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**Implementing the Safe and Effective Clinical Outcomes (SECO) simulation to prepare
physician associate students for practice**

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Implementing the Safe and Effective Clinical Outcomes (SECO) simulation to prepare physician associate students for practice

Abstract

The number of physician associates (PAs) training in the United Kingdom is rising dramatically, yet the approaches to teaching this new professional group are yet to be examined. We set out to determine if and how the 'Safe and Effective Clinical Outcomes' (SECO) simulation training could help this new group of students to develop skills around conducting a consultation in primary care.

Six clinics were designed and implemented over three academic years (2016-2018) in a clinical skills simulation centre in a university hospital. In total, 71 PA students took part and feedback was collected from students and simulated patients as part of routine evaluation processes. We found that the SECO simulation training offered PA students the opportunity to practise consultation skills and review their scope of practice in a safe environment. It helped students build confidence in their approach and gave them the opportunity to discuss what it means to be a 'safe' practitioner. The simulated patients were positive about the experience but remained unsure of what the PA role was even after the simulation training. Based on our experience, the SECO clinics have value for those training PA students.

Keywords: physician associate, simulation, consultation skills, communication, experiential learning

Introduction

The number of physician associates (PAs) employed in the United Kingdom (UK) is steadily increasing following the recent surge in higher education courses. Moreover, incentives are in place nationally to increase the number of PAs employed in primary care, with regulation requirements currently under review with the General Medical Council.¹ The training of PAs, however, is unique. They undertake a bespoke 2-year postgraduate programme that provides a generalist medical education and because most of these programmes are less than five years old, there is currently very little documented educational practice which can inform curriculum development.

In some ways, PA educators can look to the broader field of medical education for guidance. Qualified PAs are trained within the medical model, work under the supervision of a clinician, consult with patients, conduct examinations and are expected to demonstrate clinical reasoning skills at the same level as newly qualified doctors to make diagnoses.²⁻³ Unlike medicine, however, they are not able to request certain investigations or prescribe medications and early research findings show that there is a lack of knowledge around the role in many healthcare settings and ambiguity around jurisdictional boundaries.⁴⁻⁵ Higher education institutions, therefore, face considerable challenges in preparing PA students for clinical practice to overcome this uncertainty, develop diagnostic skills and generate an awareness of when to escalate to ensure patient safety is paramount.

Simulation training is well-established throughout healthcare as a teaching method that can optimise outcomes of care by providing learners with opportunities to experience realistic scenarios and intervene in clinical situations within a safe, supervised setting without posing a risk to patients.⁶⁻⁸ The Safe and Effective Clinical Outcomes (SECO) clinics are an extension of the traditional use of simulation in that the focus is on clinical outcomes, the

students are not directly observed, time is flexible, they have access to online resources and advice from senior clinical staff and they receive outcome-related feedback from simulated patients (SPs).⁹ The model was originally developed at the University of Otago, New Zealand in 2004, devised as an educational tool to develop senior medical students' skills in clinical reasoning, and it has recently been used by Keele University in the UK.¹⁰ Findings have shown that students collectively rate the experience of these clinics higher even than any clinical experience they have had.⁹

To our knowledge, however, no simulation training has yet been documented involving PA students. The SECO clinics have been integrated into the MSc Physician Associate Studies programme at the University of Leeds since 2016. Through detailing in-depth how they were adapted and exploring experiences of the clinics from multiple perspectives (student, simulated patient and educator), our aim is to begin to unpick how and why simulation training generally, and SECO specifically, can be adopted in PA curricula.

Adapting the SECO clinics for PA students

The concept

The SECO clinic utilises patient simulation to help students achieve 'Safe and Effective Clinical Outcomes'.⁹ Students are expected to achieve 'SECO' for each patient scenario by the end of the consultation. As with medical students, achieving safe and effective care is a fundamental aspect of the PA role and an expectation once qualified.

The learning objectives

The learning objectives of the SECO clinic were similar to those initially developed for medical students, however, PA students were not expected to make definitive decisions about treatment or possible admission to hospital unless they had discussed this with a senior clinician first. Students were expected to:

- rehearse how to deal with uncertainty
- recognise the limits to their scope of practice and when to seek help
- spot ‘red flags’, avoid harmful outcomes and ‘safety-net’
- communicate effectively with colleagues and with patients
- balance competing priorities inherent in the scenario
- write notes that a colleague could understand and use to take over management of the case
- identify their learning needs

The scenarios

Six scenarios were written by primary care educators featuring common conditions seen in general practice, pitched at the level of a PA student. Primary care was the focus because students had not yet had any secondary care placement experience and, due to the incentives in place, a significant number are expected to work in primary care once qualified. Each scenario had specific ‘safe’ and ‘effective’ outcomes. None of the patients presented a medical emergency. To be as realistic as possible, there was more than one clinical problem that the consulting student needed to consider. For example, the patient with poorly controlled asthma also had a family history of cardiovascular disease so the safe and effective clinical outcomes included measuring the patient’s blood pressure and arranging a screening lipid profile. The SP information was written with a significant amount of detail including background information, medical history, personality and expected response to certain questions.

The running of the clinics

The SECO clinic took place in the Clinical Practice Centre at a large university hospital as this setting reflected more closely a clinical environment. The SPs were all invited

to a training session 2-3 weeks before the SECO clinic to discuss their roles, address any queries and advise on how to give effective written feedback to the students. Two SECO clinics were then conducted each year (for students this was the end of year 1 and the beginning of year 2). Half of the cohort attended in the morning and the clinic was repeated in the afternoon. The students had a brief introduction to the session, were divided into pairs and the timings explained. The SPs were in a waiting room ready to be called by the students.

In each consultation room, the students found equipment they may need such as a sphygmomanometer, stethoscope and peak flow meter. They also had an iPad with links to online resources such as the British National Formulary (BNF) and National Institute of Clinical and Health Excellence (NICE) guidelines. A primary care lecturer took on the role of a 'senior clinician' and was available on the telephone or in a separate consulting room for advice. Students' clinical notes could be typed on the iPad or written on paper. Students were allowed an extended time (up to 40 minutes) in each consultation and were not observed during the process. They were expected to carry out physical examinations where relevant. In the case of intimate examinations that could not be performed in a simulated environment, students were provided with a card containing information about clinical findings but only if they indicated that the examination was necessary and relevant. There were three patient scenarios available but the students were not expected to see all three. After seeing each patient, the students were given up to twenty minutes to complete their notes. Example scenarios include:

- 1) A man with new onset chest pain and breathlessness on exertion. Students must identify the probable diagnosis and explain their management plan.
- 2) A 45 year old woman with upper abdominal pain. Students need to take a thorough history, perform an examination and decide on appropriate investigations and advice.

3) A woman who has been experiencing low mood, tearfulness and poor concentration.

Students must listen to the patient's concerns and assess her mental state before discussing options and agreeing follow up.

At the end of the two hour clinic, a short debrief session was run by an experienced clinician from the primary care teaching team with the aim of focussing on the clinical content of each case and the decision making process involved in devising a suitable management plan. During this summing up, the students were provided with evidence-based information related to each patient they had just seen. The students compared their own clinical notes and management plans with the pre-determined safe and effective outcomes for each scenario. Students were encouraged to mark themselves and identify any learning gaps in their knowledge, attitudes or skills which may have arisen if they did not meet all the expected outcomes. This self-assessment was then combined with written feedback from the SPs as the method of evaluating and consolidating learning.

The evolution of the clinics

[Insert figure 1 here]

The clinics have been running for three years (2016-2018), and have involved a total of 71 PA students (see figure 1). In response to feedback, minor changes have been made:

- The students were keen to see all three patients so the timing has reduced to a maximum of 30 minutes per consultation with 10-15 minutes to complete notes.
- Students preferred coming out of the room to talk to a senior colleague so the face-to-face method of asking for advice has developed whilst the telephone advice has declined.

- The debrief session was initially done as a large group but it became clear that only the more confident students participated. Consequently, students were divided up into smaller groups to discuss each patient scenario then feedback all together.

The student experience

After the second SECO clinic the students were asked to complete a feedback form with free text as part of routine evaluation processes conducted at the university. Overall, the PA students evaluated the SECO experience highly and there were numerous positive comments about the value of doing a whole consultation on their own, taking responsibility and putting theory into practice. They admitted to being very nervous in the first SECO clinic and unsure of their scope of practice. Their confidence improved during the second clinic and they appreciated the supportive learning environment during the debrief session.

Failure to achieve SECO was often due to lack of knowledge or failure to safety-net adequately. Some students mentioned that they should have asked for advice more readily or checked their management plan with a senior colleague. In some cases, students had not addressed the individual SP's concerns adequately. Listening attentively and communicating clearly to the patient was emphasised as an area for improvement. Based on this feedback, the SECO clinics highlighted the importance of being a 'safe' clinician for the PA students, clarifying their scope of practice and when to seek help.

The simulated patient experience

Overall, SPs evaluated the clinics positively and enjoyed the process but there were some practical difficulties reported. For example, one SP thought there should be more questions on the feedback form regarding consultation skills and another suggested that they

would have liked to give immediate verbal feedback to the student in addition to the written sheet.

Within the evaluation form, SPs were asked to define the PA role and it was clear that this was challenging, which backs current research findings.⁴⁻⁵ This also indicates that potentially more work needs to be done on how students are introducing themselves so that this confusion can be overcome. Many of the SPs commented that they liked the realism of doing a whole consultation including a physical examination and the advantage of having plenty of time to give detailed written feedback to the student.

The educator experience

Based on our experience so far integrating these clinics into the PA Studies curriculum, we have found that they allow students to practise running complex consultations in primary care without the pressure they experience in the 'real world'. This is particularly important for PA students because of the other factors they are known to face whilst in the workplace, the lack of awareness around the role and the ambiguity around jurisdictional boundaries being clear examples.⁴ The opportunity to discuss and review their scope of practice after conducting a consultation is important. As an emergent role in the UK, research has shown the PA scope of practice to be malleable dependent on the setting.⁴ We believe that when students have the opportunity to discuss where the limits of their practice lie, through the use of simulation, this can help in preparing students to know when to ask for help and when to escalate concerns.

Unlike medical students participating in SECO clinics, the PA students were not expected to issue prescriptions or make decisions about admissions to hospital, however, the emphasis on practising patient-centred medicine and reaching the safe and effective clinical outcomes for each individual case was the same. This suggests that SECO clinics could be

extended and adopted into other health profession curricula, all of which have safe and effective care at the heart of their practice.

Lessons learned

The SECO educational model may be a valuable tool for PA educators in developing clinical diagnostic skills and promoting safe practice. Importantly, the SECO clinics may also help prepare PAs for some of the challenges they may face as a new role within clinical settings. Empirical research exploring these observations is clearly needed. This research should be done in tandem with exploring the clinical reasoning process and training requirements specific to Physician Associate Studies programmes so that realistic simulation scenarios can be developed.

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