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EDUCATION AND TRAINING UPDATE

Widening access to the specialised foundation programme

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Abstract

The specialised foundation programme, previously known as the academic foundation programme, is an alternate foundation training pathway for doctors that are interested in research, medical education and leadership. The programme is highly competitive, with competition ratios rising to 1:5 in some units of application. A series of courses is held each year out of goodwill to assist students with the application process, but little has been published with respect to evidence-based approaches to both the application process and interviews. This article provides a series of frameworks to simplify the challenges posed by the application process and the academic, personal and clinical interviews.

Key words: Integrated academic training; Medical education; Specialised foundation programme

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Introduction

The academic foundation programme, recently renamed as the specialised foundation programme, is an alternative training pathway for graduates interested in research, medical education or leadership. An international collaborative effort is needed to provide freely available and highly accessible resources to educate and provide academic guidance to students, irrespective of their institution, gender or ethnicity. This is supported by the recommendations of The Postgraduate Medical Foundation Programme Review, advocating for new specialised foundation programme recruitment strategies to widen access for students without research experience (Health Education England, 2019). This article summarises key frameworks for approaching the UK specialised foundation programme application and interview process, and also provides a structured approach to the delivery of a course based on the authors' experience and feedback from an international widening access initiative.

What is the specialised foundation programme?

The Walport report, published by the UK Clinical Research Collaboration in 2005, highlighted a significant paucity in formal postgraduate academic interest and training (Modernising Medical Careers and UK Clinical Research Collaboration, 2005). The report produced a comprehensive set of recommendations outlining a new integrated academic training pathway for clinicians, from junior to consultant level (Figure 1). In 2006, the National Institute for Health Research and the integrated academic training pathway were formally established in a concerted effort to recruit and train more academic clinicians (Academy of Medical Sciences, 2000; National Institute for Health Research, 2021). Three separate postgraduate integrated academic training entry points were formed (Figure 1), starting with the 2-year academic foundation programme, formally implemented in 2007 (Ologunde et al, 2018), which runs in synchrony with the standalone foundation programme (foundation years 1 and 2) (Figure 1). The specialised foundation programme comprises three key themes: research, medical education, and leadership and management. Depending on the academic unit of application, specialised foundation programme posts follow different structures varying from a 4-month rotation in foundation year 2, either solely for academia or combined with clinical commitments, to weekly dedicated academic time distributed over 2 years (Ologunde et al, 2018; The UK Foundation Programme Office, 2020).

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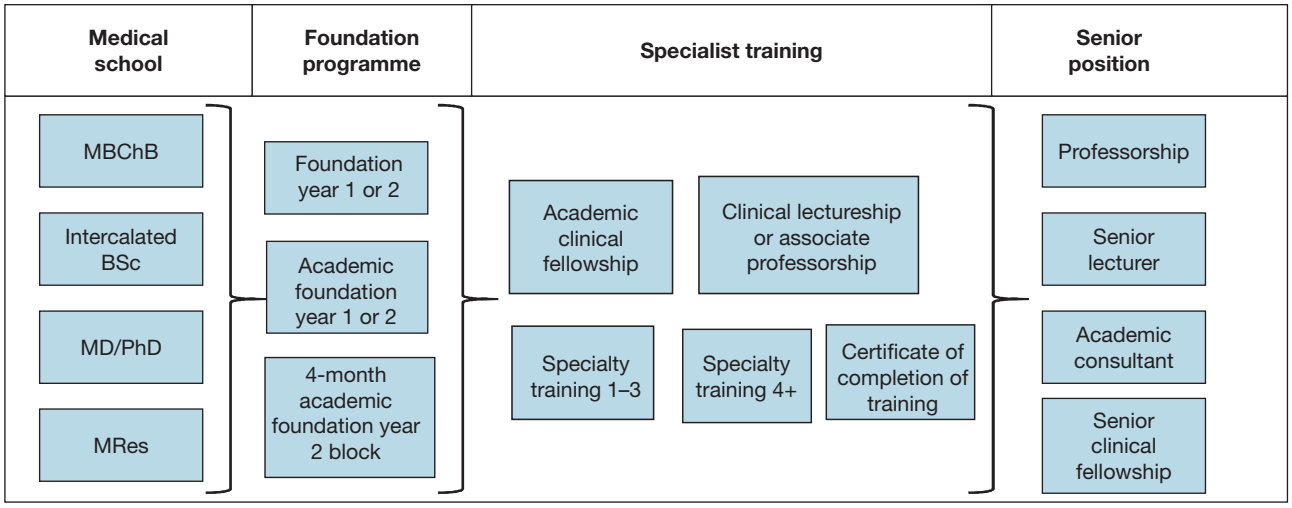

Figure 1. Medical integrated academic training pathway adapted from the National Institute of Health Research Integrated Academic Training schematic. From National Institute for Health Research (2021).

Shortlisting

Shortlisting for the UK specialised foundation programme interviews varies. Each academic unit of application uses its own scoring matrix, which is generally divided into two sections: additional educational achievements and white space questions (The UK Foundation Programme Office, 2020). Points for additional educational achievements are awarded for further degrees, PubMed cited publications, oral presentations, posters and prizes. Higher scores are granted for national or international achievements, as well as additional doctoral degrees or first class honours and postgraduate master's degrees (The UK Foundation Programme Office, 2020).

With the exclusion of London and Yorkshire and Humber, white space questions are also used to shortlist candidates (The UK Foundation Programme Office, 2021). Such questions focus on the assessment of the students' abilities to demonstrate experience, knowledge and skills in research, medical education and management that are valued in the specialised foundation programme, as per the UK Foundation Programme Academic Compendium (The UK Foundation Programme Office, 2013).

Interviews are generally separated into personal, clinical and academic stations. Personal interviews serve to evaluate students' experiences, motivations and situational judgement, while clinical stations focus on assessing students' abilities to prioritise patients based on clinical need and to articulate a thorough clinical assessment. Academic interviews serve principally to gauge candidates' experience and knowledge of research and critical appraisal skills.

White space questions

Three well-reputed and supported frameworks, CAMP, SPIES and STARR, have previously been recommended for structuring responses to interview-style questions (Waddelove, 2016; Health Education England, 2012; Koshy et al, 2017). CAMP (clinical, academic, managerial, personal) is recommended in structuring responses to questions relevant to personal motivations. SPIES (seeking information, patient safety, initiative, escalate, support) is used to approach clinical or ethical scenario questions, demonstrating interviewees' situational judgment. STARR (situation, task, action, result, reflection) provides a systematic framework for describing experiences, typically regarding leadership, teaching or research projects.

Anecdotally, these tools have shown promise and popularity, as demonstrated by wider recommendation of their use from NHS Health Education England (Health Education England, 2012; Waddelove, 2016). However, to the authors' knowledge there is yet to be formal validation of these techniques in improving interview outcomes, although structured answers provide greater clarity and coherence. Feedback from the authors' teaching suggests that a webinar explaining and providing examples for the use of such frameworks improves the reported confidence and knowledge of the role of these frameworks in providing well-structured responses to interview-style questions (Table 1).

Candidates are encouraged to familiarise themselves with the UK Foundation Programme Office (2022) documents, which give examples of white space questions.

Interviews

Critical appraisal

Evidence-based medicine is a crucial component of clinical practice, forming the basis for the development of clinical guidelines such as those produced by the National Institute for Health and Care Excellence. Evidence-based medicine can be categorised into five

Table 1. A comparison of self-reported knowledge and confidence on a Likert (1–5) scale to questions answered in the pre- and post-webinar surveys

Question		Pre-webinar survey		Post-webinar survey	
		Median	IQR	Median	IQR
Presentation 1: The specialised foundation programme: an overview and top tips for the white space questions	Number of survey responses	112		92	
	Self-reported knowledge about the specialised foundation programme application process	3	3–4	4	4–5
	Self-reported confidence about the specialised foundation programme application process	3	2–3	4	3–4
	Self-reported knowledge about the integrated academic training pathway	2	2–3	4	3–4
	Self-reported interest in applying for the specialised foundation programme	5	4–5	5	4–5
Presentation 2: How to critically appraise a paper: an overview	Number of survey responses	136		71	
	Self-reported knowledge of the critical appraisal component of the specialised foundation programme interviews	2	2–3	4	4–5
	Self-reported confidence of the critical appraisal component of the specialised foundation programme interviews	2	1–3	4	4–5
	Self-reported confidence in using the PICO framework	3	2–4	4	4–5
	Self-reported confidence in using academic terminology (such as bias, validity and confounding factors)	3	2–3	4	4–5
Presentation 3: Top tips for the personal and clinical interviews	Number of survey responses	30		23	
	Self-reported knowledge of the SPIES, STARR and CAMP frameworks	2	1–2	4	3.5–5
	Self-reported confidence in using SPIES, STARR and CAMP frameworks to answer interview questions	1	1–2	4	3–4
	Self-reported confidence in using the SBAR handover framework	3	2–4	4	4–4
	Self-reported knowledge of the ABCDE primary assessment	4	3–4	4	4–5
	Self-reported confidence in performing an ABCDE primary assessment	3	3–4	4	4–4.5
	Self-reported knowledge of early warning scores	3	2–4	4	4–4
	Self-reported confidence in using academic terminology (such as bias, validity and confounding factors)	2	2–3	4	4–4
	Self-reported knowledge of strategies used to prioritise cases based on clinical urgency	3	2–3	4	4–4
	Self-reported confidence in prioritising cases based on clinical urgency	3	2–4	4	4–4

ABCDE = airway, breathing, circulation, disability, exposure; CAMP = clinical, academic, managerial, personal; IQR = interquartile range; PICO = population, intervention, control, outcome; SBAR = situation, background, assessment, recommendation; SPIES = seek information, patient safety, initiative, escalate, support; STARR = situation, task, action, result, reflection.

fundamental steps, starting first with the development of an answerable clinical question, followed by a systematic search for the relevant literature, that is then critically appraised. Findings are thereafter applied to clinical practice and finally evaluated (Akobeng, 2005). Academic interview stations for the specialised foundation programme focus mainly on assessing steps three and four of evidence-based medicine (critical appraisal and application to clinical practice). Current evidence suggests a well-structured, comprehensive course may improve student competency in the components of critical appraisal relevant to the specialised foundation programme interview (Lee et al, 2020). Academic interviews vary in structure – some centres will provide an abstract from a paper for candidates to read on the day (typically over 10–15 minutes before entering the interview) and others may provide a full research article 24–48 hours before the interview date. A selection of centres may expect candidates to come prepared with a research article which they then summarise and appraise for its quality and significance.

Undoubtedly, providing a comprehensive overview of critical appraisal in a short webinar is not feasible. However, webinars may be effective in achieving the following objectives:

1. Introducing evidence-based medicine
   a. Introducing study designs and the concept of the pyramid of evidence
   b. Introducing basic statistical terminology relating to risk, per protocol vs intention to treat analysis, *P* values and confidence intervals.
2. Defining critical appraisal
3. Introducing the validated PICO (Population, Intervention, Comparator, Outcome) framework for summarising and appraising research
4. Signposting useful resources for further reading, such as *The Doctor's Guide to Critical Appraisal* (Gosal and Gosall, 2020) and *How to read a paper* (Greenhalgh, 2019).

A simplified set of factors to explore at each component of the PICO framework when appraising research is summarised in Table 2. Above all, candidates should practice summarising and appraising articles with a supervisor or current academic trainee, who is able to provide constructive, tailored advice.

Personal and clinical interviews

For personal interview stations, the same frameworks (CAMP, SPIES and STARR) can be applied to answering questions (as discussed in the white space questions section).

Table 2. Points to consider when using the PICO framework when appraising a research article for a specialised foundation programme academic interview

Population	Characteristics	Have they defined the characteristics of the cohorts?	Randomised?
	Confounding variables	A variable, other than the independent variable, that affects the dependent variable	
	Criteria – inclusion/exclusion	Inclusion/exclusion criteria?	
		Selection bias?	
	Recruitment	How were the cohorts recruited?	
Intervention and control	Control	What is the comparator?	Placebo/gold-standard
	Consideration of ethics	Ethical approval?	Four principles of biomedical ethics
	Concealment	Intervention concealment, for example double dummy blinding technique	
	Blinding or bias	Single or double?	Observer or experimenter bias
	Methods	Statistical analysis	Intention to treat analysis vs per protocol analysis
Outcomes	What?	Primary endpoints?	
		Secondary endpoints? Composite outcomes?	
	How?	How were the endpoints measured? Is this a validated measurement tool?	
	Why?	Do they clarify why these endpoints were assessed?	

For clinical interviews, candidates should be confident in using a structured framework when assessing unwell patients. This may be achieved by articulating a thorough primary assessment using the 'gold-standard' ABCDE (airway, breathing, circulation, disability, exposure) approach advocated by the European Resuscitation Council for advanced life support (Soar et al, 2015). Candidates should also be competent in providing clinical handovers using the validated SBAR framework (situation, background, assessment, recommendation) (Müller et al, 2018). Clinical interviews may also assess the student's abilities to prioritise cases based on clinical urgency. Candidates should show clear reasoning when prioritising such cases, which may be achieved through the use of the validated 'Early Warning Score' and the ABCDE approach (Alam et al, 2014; Soar et al, 2015).

Widening access

Although the specialised foundation programme has been running since 2007, there are few, freely available resources in the form of peer-reviewed publications, courses and books to adequately prepare and help students in their applications, in a climate of rising nationwide competition (1:3 in 2016 vs 1:5 in 2018 (Borrelli et al, 2018; Nadama et al, 2019; The UK Foundation Programme Office, 2019). The current literature demonstrates the use and effectiveness of short webinars and courses pertinent to preparing students for the specialised foundation programme applications, but lacks emphasis on evidence-based approaches (Nadama et al, 2019; Mashar et al, 2020).

In recent years, there has been a paradigm shift in platforms used in the international delivery of medical education. Virtual platforms are increasingly being adopted by the scientific, clinical and educational communities for meetings, clinical courses, lectures and assessments, a practice which was accelerated by the COVID-19 pandemic (Salomon and Feldman, 2020). Within the scientific community, perceived benefits and pitfalls of this change are variable, but for the purposes of preparing and educating students on the UK integrated academic training pathway and the specialised foundation programme applications, Nadama et al (2019) demonstrated virtual webinars were an accessible, effective and easy to use tool.

Feedback from the international widening access initiative suggests that educators are still falling short in terms of adequately educating and preparing students for careers in academic medicine, as demonstrated by the lack of confidence felt by students in key components of academia. While teaching interventions undoubtedly incur costs and a selection of students may be willing to pay for experienced, tailored advice, it is important to provide high quality, evidence-based, freely available resources to educate, inspire and enthuse students towards academia.

Conclusions

Structured frameworks may provide a simplified approach to the specialised foundation programme applications and interviews. Validation is still required for the effectiveness of such frameworks within this context. However, well-structured, short virtual webinars are effective in providing baseline student preparation for the specialised foundation programme applications and interviews.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

Key points

- Students wishing to apply to the specialised foundation programme should familiarise themselves with the UK Foundation Programme Office's published documents.
- Structured frameworks should be used to formulate responses to white space questions, as well as during personal interviews.
- It is important to become familiar with basic academic terminology and practice summarising and appraising research.
- Identify a supervisor or academic trainee who can provide constructive, tailored advice for critical appraisal.
- Practice using the situation, background, assessment, recommendation (SBAR) framework for clinical handovers and the airway, breathing, circulation, disability, exposure (ABCDE) approach for primary assessments.

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