher Education (RACER/1/2019/SKK01/UNISZA//1)

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## Peer-to-peer simulation-based education for non-invasive ventilation; bridging the knowledge gap

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### Introduction

Current national standards recommend that all staff involved in the delivery of acute non-invasive ventilation (NIV) are adequately trained with defined competencies.<sup>1</sup> However, evidence suggests that junior doctors feel inadequately prepared in this task.<sup>2</sup> Simulation-based training has been noted to improve confidence in delivering NIV,<sup>3</sup> but is often limited by time constraints and the availability of trained faculty to deliver sessions.

Peer-to-peer simulation-based teaching offers an alternative training approach to supporting education directed at NIV delivery. It is a pedagogical approach in which colleagues at similar levels of training can support each other's learning process. This is an attractive method of postgraduate training, given the increasing numbers of learners but smaller faculty available to teach. In addition, peer tutors can explain complex topics in an approachable and less intimidating learning environment. Currently, there is a paucity of research on the impact of peer-to-peer simulation-based teaching in improving NIV based competencies.

### Materials and methods

Introduction of a peer-to-peer interactive simulation session was delivered by a respiratory senior clinical fellow at a tertiary London teaching hospital, specifically aimed at ST3+ level doctors, not currently enrolled in respiratory higher specialty training. Scenarios were created by respiratory specialist trainees based on real-life cases, with participants acting in their usual roles as the medical registrar. A debrief followed each scenario, covering both initial set up and troubleshooting of the ventilator, circuit and interface, as well as clinical/communication skills to support patient adherence. Participants were asked to complete pre and post session questionnaires (Numerical analogue 'Likert' scale 1–5).

### Results and discussion

Likert scale assessment of confidence in managing NIV interface problems, ventilator alarms, and optimising NIV settings improved after undertaking the session (Table 1). Confidence in discussing the use of NIV with patients and their families, and also with other healthcare professionals, also improved. All participants felt better equipped to teach other healthcare professionals about NIV care and management. 100% of participants would recommend peer-to-peer teaching on NIV implementation and practical delivery.

### Conclusion

Development of peer-to-peer simulation-based teaching programme improves trainee confidence and competency when initiating, titrating and troubleshooting the implementation and practical delivery of NIV. A simulation-based approach enabled participants to become accustomed with the different modes of acute NIV utilised across the trust, through 'hands-on' exposure to device set-up and adjustment of settings. This was felt especially useful by the participants, as many were unfamiliar with the various devices available. A peer-to-peer approach provides a flexible collaborative approach to learning and is an effective way of utilising resources while decreasing demands on an already stretched service. In addition, the peer-to-peer approach could help to potentiate further peer-to-peer training as a future sustainable approach to addressing learning gaps.



We aim to plan further sessions, to improve learning gaps and competencies across the most senior medical doctors on site, out of hours. Future data collection will assess the impact this training has upon patient outcomes and support extending the course to emergency and intensive care trainees.

**Table 1: Summary of Likert-scale mean values pre vs post peer-to-peer simulation-based training course**

Likert scale domain	Pre (mean)	Post (mean)
I feel comfortable talking to patients and their families about NIV management	3.0	4.7
I find it easy to talk to other team members about NIV management	1.3	2.7
I know how to manage interface problems	3.3	3.7
I am about to construct, carry out and amend an NIV weaning plan	3.7	3.7
I am able to assess the effectiveness of NIV that a patient is receiving	4.3	4.7
I feel able to recognise a deterioration in a patient receiving NIV		5.0
I know how to manage ventilator alarms	3.3	4.7
I know how to adjust the ventilator settings to optimise the NIV that a patient is receiving	4.0	4.3
I feel comfortable teaching others about NIV care and management	2.3	4.3

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## The use of live and continuous training ‘ultrasonounds’ to enhance use of point of care ultrasound on a busy ambulatory assessment unit

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### Introduction

Point of care ultrasound (POCUS) is now a mandated section in the new Acute Internal Medicine (AIM) curriculum,<sup>1</sup> however large gaps in the ability for AIM to deliver this teaching, remain.<sup>2</sup> As a means to optimise confidence, competency (probe selection/position/image optimisation) and encourage active use of POCUS, ‘Ultrarounds’<sup>3</sup> was introduced on a busy ambulatory assessment unit (AAU) in a tertiary hospital.

### Methods

Weekly basics of ultrasound (lung, abdomen, cardiac) were taught by a Focused Acute Medicine Ultrasound (FAMUS) accredited trainer using the ‘Butterfly IQ+’ probe. This was called the ‘Ultrarounds’ where trainees (all clinical grades/disciplines) and trainer go around the department scanning 4–5 patients, with live feedback and interpretation of different pathologies. Weekly feedback was obtained from attendees to ensure training was trainee guided/focused. We sought to assess the confidence of trainees each week and their use of POCUS, looking for long-term trends. Regular governance meetings were set up.

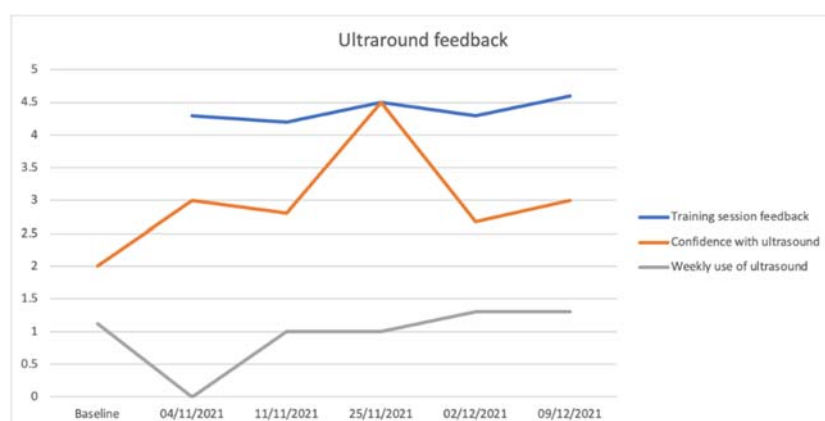
### Results

Doctors (IMTs, fellows, specialty trainees and consultants), physician associates and advanced pharmacy practitioners participated in Ultrasonounds. Confidence with POCUS was fairly static, however data were collected each week with different attendees, so we are as yet unable to assess impact (Fig 1). Qualitative feedback from trainees was universally positive. Trainees felt POCUS initiated treatment earlier, helped with assessment of fluid status and used it to guide diuretic therapy, decisions on urinary catheterisation and paracentesis. The most common limitation to POCUS use was confidence (Fig 2).

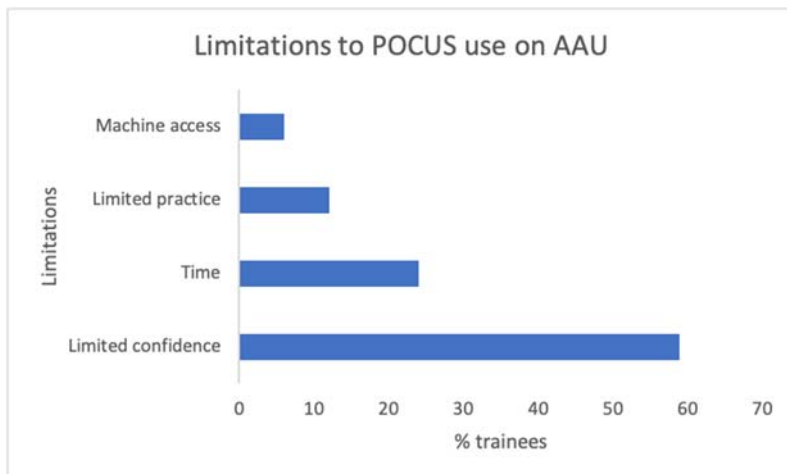
### Discussion and conclusion

Ultrarounds provides an additional method of training, mentorship and quality assurance to embed POCUS into clinical practice. It augments the traditional learning/mentorship model, making POCUS a group learning/discussion activity open to all grades; clinicians now see POCUS on AAU whilst delivering care to help ‘normalise’ POCUS as part of everyday care

**Fig 1. Weekly use of POCUS and trainee confidence with POCUS on AAU.**



**Fig. 2 Limitations to POCUS use on AAU.**



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## The FY101 handbook

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### Introduction

75% of UK medical graduates report a lack of preparedness in transitioning into their job as a junior doctor.<sup>1</sup> This study aims to evaluate the effectiveness of a locally developed handbook and its impact on the increase in confidence levels of new practising F1 doctors in Altnagelvin Hospital, Londonderry, Northern Ireland.

### Methods

The handbook was developed based on feedback from F1s from two different cohorts, and the content of the handbook was then reviewed by senior members of the multidisciplinary team. The handbook was also created in line with the current Foundation Curriculum. Feedback was collected prior to starting F1 and 3 months post-implementation of the handbook. The questionnaire was designed to assess levels of confidence among the F1s, the content of the handbook and how to improve the quality of the handbook.

### Results

A total of 27 participants were included in this study. Cohort 1 consist of ten F1 doctors who started in August 2020, who acted as the 'control' group. Cohort 2 consist of 17 F1 doctors who started in August 2021, after the handbook had been implemented. There was an increase in confidence from 24% (n=4) to 100% (n=17) in Cohort 2, 3 months after starting F1, compared with the control group, where there was an increase from 10% (n=1) to 90% (n=9). The confidence in requesting consults increased from 24% (n=4) to 100% (n=17) in Cohort 2, while the confidence increased from 40% (n=4) to 80% (n=8) in Cohort 1. The confidence in answering bleeps out of hours increased from 18% (n=3) to 100% (n=17) in Cohort 2, compared with an increase in confidence from 30% (n=3) to 80% (n=8) in Cohort 1. The confidence in prescribing common medications increased from 24% (n=4) to 95% (n=16) in Cohort 1 compared with from 50% (n=5) to 100% (n=10) seen in Cohort 2.

### Conclusion

This study has clearly shown the impact on the increase in confidence in new F1 doctors at the start of their careers and their transition from medical school. This handbook also covers most of the Higher Level Outcomes, which are clearly outlined in the Foundation Curriculum. This handbook is equipped with relevant clinical information revised by senior clinicians aimed to support trainees. It takes the theoretical knowledge learned in medical school refines it to guide trainees around the practical aspect of caring for patients in a clinical setting.

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## A regional project – ethically challenged: the development of a junior doctors' medical ethics forum

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### Introduction

Junior doctors are tasked with unique ethical and complex decision-making during their clinical work. However, there is little support to help them learn from their experiences.<sup>1</sup> The Junior Doctors' Medical Ethics Forum is a quality improvement project initially created at the Great Western Hospital, Swindon (GWH Swindon) and now running in the University Hospital Birmingham NHS (UHB) Trust. It is a structured monthly teaching programme for Foundation doctors, with the primary aim of improving confidence in complex decision-making regarding clinical ethical dilemmas, while also providing education in medical ethics and law. This forum aims to be an ethics resource and support for junior doctors to discuss cases they have been involved in.

A baseline survey was conducted among junior doctors in both hospitals to ascertain whether an ethics forum would be of value. 35% of respondents (GWH Swindon) did not feel supported tackling ethical dilemmas, and over 70% of respondents in Swindon and 100% of respondents in UHB stated they would benefit from a regular ethics-based teaching session.

### Materials and methods

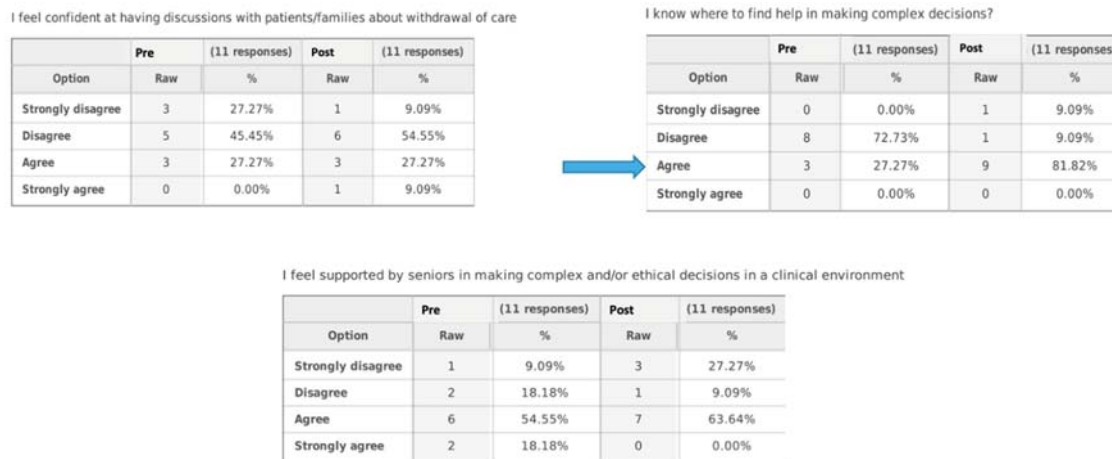
Teaching sessions are based around a theme, such as DNACPR. Junior doctors are encouraged to submit cases that they have been involved in. Two cases are selected for discussion each session. A short teaching session is delivered on the relevant ethical and legal principles, before allowing time for debate and discussion among junior doctors. Senior consultants facilitate these discussions. Web-based apps are used to promote discussion by generating word clouds and voting.

Pre- and post-teaching surveys were completed by participants to assess if confidence and signposting services across different domains had increased.

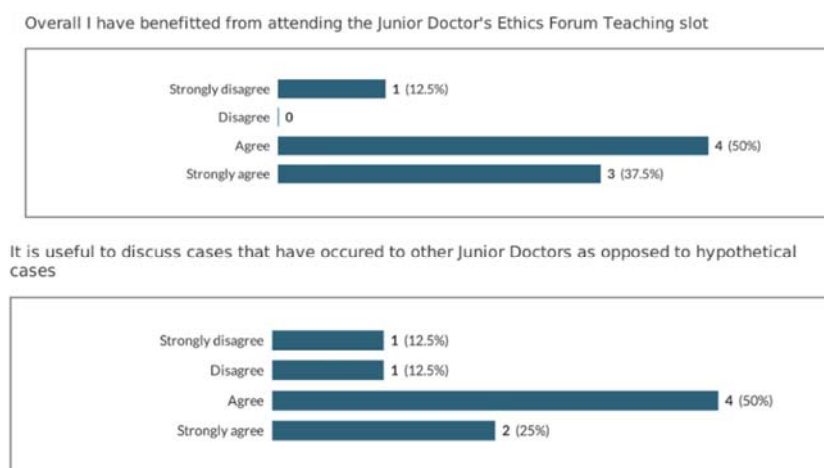
### Results and discussion

#### In GWH Swindon

Confidence in making complex and/or ethical decisions increased from 9% to 27%; having discussions with patients/families about resuscitation status increased from 36% to 45%; confidence in knowing where to look for help increased from 27% to 81%.

**Fig 1. Results in UHB.**


75% of doctors reported that sessions were beneficial to their training and gained valuable learning from peer experiences.

**Fig 2. Feedback.**


While the small increases in confidence may seem unpromising, it is likely to reflect the fact that having conversations about ethically challenging issues is, by its very nature, a difficult thing to do as a junior doctor. The most encouraging result is the increased confidence in knowing where to find help in making complex decisions. This reflects that this forum has provided good support to juniors and acted as a useful signposting system. It was clear from the responses that participants wanted more discursive and debriefing events; this is very different to any other foundation teaching that is offered, which is usually in a lecture format.

## Conclusion

It is evident that junior doctors do feel the need for support in complex decision-making and require debriefing and discussion of events. As such, the JDEF has been a valuable resource for their holistic training. Collaborative teaching with senior level support was appreciated by the cohort and we will continue to deliver these sessions to reflect the needs of the junior doctor workforce.

## Reference

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## The use of simple web-based animation videos to improve engagement and understanding of quality improvement basics for trainee doctors

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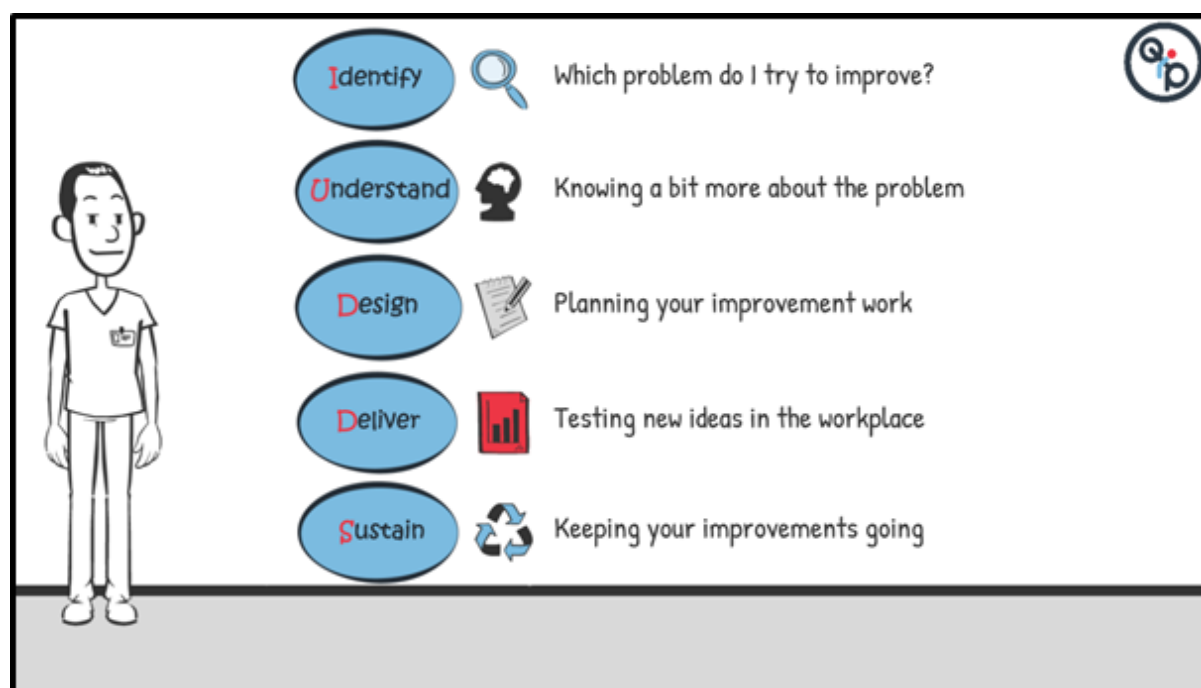
### Introduction

The COVID-19 pandemic has necessitated a disruptive change to the delivery of education to new adaptive learning environments<sup>1</sup> with 53% of all new educational development initiatives being transferred to an online delivery system.<sup>2</sup> There are few examples of online animated videos that teach quality improvement (QI) basics for trainee doctors. With time-constrained trainee doctors, and an absence of embedded QI training, the creation of easy to access, online animated video materials could be an attractive method of engaging, improving awareness and understanding key concepts of QI. This may complement other forms of training, such as QI workshops or participating in mentor-supported QI projects.

### Materials and methods

A series of animated videos were created and posted online to explore whether this approach might fulfil a gap in the improvement educational field. Twelve animated QI videos were created using online animation software. To guide the learner, videos were organised into five simple improvement phases: i) Identify; ii) Understand; iii) Design; iv) Deliver; v) Sustain (See Fig 1). Topics covered ranged from engaging stakeholders, model for improvement, process mapping to how to sustain improvements. These animated videos were posted on [www.qipstart.com](http://www.qipstart.com) website, on YouTube and shared through Twitter.

**Fig 1. A sample screen of an animation video showing QI stepwise approach.**



We sought formal feedback from trainee doctors and improvement specialists by asking them to visit the website and view a selection of the videos and answer a short feedback questionnaire. Feedback questions explored website and video design, and whether they felt these video animations would be a useful resource for trainees new to QI.



## Results and discussion

The series of animated videos received hundreds of views on YouTube when promoting the material through social media. The feedback received was split into positive comments and areas of further development.

### Positive comments:

- 'Videos were informative and clear, great for visual learners'
- 'Clinical examples made the QI videos more relatable'
- 'The videos were pitched at the right level for someone new to QI'
- 'Much easier to follow a video rather than a large body of text!'
- 'Good point of reference as a step-by-step guide and useful resource to refer back to'

### Areas for further development:

- 'Clinical QI examples were hospital-centric'
- 'Could cover a broader range of QI topics'
- 'Consider using a single worked QIP example from start to finish'
- 'Try to keep animated videos below 5 minutes where possible'
- 'Opportunity for website to draw on other good QI materials'

## Conclusion

The feedback from a broad range of healthcare professionals was very positive overall. Potential QI learners were attracted by its simplicity, step-wise approach and the visual style of the animated videos. The use of clinical examples throughout the animations helped with learning, although these examples may not be relatable to all learners. Further videos are currently in development to complete the series with the hope of these animations being a central QI resource for trainee doctors in the future.

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## **‘In my specialty, staff always treat each other with respect’ – truth or fiction?**

**Matthew Roycroft<sup>A</sup>**

<sup>A</sup>Rotherham NHS Foundation Trust, Rotherham, UK

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### **Introduction**

Bullying and harassment have wide-ranging effects and harm both doctors and patients.<sup>1</sup> In 2019, 14% of physician higher specialty trainees reported being bullied or harassed; in 2020, 31% reported feeling undermined at work within the last year.<sup>2</sup> Within one physician specialty, cardiology, repeated surveys showed 11% of trainees reporting bullying within the preceding 4 weeks.<sup>3</sup> Significant exploration within other physician specialties is limited and major census data isn't routinely broken down by specialty. In the author's experience and discussions on the topic, there is a belief from many that bullying isn't a problem in their specialty.

For this study, we attempted to explore the difference in reported rates of bullying between specialties. The closest question from a major survey with explorable data was from the GMC's National Training Survey, which contained the statement, to which respondents were asked to agree or disagree: 'staff, including doctors in training, always treat each other with respect.'<sup>4</sup> In this study, we present the results of this question for physician specialties.

### **Methods**

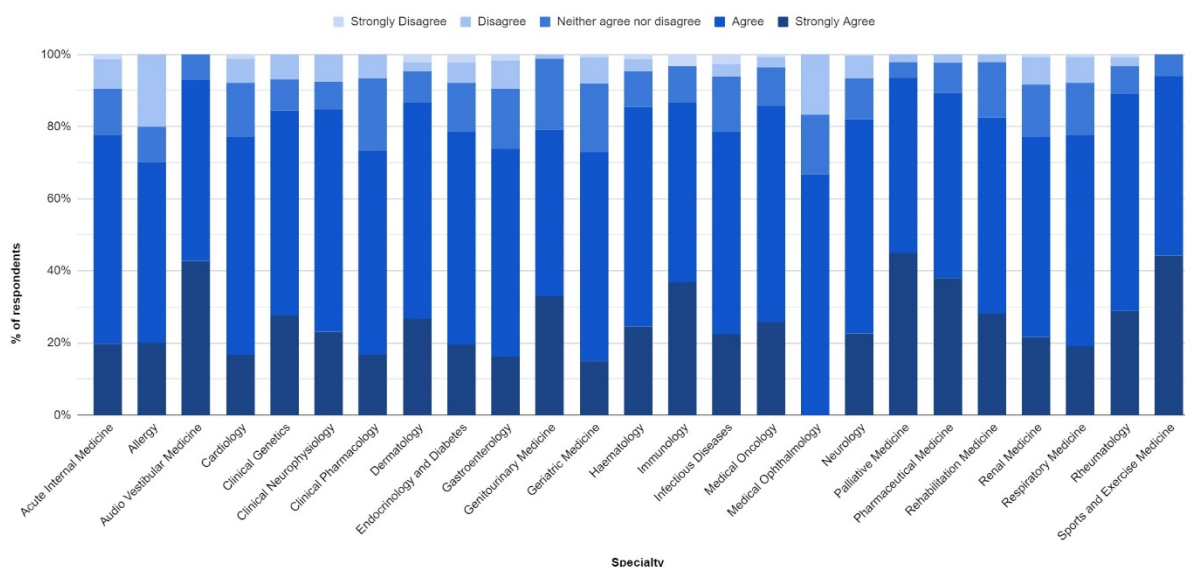
In May 2021, responses to the identified question from the GMC's 2019 National Training Survey were manually extracted by specialty from their online reporting tool.

A 100% stacked column chart was created using Google Sheets. The GMC don't release the exact number of respondents to each question and so descriptive statistics were calculated (also using Google Sheets) on the specialty level data, weighting each specialty equally.

### **Results**

82% (range 67–94%, IQR 77–87%) of trainees agreed or strongly agreed with the statement 'staff, including doctors in training, always treat each other with respect'. 6% (range 0–20%, IQR 3–8%) disagreed or strongly disagreed with the statement. The breakdown by specialty is shown in Fig 1.

**Fig 1. Percentage of trainees by specialty and their strength of agreement with the statement ‘Staff, including doctors in training, always treat each other with respect.’**



## Discussion

This study shows that very few specialties stand out, either positively or negatively, with regards to staff treating each other with respect. The possible perception that bullying isn't a problem for many specialties doesn't appear to be true. Cardiology, who've acknowledged they have a bullying problem, had 8% of respondents disagreeing with the statement, similar to other large specialties that haven't so obviously acknowledged they have a problem. Acute medicine and gastroenterology had 9%, endocrinology and diabetes, geriatric medicine, renal and respiratory medicine also had 8%. A few, often small, specialties do stand out positively, and notably palliative medicine only had 2% disagreeing with the statement.

The main strengths of this study are based upon the dataset: a high response rate with good anonymity for questions like this. The main weakness is probably around the perception of (instead of actual) anonymity.

Further work could either look at deeper analysis or implementation of guidance (such as that from the BMA)<sup>5</sup> on addressing topics such as bullying and harassment.

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## Perceptions and expectations of medical students and junior doctors in training: blended learning approach for medical education initiatives

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### Background and objective

Evaluating learners' end-user experience is key to developing sustainable models. This study aimed to evaluate standalone virtual and blended learning during and after the COVID-19 pandemic among medical students and junior doctors.

### Materials and methods

Medical students and junior doctors in the West Midlands were invited to complete an anonymised 26-item online survey from January to May 2021 about their experiences with virtual medical education. A 5-point Likert scale was used to establish the degree of agreement and disagreement of participant opinion and perception. We further explored the experiences of 85 junior doctors about blended medical education at regional learning days between August and September 2021.

### Results and discussion

A total of 290 (170 medical professionals (age: median (IQR), 35 (32–39); male: female ratio-1.23:1) and 120 medical students (age: median (IQR), 21 (19–22); male: female ratio, 3.72:1) responses were received. While 45.0% students and 74.7% junior doctors agreed virtual learning aided with clinical and community practice, 72.5% students and 38.3% reported current virtual learning models did not provide the same quality as face-to-face teaching. 54 (45.0%) students and 127 (74.7%) junior doctors agreed that virtual learning aided with clinical and community practice. However, 87 (72.5%) students and 65 (38.3%) disagreed that virtual learning provided the same quality of teaching as in-person teaching. Poor connectivity (98 (81.6%) students and (82 (48.3%) junior doctors) was the most common technical issue reported in the survey. The preferred ratio of face-to-face teaching in relation to virtual teaching among medical professionals and medical students was 0.54:0.46 and 0.67:0.33, respectively. The majority preferred blended approach (95 (55.9%) of junior doctors and 82 (68.3%) of medical students) for future medical education activities.

The blended model approach helped improve performance compared with standalone face-to-face sessions (blended vs face to face; 55.8% vs 33.3%;  $p<0.05$ ) and allowed achievement of learning-objectives effectively (80.8% vs 51.5%;  $p<0.05$ ). While virtual attendance helped remove inhibitions to engage in discussions (40.4% vs 27.3%,  $p<0.05$ ), the traditional model of in-person attendance provided a sense of community (86.5% vs 93.9%,  $p=0.236$ ) and an opportunity for peer-to-peer support (88.4% vs 100.0%,  $p=0.402$ ). There were no significant technical difficulties reported by virtual attendees compared to face-to-face attendees (23.1% vs 12.1%;  $p=0.211$ ).

### Conclusions

Our findings indicate that while virtual learning is beneficial for theoretical learning, participants did not favour virtual learning platforms for learning practical skills. A combination of face-to-face and virtual sessions was preferred by both medical students and junior doctors for future medical education.

## Virtual on-call – does a simulated on-call session increase the preparedness of final year medical students?

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### Introduction

The start of August marks the changeover of doctors, and the time when final year medical students become foundation doctors. Many may feel inexperienced or underprepared for this transition, particularly regarding on-call shifts. Reports have, historically, shown a rise in inpatient mortality during this first week, and this has received much media scrutiny.<sup>1,2</sup> A wide range of schemes and programmes have been introduced to minimise the effect of change-over on patient safety, such as mandatory shadowing periods and e-inductions. More recently, the use of simulated on-call sessions, similar to the one carried out here, have been shown to improve students' preparedness for the step to foundation doctor.<sup>3,4</sup>

### Materials and methods

The session was run with six final year medical students. It ran for approximately 1 hour and started with a briefing. The medical students would then be given their communication devices (Vocera) and their first task as handovers. Students would then be tasked with going to the ward and carrying out the written tasks, including formulating a management plan, interpreting data, prescribing and escalating concerns as necessary to the facilitators. Throughout the session, the facilitators would contact them with further jobs including 'distractors'. The session ended with a mock handover and debrief. The students were asked to complete pre- and post-session questionnaires to identify the session's usefulness.

### Results and discussion

The students were required to rate their confidence in the following domains: clinical decision-making, working under pressure, prescribing, data interpretation, escalating care, confidence, preparedness and SBAR handover. Pre and post results were as follows.

**Table 1. Comparison of pre- and post-session questionnaire scores after the virtual on call.**

Domain	Pre-session (average scores rated from 1–5)	Post-session (average scores rated from 1–5)	Percentage change
Clinical decision-making	2.67	3.33	19.82%
Working under pressure	2.50	3.17	21.14%
Prioritisation	2.67	3.33	19.82%
Escalating	2.83	3.83	26.11%

<b>Prescribing</b>	2.33	3.00	22.33%
<b>Data interpretation</b>	2.83	3.50	19.14%
<b>Confidence</b>	1.33	3.17	58.04%
<b>Preparedness</b>	1.83	3.17	42.27%
<b>SBAR</b>	2.50	3.33	24.92%

The results show a positive increase in overall scores in all domains. The most notable improvement was in students' self-rated scores of confidence and preparedness after the study. This was the main aim of the session and the results show that not only was it useful, but they felt more confident and prepared after the session. Despite the small sample size, the potential for the session's usefulness if provided at a larger scale must be considered.

## Conclusion

This different approach to using simulated teaching has the potential to make a great difference in students' preparedness for their first on-call, especially in the first week of starting, when mortality has the potential to be high. Moving forward, we plan to expand the programme from not only this hospital but to all the main teaching hospitals in the Aneurin Bevan Health Board by training medical educators to run expanded sessions. With continuous evaluation and auditing of the session we can evaluate on a larger scale how it is helping produce confident and safe doctors.

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## An evaluation of paired feedback from a year-long junior doctor-led teaching programme

Kritchai Vutipongsatorn,<sup>A</sup> Eva Nagy,<sup>B</sup> Anup Jethwa,<sup>B</sup> Amar Sharif<sup>B</sup> and Luke Tyson<sup>B</sup>

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### Introduction

Doctors play a pivotal role in medical education.<sup>1-2</sup> However, barriers to teaching such exist, including competing time commitments and self-perceived lack of teaching ability or knowledge.<sup>3-4</sup> We surveyed foundation year 1 (FY1) doctors who were providing regular medical student teaching to assess the impact of teaching on the doctors' confidence and abilities. We collected feedback from the students they taught to correlate student perception of doctors' abilities with doctors' self-assessment.

### Materials and methods

FY1 doctors who provided lectures and/or regular bedside teaching to third year medical students were surveyed before and after a teaching programme that ran between August 2020 and August 2021. Student feedback was collected, matched to the teacher. Doctors' pre- and post-teaching responses were compared using Wilcoxon signed-rank test. Spearman's rank correlation was used to test for significant correlations.

### Results

24 doctors taught 124 students. Pre- to post-teaching programme scores improved significantly by between 12% and 21% for all domains (preparing teaching, presenting, providing feedback and knowledge - see Table 1.) The number of hours that doctors spent teaching significantly correlated with the improvement in their comfort level at preparing for lessons ( $\rho$  0.558,  $p=0.011$ ), students' perception of the relevance of their content ( $\rho$  0.239,  $p=0.020$ ) and students' perception of participation ( $\rho$  0.352,  $p=0.002$ ). Students' perception of clarity negatively correlated with doctors' pre-teaching programme self-assessed scores for comfort level at presenting ( $\rho$  -0.310,  $p<0.001$ ) and overall self-rating ( $\rho$  -0.214,  $p=0.017$ ). There was no such correlation with the corresponding post-teaching scores. Students' perception of participation positively correlated with doctors' confidence post-teaching ( $\rho$  0.228,  $p=0.046$ ).

**Table 1. Summary of participating doctors' pre- and post-teaching programme questionnaire scores.**

	Mean score pre-teaching programme (sd)	Mean score post-teaching programme (sd)	% Change	P-value
How confident you are at teaching?	3.69 (0.70)	4.33 (0.67)	17	0.005
How comfortable are you at preparing lessons?	3.84 (0.70)	4.39 (0.60)	14	0.009
How comfortable are you at speaking or presenting to a group of students?	3.72 (0.81)	4.48 (0.60)	21	0.007
How comfortable are you at providing feedback for students?	3.59 (0.73)	4.24 (0.64)	18	0.014
Do you have a good knowledge in the subject that you will be teaching?	3.66 (0.64)	4.12 (0.48)	12	0.023
Overall, how would you rate your skills as a teacher?	3.54 (0.51)	4.09 (0.30)	16	0.003

## Discussion

After participating in the teaching programme, FY1 doctors report a significant improvement in their self-perceived abilities. The number of hours of teaching positively correlated with student's feedback, indicating that experience plays a role at improving teaching outcomes. Negative correlation between the students' feedback and doctors' pre-teaching scores may suggest an initial mismatch between some doctors' self-perception and their actual ability to teach – less confident doctors were perceived by students as providing clearer teaching. However, this relationship was not present for the post-teaching scores, perhaps indicating increased self-awareness due to their increased experience of teaching.

## Conclusion

All FY1 doctors can improve their confidence and teaching outcomes with practice. We would encourage doctors to actively participate in teaching regardless of their self-perceived lack of ability – less confident doctors may actually provide clearer teaching.

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## Practical skills workshops for physician associates: the final piece of the workforce puzzle?

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### Introduction

Though physician associates (PAs) have been working in the NHS for over 10 years, for some they are still relatively new and their position possibly not yet fully defined in the current workforce. However, they are becoming an integral part of the modern NHS and vital in a changing landscape with ever-increasing pressures and challenges. And thus, with the likelihood that pre-defined processes, roles and responsibilities may evolve. And while acquiring competencies in common bedside practical skills, such as cannulation and arterial blood gas (ABG) sampling are essential, the ability to ably assist or perform lumbar punctures, ascitic and pleural aspirations may be of increasing importance. At Darent Valley Hospital we have designed and will be delivering a series of workshops to train PAs and plan to assess – both qualitatively and quantitatively – exposure, experience and confidence of PAs prior and post these workshops.

### Methods

A series of workshops have been organised for around 50 qualified PAs and PA students to teach five common practical skills in secondary care: cannulation, ABG sampling, lumbar puncture, ascitic and pleural aspiration. Teaching will be delivered in an integrative mixed method design to small groups catering to different learning styles in which candidates will practice and demonstrate the procedures on mannequins/models. They will then be assessed with direct observed procedure feedback and debriefed. Attendees will be asked to complete a pre and post-course questionnaire on previous exposure, experience and confidence in these skills.

### Results and conclusion

Darent Valley Hospital will be holding 3–4 workshops from February to April 2022 involving a mixture of PA and PA students. This is possibly the first bespoke workshop for PAs in the UK and we would like to present our experience and evidence of PA training needs, competencies, perception and expectations.

## Qualitative study of virtual teaching experience during the COVID-19 pandemic

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### Introduction

The COVID-19 pandemic brought unprecedented changes in teaching delivery. Virtual teaching played a pivotal role in providing medical knowledge to every keen learner.

### Objective

To obtain qualitative data on virtual teaching experiences of junior doctors and understand the current problems and possible resolutions.

### Method

A standardised questionnaire with questions regarding teaching experience was created via Google forms. The questionnaire was distributed to all the medical trainees in Wales.

### Results

The questionnaire was completed by 29 doctors from 13 hospitals in Wales. Of the respondents, 33% were IMT1, 10% IMT2, 23% non-training CT3 and the rest ST3 and above. For 73.3% of respondents the teaching experience met the stated objectives fully, 13.3% said partially and for 13.3% the teaching experience did not meet the stated objectives. The comments mentioning success points and improvement scope were received. 66.7% watched teaching sessions live, 26.7% watched asynchronously and 6.6% didn't watch. Communication was okay for 36.7% and 46.7% responded barely possible. 66.7% had an attention span similar to or better than face-to-face sessions, whereas 33.3% had less than face to face. 60% found virtual teaching more convenient to attend than face to face. While watching online, 63.3% had no issues, 20% audio trouble and 16.7% struggled with the internet. 43.3% and 26.7% managed to get enough and a good number of teaching sessions respectively and for 26.7%, not enough. In future, 70% would like to have a mixture of virtual and face to face teaching sessions, 16.7% virtual and 13.3% face to face. Overall, virtual teaching experience has been very good for 43.3%, good 40%, average 10% and not good 6.7%.

### Conclusion

The relatively high percentage of people who said the teaching they had received met their objectives fully was quite striking. In contrast, the 'word on the street' consensus is that teaching quality has been poor. Another thing to mention would be that people appear to like a mixture of virtual and face to face which removes some of the impetus to continue to strive to provide face-to-face teaching in an environment where COVID-19 still restrains us.

## Ageing and frailty in the UK

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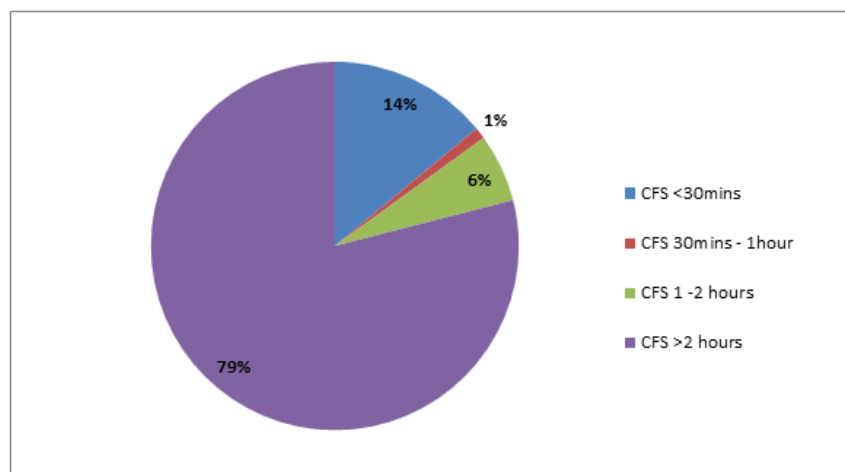
In an ever-ageing UK population, frailty is a growing concern. This multidimensional geriatric syndrome is associated with deconditioning and, as such, worsening patient outcomes, and is an increasing burden on the healthcare system.

It is predicted that the prevalence of multi-morbid frail individuals will increase exponentially with a 17% increase in this patient cohort by 2035, of which 67% will suffer from cognitive impairment / dementia.<sup>1</sup> With life expectancy expected to increase to 85.7 years for men and 87.7 years for women by 2030, the importance of recognising frailty cannot be understated.<sup>2</sup>

One such widely used validated tool is the Clinical Frailty Scale (CFS). This scale, which when published in 2005, originally scored from 1 (very fit) to 7 (severely frail) was modified in 2007 to reflect a terminally ill stage and now comprises of nine points.<sup>3</sup> The advantage of CFS scoring is the ability to predict patient outcomes in an acute setting and utilise geriatric specialty input.

In an audit undertaken at a local hospital in Surrey in November 2021 (Fig 1) of patients who were referred to the acute frailty team in A&E, it was noted that 79% of patients had a CFS score taken after 2 hours. Various studies have shown that the increasing level of frailty and the delay in identifying this, leads to longer length of stays with a mean 12.6 days of those who are severely frail (CFS >7) compared with a mean of 4.1 days of the non-frail cohort (CFS <4).<sup>4</sup> With higher readmission rates of 31.2% of the severely frail compared to 19% in the non-frail cohort, early identification and importance of comprehensive geriatric assessments (CGA) can prevent complications with more effective and prompt discharge planning.<sup>4</sup>

**Fig 1. Time taken for CFS scoring to be done in A&E – total 96 patients (November 2021).**



CGAs are multidisciplinary diagnostic processes to evaluate various factors including medical, functional, social and psychological.<sup>5</sup> While a full CGA in an acute setting may not be possible due to time pressures, the initiation and continuation in community settings allows for better prognoses for these patients and in turn can lead to fewer hospital attendances and readmissions.

In conclusion, the ever-growing burden of an ageing population with multi-morbidities and frailty will lead to an increasing cost and burden on the National Health Service (NHS) and as such the importance of

recognising frailty in an acute setting and the consequences of delays will ultimately cost time and money. Therefore, the emphasis now must be on education for all healthcare professionals in primary care, secondary care and community teams on the early identification and management of frailty, CFS and CGAs. With the aim that with education, we will meet the needs of this ever-growing frail population.

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## Royal College of Physicians-Iraq network members and fellows project

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### Background

Health service provision as well as medical education can face challenges in countries at times of instability, whether political or economic, which necessitates extraordinary actions to bridge the gap.

### Aim

To create and build networks of the Royal College of Physicians (RCP) members and fellows in Iraq and link them with interested members and fellows in the UK to improve the quality of medical education and health service provision. Also, inclusion of medical students and newly graduated doctors to create new leaders.

### Establishing the network

After getting approval from the vice president of RCP Global, an announcement was made through personal social media supported by a letter from RCP Global to members and fellows in Iraq. Forty fellows and 70 newly graduated doctors and medical students volunteered to work on this project. Four subgroups were created: medical education, scientific activities, medical training initiative and research.

**Fig 1. Participants involved in the RCP-Iraq network members and fellows project.**

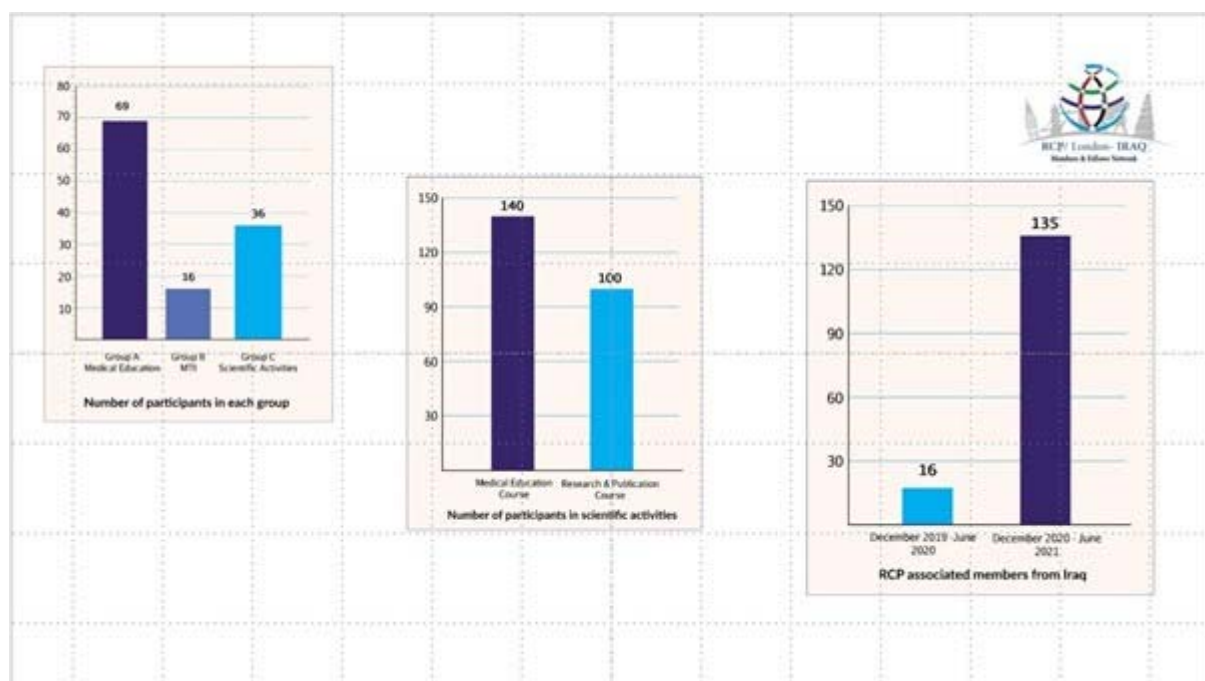


Fig 2. 2022 programme.



### What has been achieved so far?

- Two training courses were delivered (medical education – six modules, and capacity building in medical research – five modules) and attended by 140 and 100 respectively, very positive feedback was received from participants.
- There was a tenfold increase in the numbers of doctors and medical students who registered on the RCP website, and Iraq now ranks sixth globally in the numbers of RCP fellows.
- There were 2,500 hits to the network Facebook page.
- An educational website has been created and an ambitious programme is planned for 2022, including around 30 educational activities.

### Conclusion

Creating local networks, which brings fellows working together, may be a useful tool to improve medical education and health service provision in different areas of the world and will be in line with the main RCP mission to drive improvements in health and healthcare through advocacy, education and research.

## The impact of peer-led support on the experiences and challenges of international medical graduates in the internal medicine training programme.

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### Introduction

International medical graduates (IMGs) are non-UK trained doctors, and they make up to 26% of the UK medical workforce.<sup>1</sup> As IMGs enter postgraduate medical programmes, some with little to no NHS clinical experience, there are foreseeable challenges that might affect their professional and personal lives.<sup>2</sup> These include communication, adapting to local systems and work culture, dealing with discrimination and bullying, and educational barriers, among other professional and personal setbacks.<sup>3-5</sup>

### Aim

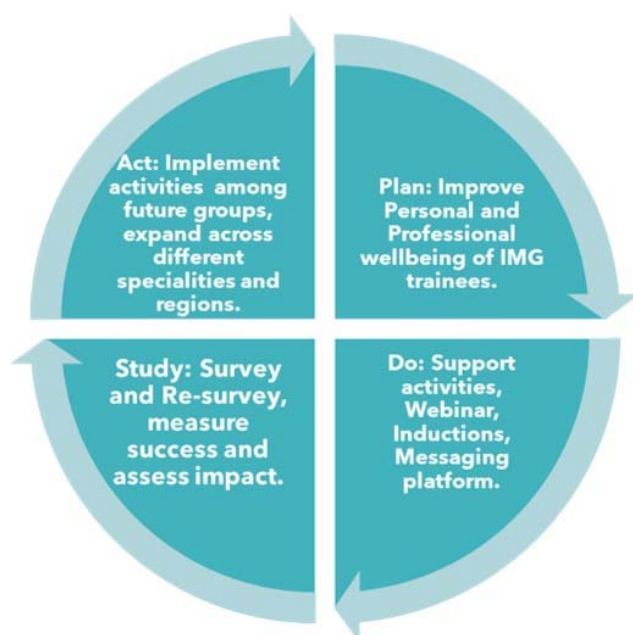
The aim of this project was to assess the impact of a peer-led induction and ongoing support on the professional and personal lives of IMGs in the IMT programme.

### Methods

This study was a quality improvement project. IMGs in the IMT programme, for both 2020 (pilot group) and 2021 cohorts, in Yorkshire and Humber region were surveyed.

A questionnaire assessing professional and personal experiences was administered to the 2020 cohort as a pilot group to assess the burden of challenges. The 2021 cohort (intervention group – who benefited from support activities) was then surveyed before commencing their training, as well as shortly after their first 4-month rotation. The project ran from December 2020 to December 2021. Peer-led support included: induction session, ongoing support through an instant messaging platform, a webinar on the training portfolio and follow up induction Q&A session.

**Fig 1. Quality improvement cycle for peer-led support for IMGs in the IMT programme.**



## Results

Trainees expressed anxiety about starting the programme (26.7% in 2020; 58.3% in 2021 group). This improved as a third of trainees felt more settled into the programme after 4 months. Respondents in both groups expressed some concerns about their communication skills (13% in 2020; 8% in 2021), however, none in the 2021 cohort expressed such concerns after the intervention period. With regard to the training online portfolio, 20% of respondents in the 2020 cohort were not confident they would be able to utilise it properly by the end of their first placement, whereas half of the respondents in the 2021 cohort felt the same. After the interventions, none of the trainees expressed difficulty using the portfolio, with half of them feeling very confident about their ability to navigate the portfolio. Respondents in both groups also expressed concerns about having difficulty reaching or approaching their educational supervisor with training concerns (27% in the 2020 cohort; 24% in the 2021 cohort), after the interventions, two-thirds did not express concerns with this, but a third still had challenges. Regarding personal challenges, 6% of 2020 respondents and 25% of 2021 respondents admitted to struggling with adapting to life in the UK. This improved among the 2021 cohort as none expressed such challenges.

## Conclusion

IMGs have peculiar challenges during their training period. The project has thus far identified the extent and magnitude of challenges faced by IMGs in the IMT programme. Interventions need to be sustainable and expanded to other specialty programmes. The input of the deanery and local trusts is invaluable in ensuring that IMGs receive much needed support to improve their welfare and enhance training outcomes.

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## Ward-round-based online clinical cardiology course: a resource for junior physicians in cardiology rotation.

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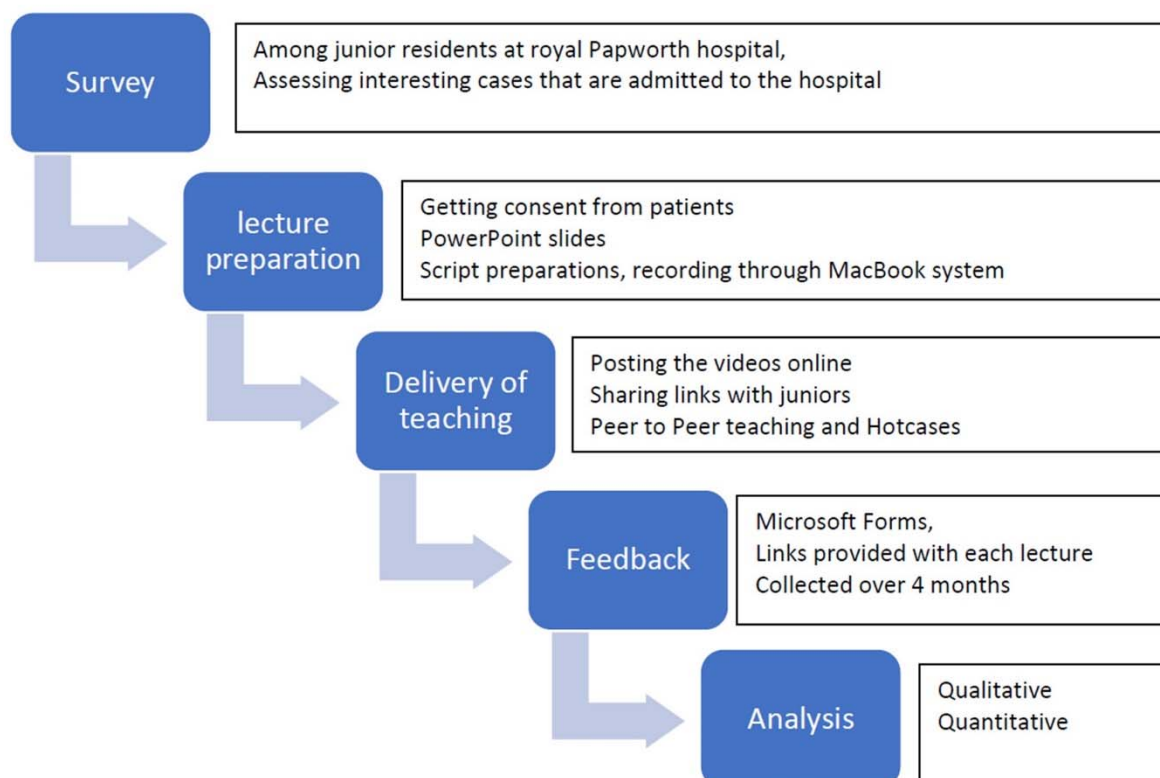
### Introduction

Cardiology rotation is common during foundation and internal medicine training, and it is a common place to work for doctors at some stage of their medical careers. Online teaching is being increasingly promoted to facilitate access and enhance quality of education. Occasionally during ward rounds interesting cases are encountered, allowing only available doctors to learn from them – depending on who leads the ward round at that time. Accordingly, the idea of taking interesting conditions faced during ward rounds, highlighting these in online teaching and creating a teaching material around them, was adopted.

### Methods

A survey among junior doctors was conducted in the cardiology department at Royal Papworth Hospital, Cambridge, UK (RPH) about patients with interesting presentations and challenging subjects. Once identified, PowerPoint presentations were prepared with the help of scientific advice from involved consultants. Then, videos were recorded for the teaching sessions using Mac OS screen recording. Afterwards, delivery of online teaching was achieved through a regional education video platform. Following that, feedback was obtained online utilising Microsoft Forms. And finally, results were analysed through Jamovi 1.8.2 and Word Cloud<sup>1-3</sup> (Fig 1).

**Fig 1. Summary of the methodology of the project.**



## Results and discussion

Between February and June 2021, subjects related to imaging, interventional cardiology and electrophysiology were identified and 12 lectures were sequentially produced that had 323 views. Thirty feedback forms were filled and analysed. There was a significant gain in knowledge (pre-lecture 42.7% vs post-lecture 91.3%;  $\Delta$ -value of 48.7%, p-value <0.001), with a high percentage recommending the teaching to other colleagues (92.9%), and a high level of enjoyment (95.5%) (Fig 2).

Literature showed that ward round simulation was endeavoured previously, indicating the importance and value of learning that occurs in the context of a ward round.<sup>4</sup> New trends in medicine indicate a proclivity towards telemedicine and virtual engagement with patients. This requires both educators and learners to develop their tools accordingly to bring the highest learning value from these new modalities.<sup>5</sup> The results of this project show a high level of engagement and acceptance among learners. Also, the convenience to learn with a busy schedule of a medical practitioner, the ability to grow multiple aspects of knowledge simultaneously, as well as the teaching of the institution's culture are all considered to be positive aspects of this programme.

**Fig 2. Qualitative feedback, WordArt representation of feedback received for the teaching course.**



## Conclusions

It is clear that online teaching has a lot of potential in medical education and, while it is predominantly limited to classical forms of classroom teaching, expanding the platform by replicating aspects of the clinical experience online can increase engagement and utilisation among trainees and can create more opportunities to benefit from new forms of communication.

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## The evaluation of a period of extended shadowing for foundation year one doctors at induction and mentorship schemes at Sandwell and West Birmingham Hospitals Trust

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### Background

The 2020/21 cohort of foundation year one (FY1) doctors were offered interim foundation year one (FiY1) placements due to the COVID-19 pandemic. These FiY1 doctors started in June 2020 (2 months ahead of their initial scheduled start date) and a buddy scheme pairing FiY1s and current FY1 doctors was established. FY1 doctors were paired up with FiY1s in the same specialty in which they were due to start in August or a closely allied specialty. Feedback from the scheme was overwhelmingly positive<sup>1</sup> so we wanted to apply those modifications to the 2021/22 cohort.

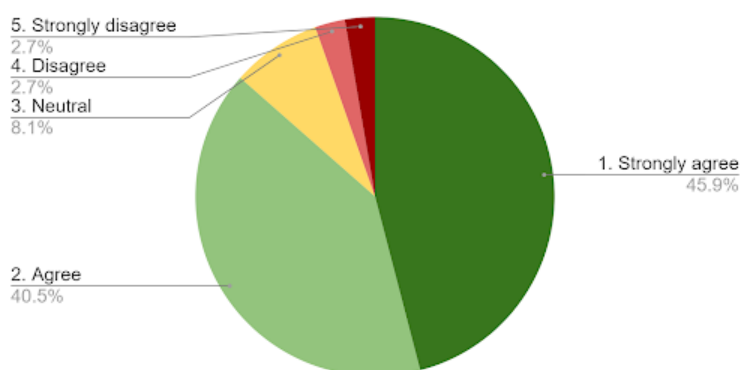
### Methods

This intake of prospective FY1 doctors starting in August 2021 were invited to start a week earlier than usual for a period of extended shadowing. As we did the previous year, we assigned individual FY1 buddies for the regular and extended shadowing periods. In addition to that, we assigned SHO mentors who would be on the same site or specialty as the new FY1s from August and a near peer group for the year, which was made up of the three FY1s and three FY2s on the same rotational tract as each other. Surveys were used to evaluate the benefit of shadowing and mentorship.

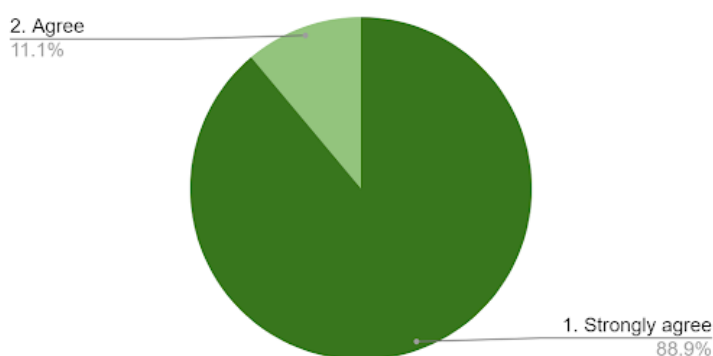
### Results

Thirty-one of the 66 new FY1s replied to the initial survey, 85% of those felt that the shadowing period prepared them well for starting as FY1 doctors. 100% of those opting for the extended shadowing period were happy with their choice compared with 85% of those opting for compulsory shadowing only. At the beginning of the first placement in August, 75% of new FY1 doctors felt comfortable to contact one of their mentors as needed.

**Fig 1. Pie chart representing the answers to the question: 'I felt that the shadowing period prepared me well for my FY1 job', answer option: strongly agree, agree, neutral, disagree, strongly disagree.**



**Fig 2.** Pie chart representing the answers to the question: 'I am glad that I opted to do the extended period of shadowing', answer options: strongly agree, agree, neutral, disagree, strongly disagree.



### Key message

A shadowing placement for new FY1 doctors in the same trust and specialty in which they are due to start is effective in preparing and giving new FY1 doctors confidence ahead of starting their jobs in August. Optimising mentorship schemes is challenging. By assigning and offering a variety of mentors to the new FY1 doctors we encouraged them to utilise their mentors according to personal preference.

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## Healthcare professionals lack confidence and training in approaching advanced care planning discussions during renal inpatient admissions

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### Introduction

Renal inpatients often comprise a co-morbid and frail cohort that are vulnerable to clinical deterioration while in hospital.<sup>1</sup> Risk factors include higher rates of major adverse cardiovascular events and opportunistic infections, particularly in immunosuppressed patients with glomerulonephritis or in those with a kidney transplant.<sup>2–4</sup> Given that renal healthcare professionals frequently care for such a cohort as inpatients, it would seem plausible that they are confident and competent with advanced care planning (ACP) discussions particularly focusing on resuscitation and treatment escalation plans (TEP). We sought to assess attitudes and practices, relating to ACP for inpatients, among healthcare professionals working in the renal department of the Royal Free Hospital in order to identify barriers to timely discussions on TEP.

### Materials and methods

A self-devised, anonymous survey of 22 questions on ACP was piloted and distributed to all healthcare professionals working within inpatient renal services.

### Results and discussion

Preliminary results are available from eight consultants, seven junior doctors and 10 allied healthcare professionals, 84% of whom had been involved in ACP decisions in the past year (February 2021–22). Only 28% reported to have previously received relevant training. When asked who was best placed to contribute to ACP decisions, the majority (88%) selected the admitting or ward doctors. Although, a significant number also chose the nurse in charge of the ward (56%), intensive care team (32%) and palliative care teams (48%). Almost two-thirds of respondents believed that the ideal time to establish a TEP was on admission (68%) and that an early TEP was essential to good patient care (64%). Three respondents felt that a do not resuscitate order resulted in poorer access to medical care. The COVID-19 pandemic was deemed by 92% to have had at least a moderate effect on TEP. A third of respondents demonstrated concern that TEP and resuscitation plans were not considered appropriately on a frequent basis for renal inpatients. The most common barriers cited to hindering ACP discussions were limited time to explore such issues and anxieties relating to inciting fear or anger in patients and key contacts. Most respondents felt very confident in their ability to explore current medical issues (80%) and co-morbidities (76%) but less than two-thirds expressed similar confidence in assessments of physiological baseline (48%), functional baseline (56%), frailty (52%) and prognosis (24%). The survey also identified problems with documentation of TEP and resuscitation plans on our electronic patient record (EPR) system and access to community records for pre-existing ACP.

### Conclusion

Our results demonstrate underconfidence and anxieties in healthcare professionals when approaching ACP in renal inpatients, with a significant proportion concerned that TEP were not frequently considered appropriately. Training in recognising frailty and its impact on prognosis may likely improve the confidence and quality of TEP completed. An audit of inpatient TEP discussion and documentation is currently in progress. Improvements in documentation and communication, achieved through local retraining, will be critical to improving TEP for renal patients and avoid unnecessary or harmful treatments in the frail and vulnerable.

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## The need for a mindset shift and behavioural change in the shadow of the COVID-19 pandemic

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<sup>A</sup>University College London Hospitals NHS Foundation Trust, London, UK; <sup>B</sup>Haelan Coaching; <sup>C</sup>TPC Health, London, UK

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### Introduction

COVID-19 has had a significant impact on healthcare systems worldwide including services caring for young people (YP) with long-term conditions (LTC). YP experienced not only barriers to their daily functioning but also difficulties navigating healthcare facilities.

The Adolescent and Young Adult Rheumatology Department (AYAD) at University College London Hospitals looks after over 2,000 YP with rheumatological conditions, providing developmentally appropriate interdisciplinary care including a nurse-led helpline to facilitate access to medical/nursing/allied health professional advice, mental and social wellbeing support.

This is an evaluation of the helpline service and the training to improve it.

### Methodology

The helpline service was audited over 4 months capturing thematic issues facing YP. This informed an improvement strategy including the use of health coaching (HC) tools to support YP attending the AYAD.

HC is defined as 'a behavioural intervention that facilitates participants in establishing and attaining health promoting goals in order to change lifestyle-related behaviour, with the intent of reducing health risks, improving self-management of chronic conditions, and increasing health related quality of life'.<sup>1</sup>

An accredited and well evaluated HC course was commissioned and delivered over 2 days, 1 week apart. It included educational material, presentations, group discussion and skills development delivered in a coaching style.<sup>2</sup>

### Results

Over 4 months, 1,651 patients made helpline queries (median 103 queries/week, IQR:93–112). There were 414 medication queries, 377 appointment queries, 345 investigation results queries, 258 general health issues not directly related to the primary rheumatological conditions and 91 COVID-19 queries (Fig 1). The team agreed HC skills could better support self-management and facilitate health promoting goals and behaviour change.

All AYA team members undertook a HC course. Pre- and post-HC course surveys were completed by participants.

A pre-course survey (10/12 responded) revealed that 70% of MDT members felt their consultations focused solely on YP medical/clinical care, 80% reported they advise on lifestyle choices such as sleep and weight management, and 40% felt that their consultation times were long enough to discuss resources that would support long-term management. Only about a third of the team (30%) reported they felt effective in enabling self-management and/or catalysing behaviour change.



A post-course survey (11/12 responses) demonstrated 100% of participants were satisfied with the course content, delivery, facilitation and opportunities to work and learn with colleagues, and felt that the skills were applicable to their work to improve self-management and improve the use of the helpline system.

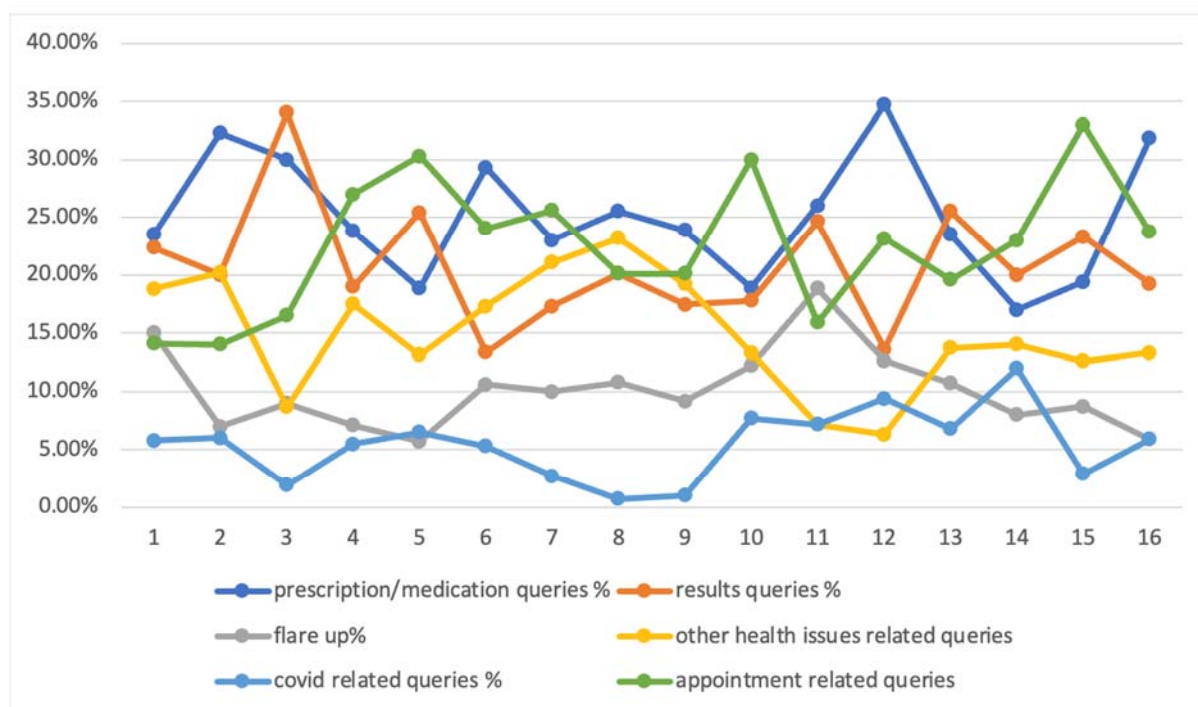
After a challenging time of managing families through the pandemic, the HC training was an opportunity for team members to reunite, learn together and co-create a shared and compelling sense of purpose.

## Conclusion

The COVID-19 pandemic has created challenges for healthcare systems. Health related behaviours in patients with LTC have significant impact on health outcomes. Incorporating HC into clinical care is a promising tool which was considered useful by all AYAD members.

The next stage of this project will include embedding the techniques learned into clinical practice and measuring behavioural change over time including the use of the helpline system.

**Fig 1. Weekly percentages of helpline queries since October 2021.**



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## 'Make me a med reg'; a simulation course to equip internal medical trainees with the skills to perform the medical registrar role

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### Introduction

The transition from internal medical trainee (IMT) to medical registrar is often seen as somewhat daunting and the role perceived as challenging and requiring a broad range of skills.<sup>1</sup> Previous work has identified that many feel training has not adequately equipped them with the skills required to perform this role.<sup>2</sup>

Despite extended training to include a supervised general medical registrar year in IMT3, informal feedback from our cohort suggested there remained a high level of anxiety surrounding this transition.

Our aim was to identify which skills our IMTs felt least confident about and design a simulation course, tailored to their needs, to address these.

### Materials and methods

All (n=9) of our IMTs had attended medical registrar simulation courses before, only one of which was run by medical registrars. Eighty-nine per cent stated that these focused on management of unwell patients and didn't cover many of the other skills required.

Open questions collected via questionnaire allowed us to: identify eight skills domains trainees felt they would need to perform the medical registrar role effectively; and identify factors that enhanced and reduced fidelity and the learning experience to ensure the course was designed to meet their educational demands.

To enhance fidelity, all faculty were medical registrars themselves who created realistic scenarios that were both common and challenging.

Scenario design was also altered from traditional simulation. All scenarios focused on decision making, organisation and people management rather than simply an 'ABCDE' approach. Settings varied between ward, clinic and A&E. Simulations were longer and run 'real-time' and 'real-life'. For example, upon asking a nurse to run an ABG they would leave and not return for around 10 minutes. All information that would be available in a real-life setting was created, including old notes, discharge summaries and imaging. Candidates took part in two scenarios in order to practice skills learnt in the first.

Debriefs were semi-structured to ensure learning points were covered but also allow attendees to ask questions of the experienced registrar faculty. Following discussion, there was an activity based on the skills learnt during each simulation to consolidate learning. For example, we designed a 'bed management' game to practice the all-too-common need now to work with site managers to facilitate the safe movement of patients throughout the hospital.

### Results and discussion

Feedback via questionnaire was overwhelmingly positive; confidence and preparedness scores, measured on a Likert scale, increased post-course in all eight skills domains (Table 1).

**Table 1. Preparedness and confidence scores pre- and post-course**

Skill	Preparedness mean score pre-course (n=9)	Preparedness mean score post-course (n=8)	Confidence mean score pre-course (n=9)	Confidence mean score post-course (n=8)
Running the medical take	2.33	4.00	2.22	4.25
Bed management	2.00	4.38	2.11	4.00
Running a ward round	4.00	4.63	3.89	4.63
Seeing clinic patients	3.00	4.13	3.11	4.00
Managing difficult patients/relatives	3.67	4.75	3.67	4.25
Managing junior staff	3.56	4.63	3.89	4.38
Setting ceilings of care	3.89	4.63	3.67	4.38
Referrals to ITU	3.44	4.38	3.44	4.25

Additionally, in open ended verbal feedback, all IMTs identified a course run by medical registrars was helpful as they were able to ‘draw on real-life experience and ask the difficult questions’ via ‘positive role model[ing]’. The latter being essential when recruitment to general medicine is reducing annually.<sup>3</sup> This was also reflected in an increase of 22% to 87.5% of IMTs feeling positive about being a medical registrar.

## Conclusion

By providing a course tailored to the needs of our future medical registrars, we were able to demonstrate improved confidence and preparedness as well as a more positive outlook on their upcoming role.

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## Foundation year one transition course: from medical student to first year doctor

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### Introduction

Transitions in medicine are often challenging, none more so than the initial jump from medical student to foundation year one doctor (FY1).<sup>1</sup> The most recent cohort of doctors have encountered an additional hurdle – reduced exposure to clinical environments during their final years at medical school due to the COVID-19 pandemic. Health Education England advised a longer shadowing period prior to starting work as an FY1 as a means of at least partially offsetting this.<sup>2</sup>

### Materials and methods

Our role as medical education fellows within the postgraduate medical education department was to design and implement a detailed course to ensure that the FY1 transition was as smooth as possible. It aimed to improve confidence and preparedness.

We collected informal feedback from the existing FY1 cohort. The two main themes identified were difficulty accessing IT systems required and feeling isolated from colleagues during the pandemic. Thus, additional objectives were to ensure all new starters had the necessary access to perform their jobs effectively on day one and to ensure they felt supported throughout this period.

A formal questionnaire was sent to the new cohort due to start FY1 to assess how prepared they felt to start their new job, and this included open questions to identify areas of concern. This information was used to create a 2-week course comprised of a variety of talks and interactive sessions (Table 1) to run alongside their extended shadowing. The course was optional and held prior to the official start date. Thirty-three of 37 new starters chose to participate.

**Table 1. Talks and interactive sessions**

Talks	Interactive sessions
Welcome and meet the team	Tips for an FY1 from an FY1
Medical education	How to: prescribe
Wellbeing	How to: interpret an ABG
Contracts, exception reporting and rota	How to: approach common bleeps
Expectations of an FY1	How to: prioritise bleeps
On-call as an FY1	How to: make a referral
Sepsis	How to: identify common radiology problems
Confirming death and death certificates	How to: document a ward round
Library	How to: manage a COVID-19 patient and PPE
VTE	How to: handle complaints
Career extras and CV building	CPR and TEP
Horus ePortfolio	Basic life support and clinical skills
	IT training

Throughout the course, the new doctors were given our email and WhatsApp contact details and offered drop-in sessions to discuss issues and concerns. The course also provided the opportunity to get to know their peers – another important source of support.

## Results and discussion

100% (n=33) of attendees completed post-course feedback. Confidence scores in all subject domains, measured on a Likert, showed a positive improvement (Table 2). There was an increase of 31% in those who felt prepared to start FY1. Furthermore, 88% felt reduced anxiety and 79% felt positive about starting work.

**Table 2. Confidence scores pre- and post-course**

Subject domain	Mean score pre-course (n=37)	Mean score post-course (n=33)
The hospital team	2.07	3.84
Medical education	1.56	4.10
Wellbeing and support	1.42	4.45
Contracts, exception reporting and rota	2.07	3.78
Expectations of an FY1	3.16	4.00
On call as an FY1	1.78	4.10
Sepsis	3.76	4.07
Confirming death and death certificates	2.38	4.00
Library	2.59	4.10
VTE	3.19	3.83
Career extras and CV building	2.78	3.97
Horus ePortfolio	2.29	3.48
Day-to-day F1 life	2.78	4.41
Prescribing	3.14	3.79
Interpreting an ABG	3.86	4.21
Approaching common bleeps	2.65	4.07
Prioritising bleeps	2.65	4.10
Making referrals	2.97	4.14
Identifying common radiology problems	2.86	4.07
Ward round documentation	3.41	4.10
COVID-19 and PPE	3.14	3.83
Handling complaints	2.27	3.72
CPR and TEP	3.00	3.90
Basic life support and clinical skills	3.39	4.15
Using IT systems	1.49	3.36

Over 90% were able to access and use their IT logins, F1 WhatsApp group, ID cards, smart cards, online training and ePortfolio prior to starting. We noted that PACS and NHS email access was more limited, 79% and 45% respectively, and we were able to rectify this swiftly.

All attended at least one drop-in session with the education team or contacted us via WhatsApp, and this was noted by over 95% of participants as a positive feature of the course.

## Conclusion

In summary, our course has helped our cohort of FY1 doctors to feel more confident and prepared for their new role, and helped them make the transition from student to doctor.

Due to its success, the course will be embedded permanently in the new FY1 induction at our trust. We feel the course model could be replicated at other hospitals to ensure benefits can be accessed by as many new doctors as possible.

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## Perceptions of out-of-hours support for new doctors on the medical rota

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### Background

Medical ward cover on-call shifts provide opportunities for junior doctors to gain experience managing unwell patients. The nature of out-of-hours work dictates that there are fewer doctors 'on the ground', often meaning they work alone. Research recognises that medical errors are more likely to occur when junior doctors do not access support from senior colleagues.<sup>1</sup> Furthermore, access to senior support is an important component of effective clinical supervision and development of the key skills required to be a junior doctor.<sup>2</sup> This project aimed to evaluate foundation year 1 (FY1) doctors' experience of accessing out-of-hours support and ascertain any preconceived barriers to asking for help.

### Method

A survey was distributed in January 2022 to 41 FY1 doctors working on the medical rota. This was completed anonymously via Microsoft Forms, distributed to doctors through mobile messaging services. Multiple choice answers, short free text responses and a 10-point Likert scale were used. The results were analysed using a Microsoft Excel spreadsheet.

### Results

In total, 21 responses were received. Most respondents 'sometimes' knew who the medical registrar was, for both weekday and weekend shifts, with 9.5% and 14.2% respectively reporting they 'never' knew. During weekdays, 66.6% of FY1s reported contacting the registrar 1–2 times per shift, and 19% admitted never contacting the registrar. Conversely, more FY1s reported 'always' knowing who the senior house officer (SHO) was during weekdays (33.3%) and 52.3% contacted the SHO 3–4 times per shift. These findings were echoed during weekends.

Likert scale answers rating how comfortable the respondents felt contacting their seniors out of hours revealed a greater level of comfort contacting the SHO than the registrar. The most common reason for lack of comfort contacting the registrar was 'they are too busy and I don't want to disturb them'.

Thematic analysis of free text responses revealed 42.8% of respondents felt a regular meeting or mobile messaging group would help them feel more supported during ward cover shifts. Over 90% felt that these shifts were a good learning opportunity. Increasing staffing levels (19%) and working alongside or improving communication with senior colleagues (23.8%) were the most common suggestions to enhance learning.

### Discussion

The finding that FY1s were more likely to seek advice from SHOs than the registrar is consistent with FY1s being encouraged to escalate queries appropriately up the ladder of senior colleagues, and therefore is not entirely unexpected. However, the results did highlight that frequently FY1s are not aware of which colleagues are available to support them, which could feed into feelings of isolation. The low level of comfort reported at contacting the registrar reinforces hierarchical models of the on-call system. Moving forward, implementing regular meetings and improving communication could help foster a team mentality and increase support for new doctors.

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## Are foundation taster weeks an underutilised resource?

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### Introduction

The UK Foundation Programme recommends that up to 10 days can be used during foundation year 1 (FY1) and foundation year 2 (FY2) to undertake taster placements in specialties to gain further experience and explore career options before considering specialty applications.<sup>1</sup> This is an especially good opportunity if trainees wish to trial a specialty not represented during their foundation placements. The Northern Foundation School was not aware of the number of placements undertaken in local education providers over the past 5 years. We asked, was this opportunity being underutilised?

### Materials and methods

A retrospective review was undertaken by contacting foundation education leads and medical education teams at each local education provider. Information requested included the number of tasters undertaken and in which specialty the placement was completed. Focus groups were arranged with FY1 and FY2 doctors to explore barriers and motivations to accessing taster week experiences.

### Results and discussion

Nine local education providers responded to the data request from the Northern Foundation School. In total, 676 foundation tasters were completed across 75 different specialties in the north east and north Cumbria. This represented 29.4% of FY1 and FY2 trainees over a 5-year period. Foundation trainee focus groups are underway to explore the main barriers and motivations to undertaking taster weeks, with data reporting in progress.

### Conclusion

A large number of tasters were conducted, but this represents less than a third of foundation trainees in our region. In the era of COVID-19 training recovery, it is imperative we give our foundation trainees maximum access to beneficial training opportunities to develop their future career pathways. Upon completion of focus groups, innovative resources will be introduced, and further work undertaken to explore uptake in future years.

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## Genotes: a new online 'just in time' genomics resource for healthcare professionals

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### Introduction

Advances in DNA sequencing technologies have transformed the care of many patients with cancer. Systemic anti-cancer therapies are increasingly targeted against aberrant proteins associated with key driver mutations within the tumour (somatic) genome, requiring testing for, and identification of, such alterations in tumour-derived DNA to confer eligibility for treatment.<sup>1</sup> Falling sequencing costs have also driven expansion in testing for constitutional (germline) variants in cancer susceptibility genes (CSGs), which may inform surgical, systemic and radio-therapeutic options, as well as future cancer risks for patients and their relatives.<sup>2</sup>

NHS England's publication of genomic test directories for cancer and rare and inherited disease, (including heritable cancer syndromes), aims to improve patients' access to genomic tests while streamlining testing processes.<sup>3,4</sup> However, studies have indicated that integration of genomic data into 'mainstream' care is currently limited by clinicians' genomic literacy.<sup>5-8</sup>

GeNotes is a new online 'just in time' educational resource for clinicians, it is being developed across specialties in collaboration with Health Education England's Genomic Education Programme. It aims to improve use of genomic testing by providing clinical information about specific tests, underpinned by opportunities to access broader genomics education. In order to provide education at the point of oncology care, an oncogenomics working group was established.

### Methods

Specialist trainees in clinical genetics and oncology were recruited to produce tiered resources on genomic topics relevant to cancer patients' clinical care. 'In the clinic' documents are written to a strict template around a specific clinical scenario, providing concise advice on when, what, how, and by whom genetic testing should be undertaken, as well as management of results. Each 'In the clinic' resource links to underpinning 'Knowledge hub' documents, which include detailed information about genetic and oncological conditions, and genomic principles and technologies. All genomic test information is linked to appropriate pages of the NHS genomic test directories.<sup>3,4</sup> Sections on resources for clinicians and patients signpost key references and additional educational resources.

Resources are reviewed by oncogenomics experts prior to uploading onto a purpose-built platform. Private beta phase testing (moderated usability testing, feedback questionnaire, follow-up interviews and website analytics review) of the first wave of resources was completed in November 2021 by Lagom Strategy.

### Results

Nineteen 'In the clinic' and 20 'Knowledge hub' resources have so far been produced. Private beta phase testing (n=21) indicated high user satisfaction, with 95.2% reporting that they would be likely / very likely to use GeNotes in the future and 95.2% also stating that they would be likely / very likely to recommend GeNotes to other practitioners. GeNotes scored highly (90%) on system usability score. Current resources are being refined according to beta testing feedback. Additional resources are in development.

## Conclusion

Appropriate and effective use of genomic information in the care of cancer patients requires that clinicians are sufficiently versed and confident in using genomic tests.<sup>9</sup> GeNotes is one of Health Education England Genomic Education Programme's flagship initiatives. The GeNotes oncogenomics working group is spearheading integration of the resource into mainstream care. Initial evaluation indicates that GeNotes will provide a valuable and practical educational resource for clinicians.

## Funding statement

Work is funded by Health Education England.

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## Using simulation to improve medical registrars' confidence in out-of-hours stroke management

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### Introduction

For general internal medicine (GIM) trainees in south-west England there are considerable inter-hospital variations in hyperacute stroke care delivery. This is down to different staffing levels, experience and services offered between primary and comprehensive stroke centres. What is common is that hyperacute stroke care needs to be delivered in a rapid and succinct manner. Our stroke simulation programme aims to address these issues and improve trainee confidence.

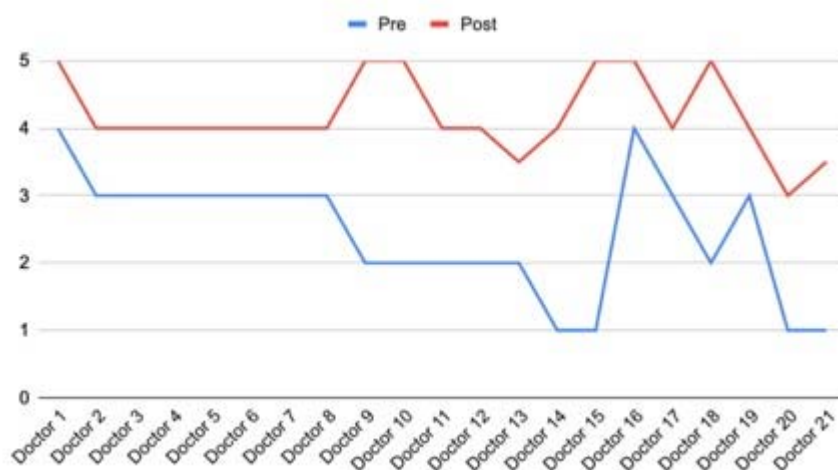
### Materials and method

Following a successful pilot, the Southwest Deanery and the University Hospital Plymouth neurology team developed a multidisciplinary stroke simulation programme. This was opened up to all GIM trainees in the south west. Participant questionnaires collected pre-course and post-course ratings on stroke knowledge, confidence and overall usefulness of the scenarios. The scenarios included stroke thrombolysis, referral for thrombectomy and hyperacute stroke blood pressure management.

### Results and discussion

Average confidence improved from 2.57/5 to 4.29/5. All (100%) of the 21 participants would recommend this training to a colleague.

**Fig 1. Self-reported confidence level of individual participants at managing hyperacute stroke scenarios pre- and post- stroke simulation programme. It was graded on a 1 (unconfident) to 5 (confident) scale.**



Free-text feedback highlighted the benefit of the multidisciplinary team involvement and the debrief led by experienced clinicians.

### Conclusion

This programme has shown improvement in the confidence of GIM registrars at managing hyperacute stroke scenarios. Moving forward, we plan to further develop the scenarios to include more acute complications of stroke and include members of the stroke team from our neighbouring centres to create a

more rounded programme. We also hope to extend the sessions to run throughout the year and invite trainees returning from career breaks to participate.

### **Funding statement**

Funded through HEE South West COVID recovery funding.

## The stair climb challenge – a holistic approach to maintaining medical professionalism at North Bristol NHS Trust

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### Introduction

The Royal College of Physicians highlights the impact effective teamwork has on improving morale, reducing stress, and improving patient outcomes and safety.<sup>1</sup> The General Medical Council (GMC) recommends doctors maintain their professionalism through 'good relationships with patients and colleagues'.<sup>2</sup> Our stair climb challenge was organised within Southmead Hospital, North Bristol NHS Trust (NBT) with the aim to improve teamwork, fitness, staff morale and wellbeing. NBT is aiming to be carbon net zero by 2030 as part of the Green Plan and we aimed to reduce elevator usage and change behaviour to encourage hospital sustainability.<sup>3</sup> The stair climb challenge aimed to create a non-clinical, fun, competitive environment to challenge hospital employees to climb 100 flights per week, for 6 weeks. The pandemic has highlighted the need for prioritising staff morale and wellbeing and our charity challenge encompassed our desire to enhance this message for all employees in all areas of the trust.

### Materials and methods

Pre-challenge baseline data was collected for 1 week from a range of respiratory multidisciplinary team members. The challenge was supported by the Southmead Hospital Charity in conjunction with the wellbeing and communication teams and advertised throughout all departments to recruit participants. Over a 6-week period, April to May 2021, participants worked in teams of up to six, collecting data and logging the number of flights climbed. All participants received a unique 'challenger' badge which alerted colleagues to their involvement. Prizes were donated from local businesses and awarded to winning individuals, teams and the highest fundraiser. A post-challenge survey assessing impact was sent out to participants.

### Results and discussion

Baseline data showed an average number of flights climbed of 56 per person. There was a total of 20 teams and 88 participants. During the challenge a total of 57,145 flights were logged, averaging to 108 flights per person, equivalent to a 93% increase from baseline. This also equates to 131,434 calories burned and a 2,394kg CO<sub>2</sub> emission saving. A total of £1,507 was raised for the hospital charity. The winning climber climbed two thirds the height of Mount Everest (2,595 flights) and the winning team twice the height of Mount Kilimanjaro (5,615 flights).<sup>4</sup> Post-survey data demonstrated the most enjoyable aspects were teamwork and bonding, improved fitness and the fun nature of this challenge. 100% of responders reported feeling their mood improve during this challenge.

### Conclusion

This challenge demonstrated that key aspects of medical professionalism, such as teamwork and communication, can be challenged and encouraged in a non-clinical environment across all members of the multidisciplinary team. Additional benefits also include contributing to trust sustainability, benefiting staff fitness and wellbeing, and funding for the hospital charity, ultimately providing improved care for patients at Southmead. As we learn to live with the pandemic and fluctuating stressors in our hospital environment, it is key to devise innovative ways to encourage comradery and wellbeing to improve workforce resilience across all levels of the multidisciplinary team. The North Bristol NHS Trust stair climb challenge achieved just that.

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## 'Inspiring doctors': building resilience and community among junior doctors

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### Background

Post-pandemic burnout is an increasingly dangerous issue affecting up to one in three junior doctors.<sup>1</sup> Various methods have been explored for managing physician burnout with mentoring consistently identified as an important tool.<sup>2,3</sup> However, logistical and time difficulties in one-to-one mentorship could limit effectiveness. In order to increase accessibility and effectiveness of senior mentorship we aim to build a repository of short video format interviews of consultants that reinforce shared experiences and positive reflection. The aim of this project was to provide a launch board from which junior doctors could launch their aspirations. Alongside providing motivation, these interviews were designed to challenge the traditionally dysfunctional relationship that is seen between consultants and junior members of the team.<sup>4</sup>

### Methods

Twelve local consultants were interviewed from various medical specialties, depicting the diversity in the trust (Black, Asian, and minority ethnic communities; those with a disability, international graduates etc). Four consistent interview questions were selected to maximize sharing of insights into training difficulties. The questions asked included 'What is your greatest achievement?', 'What is your advice for junior doctors who struggle to continue working in medicine?', 'What is your best tip for your juniors?' and 'Tell us an interesting fact about yourself!'. Videos were edited using iMovie software, and then uploaded to the trust YouTube channel. Videos were advertised to junior doctors through email circulars and the local monthly SHO newsletter. Feedback from junior doctors was gathered using a short online form.

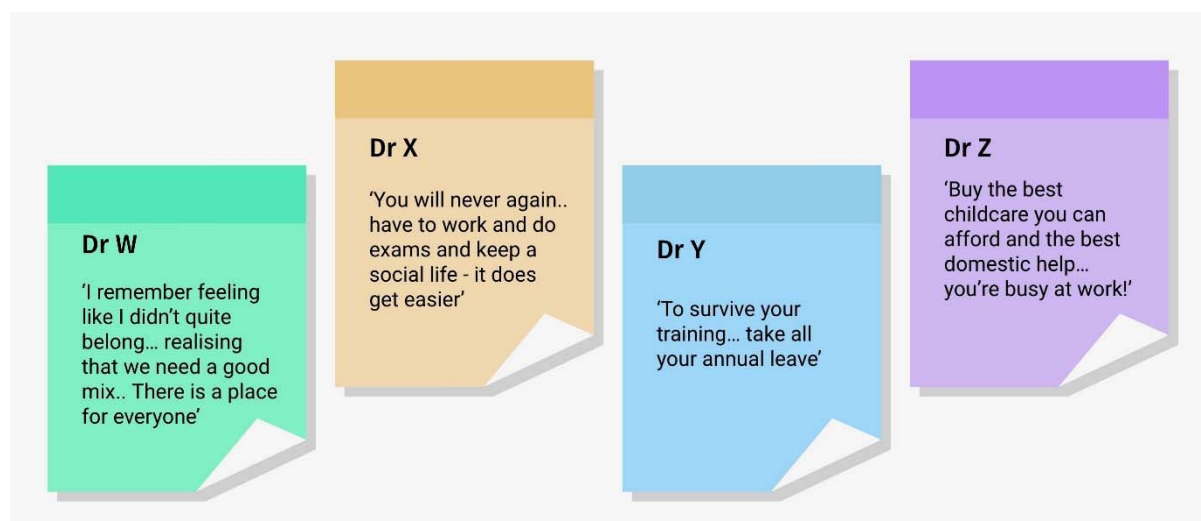
### Results

Each video received almost 100 views within a week. The project has been successful in numerical terms. 79% of respondents found the questions relevant or highly relevant. 92% found the videos inspiring. 85% found the tips given by the consultants helpful. 96% felt more comfortable approaching the consultants for help if needed. However, individual experiences like 'To work within the moment was the most helpful tip.' and '"The tips helped in my personal development while being busy at work and with family.' provided further input to drive this project forward. The idea was embraced by other non-medical specialties that also started filming videos of the same format.

### Conclusions

Short video-format interviews were effective at providing inspiration and helpful tips to junior doctors who may be struggling with their work. It provided a sense of reassurance that there is a metaphorical light at the end of the tunnel in these unprecedented times. Videos showcased a less formal side of the consultants and helped provide a sense of approachability. Good viewership and strongly positive feedback indicate a demand for similar content. Although unlikely to replace traditional mentoring, these videos can reach a greater audience and complement traditional mentoring techniques.

**Fig 1. Examples of consultant tips and advice.**



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## Finding your voice: do trainees really know how to speak up?

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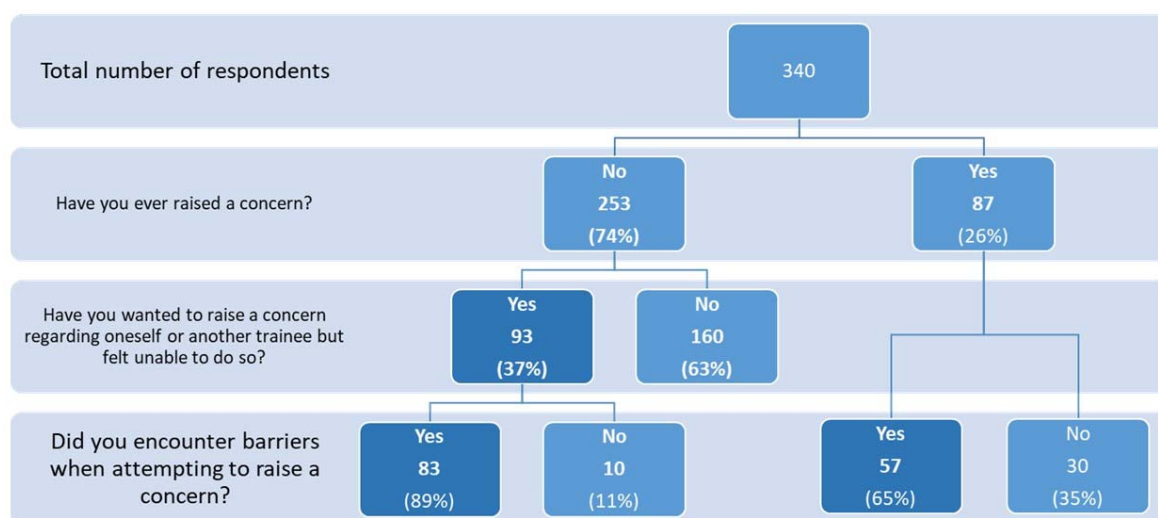
Doctors in training may face situations in the workplace that are challenging or stressful. They may encounter situations that are detrimental to themselves, colleagues or patients. Such situations can have a profound impact on doctors at all levels of their training.<sup>1</sup> It is in the interest of both healthcare professionals and the organisation that concerns are raised in a timely manner. However, doctors may face barriers that can hinder their ability to speak, or prevent altogether.<sup>2</sup>

The barriers doctors face in speaking up are varied and change with their clinical experience.<sup>3</sup> Barriers have been mitigated to some degree with the introduction of freedom to speak up champions and guardians of safe working. However, understanding the most appropriate channels through which to raise a concern can be a barrier in itself. When concerns are related to training and supervision, doctors can feel unfamiliar with the process and who to seek guidance from, in addition to having concerns themselves on the impact on team dynamics and the perception that the concerns raised will have little by way of meaningful results.<sup>4</sup>

This work surveyed 3,398 doctors in training within the north east on the awareness of the policies and guidance available to them that supports their ability to raise a concern. Furthermore, we explored the nature of the barriers perceived when raising concerns and if being unfamiliar with the process presents a comparable barrier to well-recognised factors, such as implication on professional relationships and confidence in achieving an outcome.

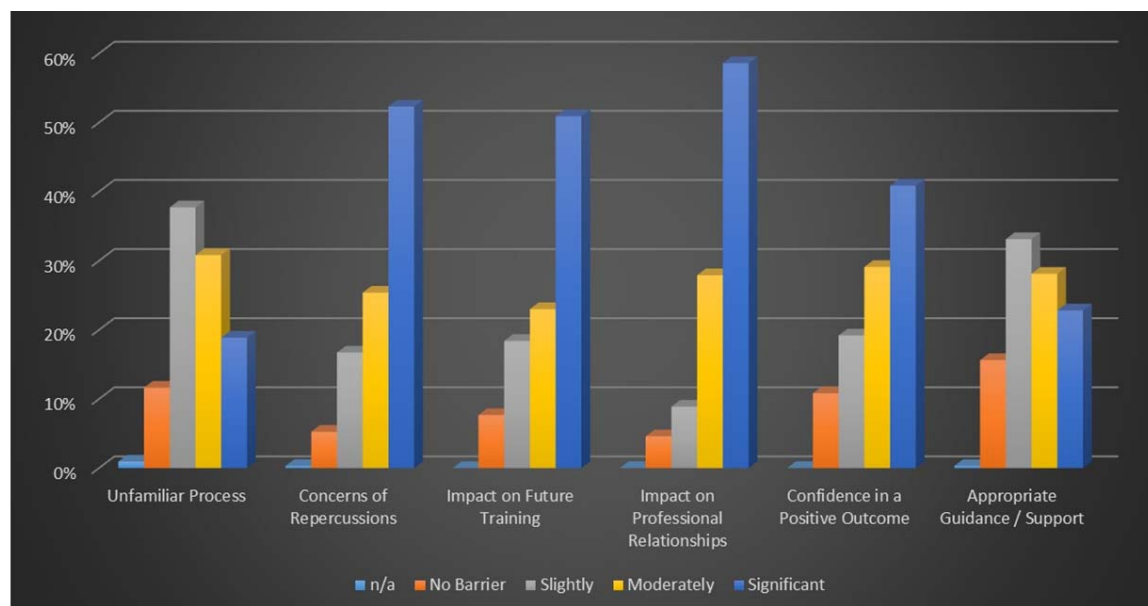
A total of 340 trainees responded to the survey, consisting of 20 dental trainees and 320 medical trainees. This is equal to approximately 9.9% of all doctors and dentists in training (DDITs) within the north east. Respondents were grouped by stage of training. When asked how informed they felt with raising a concern, 27% of all DDITs rated they were either well informed<sup>4</sup> or extremely well informed.

**Fig 1. Flow diagram of the number of DDIT formally raising a concern and those who felt unable to do so.**



The respondents were asked if they had ever raised a concern of any kind during their training. 87 (26%) of DDITs reported having formally raised a concern, compared with 93 (27%) who reported to have previously wanted to but felt unable to do so due to barriers (Fig 1). Appropriate support and guidance were considered a more significant barrier in those who had been unable to raise a concern across all grades (Fig 2).

**Fig 2. Significance of barriers faced in raising concerns.**



The results of the survey indicate that a significant proportion of trainees are unfamiliar with the process, policies and guidelines when wanting to raise a concern. Not having guidance and support in navigating the most appropriate manner to raise a concern is a significant barrier and has a great influence on more senior trainees.

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## Smoking cessation training for foundation year doctors – a positive step towards a smoke-free society

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### Introduction

Tobacco smoking is a leading cause of preventable death and disability.<sup>1</sup> Despite a significant decrease in smoking prevalence over recent years, considerable work is required to achieve the government ambition of a smoke-free society in England by 2030.<sup>2–3</sup> Targeted intervention is required to increase the quit rate among established smokers.<sup>1</sup> Every presentation to a health service represents an opportunity to offer smoking cessation advice and appropriate therapy, with even brief input shown to support a significant factor in initiating a service user's attempt to quit.<sup>1</sup> As such, all healthcare professionals must be adequately trained to provide such support.<sup>1,4</sup> Many undergraduate medical students do not receive sufficient training in the evidence-based means to facilitate smoking cessation among patients, this continues following qualification with a limited emphasis in many postgraduate curricula.<sup>1</sup> This study assessed the use of practical smoking cessation training, incorporating role-play scenarios, on foundation year doctors' confidence when delivering smoking cessation advice and treatment.

### Materials and methods

Smoking cessation training was provided to a cohort of foundation year one doctors (n=18) in a UK teaching hospital. The training included didactic lecture-style learning, small group discussions and role-play scenarios. Quantitative and qualitative data were collected using structured feedback forms and self-reported confidence ratings (1–10) before and immediately following the described training session. Quantitative data were analysed using paired t-test scores, to determine whether a statistically significant difference existed between mean confidence ratings before and after the educational session. Qualitative data were analysed with deductive thematic analysis.

### Results and discussion

Over half (55.55%, n=10) of the group received formal training during their undergraduate degree. Despite this, foundation year doctors attributed a lack of awareness, training, and knowledge as perceived barriers to independently offering smoking cessation advice and prescription of nicotine replacement therapy (NRT) to patients.

A large proportion of the cohort (72.22%, n=13) reported assessing patients' smoking status on a daily or weekly basis. In comparison, the majority (77.77%, n=14) reported rarely or never offering advice, or prescribing NRT to established smokers. Pre-session self-reported confidence ratings demonstrated poor trainee confidence when providing smoking cessation advice (4.44±2.23) or prescribing treatment (4.61±2.17). Following the session, self-reported confidence ratings increased across all areas assessed. Firstly, when providing smoking cessation advice (8.33±1.24): a statistically significant increase of 3.89 (95% CI, 2.84 to 4.94), t(17)=7.8148, p<0.0001, d=0.498. Secondly, when prescribing treatment (8.64±1.05): a statistically significant increase of 4.03 (95% CI, 3.16 to 4.89), t(17)=9.8432, p<0.0001, d=0.409. The small group, practical, and role-play learning style was well received by trainees, who reported that this enhanced awareness and knowledge of the subject matter.

## Conclusion

The implementation of smoking cessation training that incorporates a mix of teaching modalities, including role-play scenarios, improves the confidence of foundation year doctors providing advice and treatment to established smokers. Such activity presents a meaningful opportunity to improve newly qualified clinicians' ability to support the quit attempts of their patients, a positive step on the road to a smoke-free society.

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## Virtual MRCP1 course for internal medicine trainees across West Midlands Deanery

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### Background

With a pass rate of 53% in 2020, MRCP part 1 exam is a challenging exam. While there are several learning resources available, including online question banks, the COVID-19 pandemic had made exam preparation incredibly difficult with redeployments, high service pressures and formal IMT teaching cancelled. Moreover, trainees were experiencing burnout with the mental and physical exhaustion common during the peak of the pandemic. There was a need to develop novel ways to use the most up-to-date online platforms to allow distanced but social sessions to help trainees ace this exam, which is vital for career progression.

### Method

We developed and organised a virtual course for MRCP1 exam preparation for internal medicine trainees across West Midlands Deanery. This involved a series of after work sessions (February–April 2021) using Microsoft Teams. Each session lasted 2 hours: in the first half we compared and contrasted the high yield topics enabling quick revision of commonly encountered themes using a PowerPoint presentation and providing useful mnemonics. In the final half we discussed multiple choice questions, while highlighting the clinchers and ‘cues’ in question statements and building on the concept of ‘pattern recognition’ in RCP exams. About 12 to 16 trainees attended these sessions regularly. Feedback was collected using SurveyMonkey.

### Results

- 12/12 trainees found these sessions highly useful.
- Trainees rated it as ‘excellent’ and fed back that it was ‘concise’, ‘relevant’, ‘guided their exam preparation’, and was ‘more interactive than **any** other online teaching’.
- 12 trainees joined these sessions – out of which eight trainees passed, two were unsuccessful, and two postponed their attempts.

### Conclusion

Structured online teaching can be used as a key tool in postgraduate exam preparation. The MRCP1 course has gained huge popularity in our deanery. We have built upon our project and reorganised it this year whereby sessions are being recorded and uploaded on the postgraduate virtual learning environment (PGVLE) website so that trainees can access them ‘on demand’ and not miss out due to on-call commitments.

We have secured a wonderful learning resource for all future internal medicine trainees joining our deanery in years to come.

## Transferable training resources for internal medicine trainees: the future of practical procedural training

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### Introduction

The internal medicine training (IMT) curriculum requires competence by year 3, in 12 practical procedures.<sup>1</sup> Traditionally, these have been delivered via a simulation-based education approach allowing skills lab demonstration, familiarisation and practice, before consolidating training in practice.

The COVID-19 pandemic has resulted in reduced educational opportunities for junior doctors, with particular impact on face-to-face training and associated increased remote learning approaches adopted. In order to maintain high standards of education and development for our future medical registrars and consultants, it is essential to create new, adaptive, high quality education models.

This education initiative aimed to firstly, transform and improve procedural skills teaching at a large central London teaching hospital, leading to increased competence among IMT trainees, and secondly, to create and use virtual and transferable teaching resources in order to integrate a flipped learning approach when teaching practical procedures.<sup>2</sup>

### Materials and methods

A survey was carried out to capture trainee-perceived baseline competence: nine video demonstrations were created, comprising curriculum-aligned practical procedures and a procedures handbook was written to complement the videos. All IMTs were sent these resources and post-implementation survey data was subsequently collected.

### Results and discussion

Pre-implementation survey (81% response rate) data highlighted a gap in resources. 28% of respondents were IMT1, 48% IMT2 and 24% IMT3; pre-implementation data suggested a delay in perceived clinical competence in those approaching the end of IMT and who were about to embark on higher specialty training. Reported perception of ability and confidence showed a wide range across multiple skills; 5% of trainees reported never having seen a pleural aspiration or drain, or ascitic drain in clinical practice or a skills lab setting. 19% felt independent in performing DC cardioversion (DCCV), 62% independent in performing a lumbar puncture (LP) and 33% in central venous catheter (CVC) insertion.

Nine video demonstrations and the accompanying handbook were distributed as trainee pre-course material prior to a trust procedural skills training day. Post-implementation, a trainee survey (65% response rate) showed an increase in reported confidence across all procedures (Table 1). 42% of respondents were IMT1, 48% IMT2 and 12% IMT3. 65% of respondents reported independent ability to perform a pleural aspiration and 35% a chest drain. 95% independence in ascitic drain insertion was reported, 71% independence in performing DCCV and 47% in performing CVC insertion. 100% of respondents had utilised both resources and would recommend them.

Qualitatively, trainees described the resources as being 'a helpful quick reference guide before performing procedures on the ward,' 'a good concise summary and explanation of what we need to achieve by the end

of IMT' and 'the resources made SIM more effective as I could focus on the technique as I already understood the procedure.'

## Conclusion

The creation of these learning resources has demonstrated a valuable, accessible remote learning resource bank that is now actively utilised in wider training programmes including acute internal medicine registrar procedural training. Further, the resources have been shared with the wider deanery for collective educational purposes across GIM training.

**Table 1. Summary of pre- and post-implementation survey responses**

	Pre-Implementation				Post-Implementation			
<b>Response Rate (total)</b>	21/26 (81%)				17/26 (65%)			
IMT 1	28%				42%			
IMT 2	48%				48%			
IMT 3	24%				12%			
<b>Procedure (n=7)</b>	Clinically independent	Previously attempted on a patient – need more practice	Previously attempted in a skills lab setting	Not confident, never seen one	Clinically independent	Previously attempted on a patient – need more practice	Previously attempted in a skills lab setting	Not confident, never seen one
Pleural aspiration	19%	43%	33%	5%	65%	23%	12%	0%
Seldinger chest drain	5%	38%	52%	5%	35%	53%	12%	0%
Ascitic tap	43%	43%	14%	0%	94%	6%	0%	0%
Ascitic drain	24%	43%	29%	4%	94%	6%	0%	0%
Lumbar puncture	62%	38%	0%	0%	88%	12%	0%	0%
CVC insertion	33%	29%	38%	0%	47%	35%	18%	0%
DC cardioversion	19%	24%	43%	14%	70%	18%	12%	0%

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## Enabling access to safe surgery in rural Africa through mentorship and supervision: a case study

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### Introduction

In 2018, Tanzania launched its first national surgical, obstetric and anaesthesia plan to improve access to safe, timely and affordable surgical care, especially in rural areas.<sup>1</sup> The SURG-Africa project contributed to the plan operationalisation by establishing a regular programme of in-service training, mentoring and supervision visits to build the surgical capacity of district hospitals.<sup>2</sup> The aim of this study was to determine the efficacy of the programme.

### Methods

A qualitative case study was conducted at Hai District Hospital, one of the health facilities participating in SURG-Africa. Five mentors (in surgery, orthopaedics, obstetrics, anaesthesia and nursing) from central and regional hospitals visited Hai quarterly in 2018–2021 to teach surgical skills and mentor the local team. Data collected consisted of reports compiled by mentors after each trip (n=27 in total). A qualitative content analysis was performed.

### Results

Major improvements were reported at individual, team and unit levels. Local surgical providers were trained in essential procedures previously referred to higher level hospitals, such as strangulated hernia repair and hysterectomy. Nurses' proficiency in preparation of instruments, waste segregation, decontamination and infection prevention increased. The competency of the anaesthesia providers in paediatric resuscitation and ketamine protocol improved. At the team level, the intervention enabled improved patient management (eg through correct use of antibiotic prophylaxis) and better collaboration among team members through the use of the World Health Organization (WHO) surgical checklist. At unit level, a more efficient arrangement of the operating theatres was implemented to facilitate the work of the local team, and communication with hospital management for the procurement of surgical essentials (ie surgical drapes) improved thanks to supervisors' support.

### Discussion

Regular supervision and in-service training can increase safety and quality of surgical care in Tanzania's district hospitals. The intervention benefited hospital care by improving surgical competency, preparation and patient management. However, persistent challenges in regard to resources availability (ie cardiac monitors) and staff shortages (particularly in anaesthesia) should be addressed.

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## Improving MRCP paces teaching through the introduction of a regional virtual project

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### Introduction

The COVID-19 pandemic has led to significant disruption to PACES teaching across various trusts in the West Midlands. As trainee representatives, we highlighted the challenges faced and decided to work on delivering monthly virtual PACES teaching alongside a senior PACES examiner, through the PGVLE website. This was dedicated PACES teaching for current internal medicine trainees in the West Midlands only.

### Material and methods

To identify if trainees were keen to have virtual PACES teaching, a Survey Monkey questionnaire was distributed to all internal medicine trainees in the region. We found that approximately 60% of the trainees who responded and were sitting PACES in the current diet suggested initiating regional virtual teaching. We identified three stations that we would like to cover: stations two, four and five, as these were the most feasible to run virtually. As all internal medicine trainees in the West Midlands had access to the PGVLE website, we utilised this platform for virtual teaching. Our sessions were advertised by email and a regional WhatsApp group. The sessions would be cost effective as existing trainees would be expected to play the roles of candidate and surrogate respectively. All sessions were facilitated by senior PACES examiners regionally, who also helped by making the scenarios. The sessions were then uploaded to the PGVLE for trainees to view.

### Results and discussion

At the end of five sessions, we found that 38% of trainees strongly agreed that virtual PACES teaching had improved their confidence in history taking skills, compared to 0% prior to this project. Furthermore, 75% of trainees recommended having regional virtual PACES teaching sessions in the future (Table 1).

**Table 1. Pre-virtual PACES feedback**

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1 I am able to attend PACES teaching monthly in my local trust	14%	32%	30%	20%	4%
2 As a trainee, I feel confident in acknowledging patients' and relatives' concerns	0%	60%	20%	10%	10%
3 As a trainee, I feel confident in formulating a sensible differential diagnosis	0%	30%	40%	30%	0%
4 As a trainee, I feel confident in taking history from surrogate in a systematic and fluent manner	0%	40%	30%	30%	0%
5 As a trainee, I feel confident in organising appropriate investigations or treatment	0%	40%	40%	20%	0%

**Table 2. Post-virtual PACES feedback**

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1	The regional virtual PACES teaching session was well organised	60%	38%	2%	0%	0%
2	As a trainee, I feel confident in acknowledging patients' and relatives' concerns	50%	36%	14%	0%	0%
3	As a trainee, I feel confident in formulating a sensible differential diagnosis	25%	70%	5%	0%	0%
4	As a trainee, I feel confident in taking history from surrogate in a systematic and fluent manner	38%	38%	24%	0%	0%
5	As a trainee, I feel confident in organising appropriate investigations or treatment	50%	25%	25%	0%	0%
6	As a trainee, I would recommend future sessions	75%	25%	0%	0%	0%

### Conclusion

Our regional Virtual PACES initiative has improved trainee confidence in history taking. This also provides a template for other regions to implement similar projects in a cost-effective manner.

## Bedside teaching programme at Bradford Royal Infirmary – pilot (QIP)

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### Introduction

Bedside teaching has long been recognised as integral to medical education. Abdus Salam *et al* state in their literature review that bedside teaching cannot be substituted as it allows for direct feedback, which strengthens learning from the patient.<sup>1</sup>

Bradford Royal Infirmary hosts medical students from the University of Leeds. There was no formal bedside teaching programme in place and questionnaires found that medical students often felt ignored on the wards or were not able to engage with the bedside teaching delivered, especially since the start of the pandemic.

In response to this I decided to do a QIP which aimed to put an intervention in place that would allow for the final year medical students to have access to good quality bedside teaching aimed at preparing them for life as an FY1.

### Methods

I put together a bedside teaching programme that was made up of a total of three sessions that were delivered over a 6-week period. Each session lasted between 1.5–2 hours. A total of 16 fifth year medical students took part in the bedside teaching sessions. Each session was made up of a didactic component and a practical component in order to promote deep learning. The didactic teaching was a small group discussion-based teaching session. The examination component was conducted at the bedside on a patient.

The sessions were as follows:

- Session one: didactic component – how to conduct a falls review and examination component: classical hip examination.
- Session two: didactic component – how to conduct a capacity assesment and examination component: neurological examination.
- Session three: didactic component – how to refer a patient to a senior colleague using the SBAR technique and examination component: cerebellar examination.

Standardised Bradford Teaching Hospitals NHS Foundation Trust (BTHFT) feedback forms were given at the end of each session to assess the students' opinions/feelings towards the sessions.

### Results

Data collected across all three sessions found that 100% of the students either stongly agreed or agreed that the sessions addressed their individual learning needs, teaching was at a suitable level, sessions were useful and helped with development in becoming a foundation year doctor.

Written comments that were made included: 'Useful and relevant to my learning.' 'Hands-on practice on the teaching helped to consolidate the learning.'

### Discussion

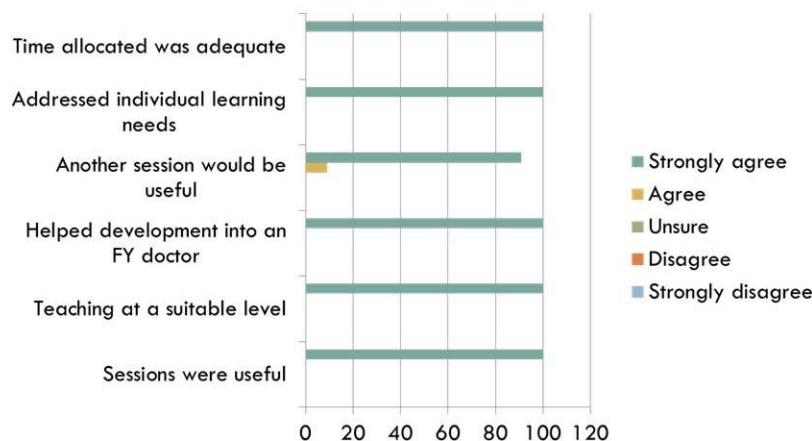
The results show that bedside teaching is still relevant and useful today.

This was a novel way of providing bedside teaching. It was found to be less intimidating compared with traditional bedside teaching. Each session was mapped directly to a learning objective on the students' curriculum which helped with student engagement as the relevance was evident. Each session was also contextualised to their future role as F1s through examples from personal practice.

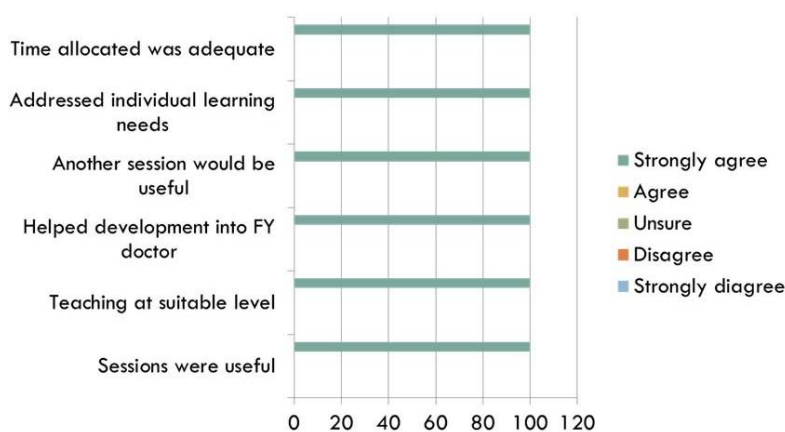
## Conclusion

This QIP shows that medical students still find bedside teaching relevant and useful. By considering creative ways of changing the structure of bedside teaching sessions, it is possible to create sessions that are useful and relevant to medical students today in an environment with post-pandemic constraints.

**Fig 1. Results – session one.**



**Fig 2. Results – session three.**



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## Training teams: a referrals bleep simulation

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### Introduction

Postgraduate training aims to equip physicians with the competencies required to deliver safe and effective patient care. Simulation-based education provides a safe environment for experiential learning of technical and non-technical skills and also supports ongoing self-regulated learning. Simulation aims to provide training at Kirkpatrick level 2/3 (learning/behaviour) and the higher tiers of Miller's pyramid (shows how/does) during assessments. Changes to working schedules and the COVID-19 pandemic has disrupted training with reduction in opportunities for experiential learning and reflection. We hosted a training day and aimed to simulate scenarios akin to those seen on a standard working day for diabetes and endocrinology specialist trainees, eg holding a referrals bleep, assessing a patient in clinic, and discussing cases in a multidisciplinary team (MDT) meeting. The referrals bleep simulation was intended to mimic a time-pressured situation of referrals triaging and provision of advice to encourage development of prioritisation and time management skills.

### Materials and methods

Trainees were divided into groups of 3–4, with those of similar seniority grouped together. During the referrals bleep scenario trainees were given a list of referrals derived from real clinical practice, including a brief description of the problem and question posed by the referrer. They were asked to prioritise these in order of urgency, make an initial assessment/diagnosis and investigation/management plan. They were asked to make these decisions as though they were in a time-pressured situation, towards the end of a day, with minimal staffing. The groups had 45 minutes to make their way through six referrals. A group discussion followed, facilitated by a consultant. Online feedback forms were sent to all trainees after the event.

### Results and discussion

Thirteen specialist endocrinology and diabetes registrars attended the session, 10 (77%) answered the pre- and post-session questionnaire. Six (60%) were from ST3–4 and four (40%) were from ST5–7. The training day was rated using a Likert scale (poor (1) to excellent (5)) with a mean score of  $4.7 \pm 0.64$ . The qualitative feedback included trainees enjoying the 'interactive sessions' with 'problem solving aspects', 'MDT approach' and an 'abundance of educators'. Scores (Likert scale 1=strongly disagree to 5=strongly agree) of skills increased after the session compared to pre-course scores in 'Responding to common endocrinology inpatient referrals' ( $3.64 \pm 0.98$  to  $4.25 \pm 0.83$ ), 'Prioritising endocrinology referrals by order of clinical urgency' ( $3.73 \pm 0.75$  to  $4.13 \pm 0.93$ ) and 'Arranging appropriate follow up for endocrinology referrals' ( $3.91 \pm 0.67$  to  $4.13 \pm 0.78$ ).

### Conclusion

Simulating a specialty referrals bleep in small group learning can enhance clinical skills, encourage collaborative learning and help improve management of cases and how to prioritise effectively. The debrief session that followed, facilitated by a consultant, enabled trainees to reflect on their decisions and how to approach the scenario in a real-life setting. The feedback from trainees highlights this as an effective method of improving confidence in prioritisation and qualitative feedback suggests trainees enjoy problem solving in an interactive setting.