J R Coll Physicians Edinb 2019; 49: 43–51 | doi: 10.4997/JRCPE.2019.111 ORIGINAL RESEARCH PAPER

Trainee and supervisor experience of the Academic Foundation Programme

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Abstract

Background The Academic Foundation Programme (AFP) is often the initial step along the Integrated Academic Training pathway in the UK. It is relatively new and research as to its effectiveness is limited. Our objective was to evaluate the AFP in terms of its impact on academic career aspirations and to explore trainees' expectations and experience of the programme and investigate the enablers and barriers to success.

Method Seven supervisors of Academic Foundation trainees were interviewed over a 5-month period in 2014. AFP trainees' views were sought by way of an online questionnaire that covered six areas: demographics, expectations, academic time, experience, research and achievements.

Results Thirty-four trainees completed online questionnaires. The majority of trainees (94%) did not proceed directly along the Integrated Academic Training pathway to complete Academic Clinical Fellowships, but those who applied to do so were often successful (nine applicants, six successful). Free-text comments revealed an expectation of a more course-like structure to the programme, this is in contrast to the authentic experience of clinical academia, along with its associated challenges, that some of the supervisors reported. The importance of planning and preparation for success was a recurring theme from the supervisor interviews.

Conclusions The programme is achieving some success in encouraging academic careers. There are several areas that can be improved. Improving the availability of information and guidance for supervisors and facilitating Academic Foundation Doctors to network are both feasible changes that could lead to improvement.

Keywords: academic careers, funding, medical careers, mentoring, promotion, qualitative, recruitment, retention, survey, training

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Introduction

The UK has a problem with its academic workforce and there have been many calls to address this issue.[1] The workforce is ageing, with 13% fewer academics aged under 46 years than there were a decade ago. There has been a 2.2% reduction in the medical academic workforce since 2010, which is in stark contrast to the 3–4% annual increase in UK consultant numbers. The number of medical academic vacancies has increased annually for the past 3 years.[2] Similar findings have been reported from Australia[3] and the USA.[4,5]

The Integrated Academic Training pathway was designed to bring structure to the training of medically qualified clinical academics in the UK, with Academic Foundation Programmes (AFPs) intended to be the first postgraduate step in this process. Initiated in August 2005, the foundation programme was one of the first in a series of reforms collectively known as Modernising Medical Careers. It was intended to bridge the gap between graduation and specialist training, allowing new doctors to gain the breadth of experience and basic skills required to make this transition. AFPs integrate this initial clinical training with exposure to core elements of academia.[6]

With 501 positions available in 2012, representing approximately 5% of all foundation programme placements,[7] AFPs are available to only a small proportion of graduating doctors. There have been recent calls to increase this number to help widen participation.[8] If funding for these programmes is to continue, or if there is to be an increase in numbers, then evidence as to their positive impact is needed.

The 2010 Collins report was very supportive of AFPs: quoting support from the National Institute for Health Research and the Medical Schools Council as evidence of its success.[9]

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Much of the published work on AFPs recounts personal experiences of trainees with the aim to give insight into the programme for current or potential trainees.[10–17] These report some of the pros and cons of AFPs, as well as providing advice on how to succeed in such a programme. These personal accounts share many positive features:

- The gaining of research and transferable skills.
- The opportunity to work to one's own timetable and goals.
- The time can be highly productive, allowing participants to be more competitive in the job market.

The negative aspects of the programme focused on:

- The limited amount of time, especially in academia, that a 4-month block provides.
- At times academia can be frustrating.
- Reduced pay.

The overall message emanating from the various studies is a recommendation to seriously consider the AFP as an option.

A small scale qualitative interview study focusing on AFPs in medical education identified five themes:[18]

- 'Organising research time requires effort, persistence and support, and is even greater for the first cohort
- Research is difficult
- With proper support success is achievable
- Teaching is a real highlight of the programme for most
- The clinical component of this programme is highly regarded by trainees'.

An online questionnaire-based survey of current or recently completed AFP trainees found that the majority of trainees wished to continue an academic career at the end of their AFP, and that feeling well informed about academic careers and possessing a higher degree were independently associated with amplified aspiration to pursue academic careers.[19] The above literature, while informative, is limited in quantity and quality. This is to be expected as published analyses of the relatively new programme will lag behind its development and implementation. As such there is clearly a gap in the literature for larger scale analysis of the programme, and while a national review would provide more data a regional one would be more pragmatic.

The overall aim of the current study is to evaluate the AFP within a politico-geographic area in terms of its impact on academic career aspirations, and to find out if the AFP is succeeding in promoting an academic career to newly qualified doctors.

There were two distinct objectives:

1. To explore trainees' expectations and experience of the programme.
2. To investigate the aids and barriers to success.

Methods

The study aims and objectives will be addressed by combined analysis of data from two separate studies; a questionnaire evaluation of the programme from the trainees' perspective and one-to-one interviews with a number of their supervisors. To contextualise, this study was conducted across Health Education England (North West office), a large geographical area serving over 4,000 trainees across the full range of medical specialties.

NHS R&D organisational ethics approval was received from Health Education England (North West).

Supervisor interviews

Participants were identified by reviewing current and previous lists of AFP supervisors and direct email contact was made by a member of the research team.

One-to-one interviews were conducted in person, via telephone or via video conferencing, whichever was most convenient to the participant. Interviews were voice recorded and transcribed by the lead author.

The interviews were open ended and allowed the personal views of the participants to emerge. However, three specific questions were used in each interview to ensure the data collected addressed the research question.

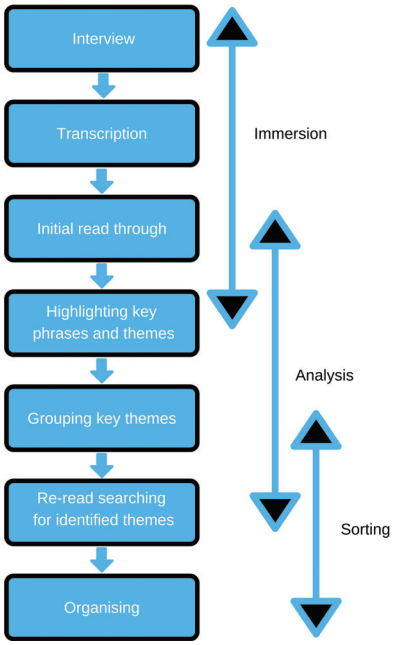
1. What has been your experience supervising Academic Foundation trainees?
2. What has allowed your trainees to succeed?
3. What barriers have you and your trainees encountered to success?

Analysis was performed in several discreetly described stages. While the interview was being conducted and recorded the interviewer reflected on the ongoing dialogue and attempted to probe along the lines of the research questions, this can be seen by the follow-up questions asked (see Appendix 1 for interview transcripts). The interviews also initiated the process of data immersion.[20] The process of immersion continued during the transcription where repeated listening to the interviews both literally and metaphorically got the interviewees' voices into the head of the researcher. An initial read through of the transcripts was performed to ensure that coding and data extraction, referred to as highlighting key phrases and themes in Figure 1, was performed in the context of the interview was a whole.

Next the transcripts were read in order to identify key themes with descriptive thematic terms developed to allow categorisation later in the analysis. The thematic terms were grouped together into recurrent and important themes from the data. The transcripts were read once again, this time looking specifically for further references to the already identified themes. Sorting of the themes was then completed.

While these stages can be described as distinct entities, in reality the analysis was a more fluid, iterative process,

Figure 1 Flow chart demonstrating stages of analysis



conducted as interviews were secured and completed over a period of several months. Recruitment of participants continued until data saturation, as judged by the lead author, was obtained.

Trainee survey

Participants were identified by contacting the foundation programme administrators at all seven hospital trusts that host AFP trainees. They were asked to forward the invitation email, which contained a link to the survey. The survey was accessible for 4 weeks starting in mid-July 2013 and 2014, the choice of date was designed to coincide with the end of the programme. Data were collected using Bristol Online Surveys.

Questions covered six distinct areas: demographics, expectations, academic time, experience, research and achievements.[18] A copy of the survey can be seen in Appendix 2.

The data collection software was able to output the collated responses, tabulating Likert scale and yes–no questions to give a visual analogue representation of the data. Free-text answers were reviewed for themes, and these themes interpreted in the light of the literature reported above. Free-text responses were reviewed in the context of the iterative thematic analysis used for the supervisor interviews.

Results

Trainee survey

In 2013 21 AFP doctors, out of a cohort of 48, completed the survey and in 2014 13 completed the survey, giving response rates of 44% and 27%, respectively. The results will be considered together as analysis for change across time is not part of the aims for this project.

Table 1 Results of the demographics portion of the trainee survey

Was your academic time a 4-month block or a longitudinal programme?	
4-month block	29 (85.3%)
Longitudinal programme	5 (14.7%)
Did you intercalate at medical school?	
Yes	23 (67.6%)
No	11 (32.4%)
Did you have peer-reviewed publications on applying?	
Yes	10 (29.4%)
No	24 (70.6%)
Had you given national or international presentations when applying?	
Yes	27 (79.4%)
No	7 (20.6%)
I originally wanted an ACF after foundation training	
Yes	12 (35.3%)
No	5 (14.7%)
Maybe	17 (50%)

ACF: Academic Clinical Fellowship

The full results from the survey are available in Appendix 3.

The majority (58.8%) of those completing the survey were in the second year of their AFP and were participating in a huge variety of disciplines. Medical education was the discipline most often cited (18%).

Demographic results are summarised in Table 1. Most trainees (85.3%) completed a 4-month block of academic time. This reflects the situation at the time as well as currently. The majority of respondents had completed an intercalated degree at medical school (67.6%) and presented at national or international meetings prior to applying to the AFP (79.4%). A minority had peer-reviewed publications (29.4%). Half of the respondents were unsure if they originally wanted an Academic Clinical Fellowship (ACF) after foundation training.

Some trainees (17.6%) did not know what the programme involved before commencing, as shown in Figure 2, which shows the expectations portion of the survey. The free-text responses have one clear and recurring theme, 'I expected a more planned, structured programme than the one I encountered'. Eight other respondents made statements similar to this. Others talked about the difficulties they faced when more than one trainee was working with the same research group, another commented that they were 'left to find a project for ourselves', which while excellent for 'flexibility and pursuing an area you are interested in' proved challenging in terms of identifying a suitable project.

Table 2 summarises the results of the experience section of the survey. Most trainees (73.6%) agreed that they were able to take most of the time allocated for academic activities,

Figure 2 Answers to the expectations portion of the survey

9.a. I knew what the programme involved on starting.			
Strongly agree:		17.6%	6
Agree:		55.9%	19
Neither agree or disagree:		8.8%	3
Disagree:		8.8%	3
Strongly disagree:		8.8%	3
9.b. The programme was as I expected.			
Strongly agree:		17.6%	6
Agree:		29.4%	10
Neither agree or disagree:		17.6%	6
Disagree:		35.3%	12
Strongly disagree:		0.0%	0

with the majority agreeing that their supervisor was supportive in this (70.6%). A total of 35% of respondents stated that they had teaching responsibility as part of their programme. Only one respondent thought that their academic time was a barrier to gaining clinical competencies required of the foundation programme.

Table 3 summarises the research section. Two respondents (5.9%) agreed with the statement 'I felt unsupported in my research'. Over half stated that they had not been given formal teaching on research methodology. Eight respondents (23.5%) applied for research ethics approval.

Table 4 highlights the results of the achievements and progression section. A total of 64% of respondents were happy with their academic achievements, 58.8% had presented work at local level, 52.9% at national or international level and 23.5% had a peer-reviewed publication. Of the respondents 26% applied for an ACF, two-thirds of whom were interviewed. All who were interviewed were offered an ACF post.

The free-text responses revealed many reasons why respondents did not apply for an ACF, four out of 25 claimed that they intended careers in surgical specialties and felt it would 'restrict my ability to achieve surgical ST competencies' and that the 'longer option of a PhD is far more valuable'. Several also commented that there was either no ACF in their chosen specialty or in the region where they wanted to work.

The final question asked if the trainee had any other comments about the AFP. Several of the trainees reiterated frustrations about the lack of structure to the programme and specific problems they had becoming integrated in specific research groups. The issue of protected time for research came up again as did another comment about reduced income during academic blocks.

Supervisor interviews

A total of 31 supervisors were contacted by email, nine replied. One supervisor had yet to supervise his trainee and another was unavailable for interview. Seven interviews were conducted between 3 April and 13 October 2014. The full transcripts of these interviews are available in Appendix 1 and a summary of key points from each interview can be found in Table 5.

The themes from the interviews are discussed below under the three broad topic areas represented by the interview questions: supervisor experience, enablers of success and barriers to attainment.

Supervisor experience

Despite the generally positive experience of most supervisors a recurring theme, particularly from supervisors who had had only one or two trainees, was that of lack of preparation from a supervisors' perspective. This was particularly emphasised when trying to decide which projects would be deemed suitable for an AFP trainee.

Enablers of success

Planning and preparation was a recurring theme and can be divided into two broad areas: the belief that preparation is important for success and specific situations in which preparation helped or more preparation would have improved said situation. This theme was discussed across several areas, such as early contact with supervisors and via engagement between supervisor and trainee while the trainee was completing the clinical jobs prior to the academic placement.

The value of an authentic academic environment in which the trainee can develop was a strong theme. Some supervisors described this as a physical workspace whereas others

Table 2 Results of the experience section of the trainee survey

I was able to take most of the time allocated for academic activities				
SA	A	A/D	D	SD
14 (41.2%)	11 (32.4%)	6 (17.6%)	2 (5.9%)	1 (2.9%)
My supervisor was supportive in this				
SA	A	A/D	D	SD
16 (47.1%)	8 (23.5%)	9 (26.5%)	1 (2.9%)	0 (0%)
I was in contact with my supervisor prior to starting the placement				
Yes		No		
32 (94.1%)		2 (5.9%)		
I was given a project to do				
Yes		No		
22 (64.7%)		12 (35.3%)		
I developed my own project				
Yes		No		
22 (64.7%)		12 (35.3%)		
Did you access the Academic Foundation Handbook? (Rough Guide)				
Yes		No		
16 (47.1%)		18 (52.9%)		
I had teaching responsibilities as part of my programme				
SA	A	A/D	D	SD
2 (5.9%)	10 (29.4%)	6 (17.6%)	10 (29.4%)	6 (17.6%)
My academic time was a barrier to gaining the clinical competencies of the Foundation Programme				
SA	A	A/D	D	SD
0 (0%)	1 (2.9%)	9 (26.5%)	14 (41.2%)	10 (29.4%)
The structure of the programme changed owing to my input				
SA	A	A/D	D	SD
0 (0%)	6 (17.6%)	16 (47.1%)	11 (32.4%)	1 (2.9%)

A: agree; A/D: neither agree nor disagree; D: disagree; SA: strongly agree; SD: strongly disagree

thought more broadly, in terms of a conceptual, perhaps virtual, group created by individuals from organisations with which they share an affiliation. One advantage of such groups is immersion in the research environment. Such a setting, whether physical or not, allows for collaboration in terms of both the work of research and for learning the skills required.

The benefit of an authentic project, one that, even in a small way, contributes to the work of the research group is espoused, 'because he was doing a project that was a real project that everyone wants to know the answers to there was cooperation to get him to do that' (Appendix 3, AA line 195).

The final attribute that contributed to success was the characteristics of the individual trainee both in terms of personal attributes and also in terms of commitment to the process. 'I think it takes more commitment, more time and if you are struggling a bit just to keep up then doing the extra thing isn't possible' (Appendix 3, EE line 49), 'the nature of the enthusiasm and very often the interest, or why people are doing an academic foundation programme very often is reflected in productivity' (Appendix 3, FF line 45).

Barriers to success

A major recurrent theme was the difficulties of a relatively short period of time, on average 4 months, that the academic experience lasts. One participant reflected on a reality of academia, that the time lag between submitting an article and it coming into print could be months to years. The realities of hospital medicine including stress, service pressures and clinical supervisors with other priorities were all reflected across various responses.

One supervisor reflected on the lack of money for the programme and another on how having access to some funding would have allowed them to overcome a second problem, lack of access to statistics support. Another thought that some candidates did not really appreciate what they were signing up for regarding the AFP and that while time is dedicated for the academic aspect, much of the work is extra.

Suggestions for improvement

Of particular note was a call for more guidance both locally and nationally. Relating to the voluntary academic elements of the foundation programme curriculum, one participant thought that making these mandatory for AFP trainees could be a step forward. Another, specifically talking about medical education,

Table 3 Results of the research section of the trainee survey

I felt unsupported in my research					
SA	A	A/D	D	SD	
0 (0%)	2 (5.9%)	10 (29.4%)	10 (29.4%)	12 (35.3%)	
I was given formal teaching on research methodology					
SA	A	A/D	D	SD	
2 (5.9%)	8 (23.5%)	5 (14.7%)	15 (44.1%)	4 (11.8%)	
I applied for research ethics approval					
Yes		No			
8 (23.5%)		26 (76.5%)			
I was well supported in the research ethics process					
SA	A	A/D	D	SD	NA
2 (14.3%)	4 (28.6%)	2 (14.3%)	2 (14.3%)	0 (0%)	4 (28.6%)

A: agree; A/D: neither agree nor disagree; D: disagree; NA: not applicable; SA: strongly agree; SD: strongly disagree

thought that career paths after the AFP were not clear. Again money was mentioned as was the possibility of facilitating a network for AFP doctors.

Discussion

This study explores the AFP from both the trainee and supervisor perspective. The principle findings were that a minority of trainees wished to continue directly along the clinical academic training pathway, with 26.5% applying; those who did were relatively successful in their applications (66.7%). A significant minority (26.4%) did not know what to expect on starting the programme and many expected a more structured programme. Supervisors reported enjoying their role but many did not feel adequately prepared for it. They emphasised the importance of preparation but felt that the AFP offered an authentic experience of clinical academia, while recognising some of its difficulties such as conflicting clinical commitments and time pressures. The personal attributes of the trainee contributed to their success.

The predominance for 4-month blocks, 85.3% in this survey and 79% in a previous survey,[19] parallels the availability of each type of post. The relative benefits of each has been debated, but as the conflicting comments in this and previous studies[18] show, some trainees prefer one model while others

Table 4 Results of the achievement and progress section of the trainee survey

I am happy with my achievements				
SA	A	A/D	D	SD
6 (17.6%)	16 (47.1%)	10 (29.4%)	2 (5.9%)	0 (0%)
As a result of the Academic Foundation Programme I achieved				
Presentations at local level				
0	1	2 or more		
14 (41.2%)	12 (35.3%)	8 (23.5%)		
Presentations at national or international level				
0	1	2 or more		
16 (47.1%)	10 (29.4%)	8 (23.5%)		
Publication in peer-reviewed journal				
0	1	2 or more		
26 (76.5%)	6 (17.6%)	2 (5.9%)		
I applied for an ACF				
Yes	No			
9 (26.5%)	25 (73.5%)			
I was interviewed for an ACF				
Yes	No			
6 (66.7%)	3 (33.3%)			
I was offered an ACF post				
Yes	No			
6 (100%)	0 (0%)			

A: agree; A/D: neither agree nor disagree; ACF: Academic Clinical Fellowship; D: disagree; SA: strongly agree; SD: strongly disagree

Table 5 Key points from each supervisor interview

Pseudonym and date	Length and setting	Key themes
AA 3 April 2014	19 min 22 s Face to face	Importance of preparation Lack of clarity about suitability of projects Impact of short placement time Positive experience Skill development and experiential learning Supervisor's role Advantage of real project
BB 14 April 2014	20 min 57 s Skype	Positive experience Importance of preparation Impact of short placement time Changing priorities and perspectives Preparing for next job application Unprepared for AFP supervisor role Requiring funding as a barrier Utility of being in a research group environment
CC 23 September 2014	14 min 54 s Telephone	Positive experience for both parties Unexpected barriers to tackle Preparation Lack of office space and IT Impact of short placement time Need for clear guidance on expectations
DD 30 September 2014	10 min 17 s Telephone	Importance of academic contacts Space to think about career development AFP as a taste of academia
EE 1 October 2014	15 min 10 s Face to face	Supervisor experience depends primarily on trainee's enthusiasm Academic work as 'extra' Importance of planning What the supervisor can offer the trainee Service pressures and time management
FF 2 October 2014	13 min 54 s Face to face	Positive supervisor experience Importance of preparation Success mainly trainee dependent Importance of access to collaborators and support Problems with negative attitude of clinical supervisors
GG 13 October 2014	14 min 6 s Face to face	Positive supervisor experience Set project with specific skills to develop Impact of short placement Immersion in research environment

AFP: Academic Foundation Programme

prefer another. The advice in the Academic handbook, known as the 'Rough Guide', merits inclusion here (Figure 3).

While this seems sensible advice it does beg the question of how an applicant is to know which structure will suit them given their relative inexperience in academia.

Around one-third of respondents stated that on commencing their AFP post they intended to apply for an ACF, and around one in four respondents did indeed apply. This contrasts with a large survey of over 7,000 foundation doctors, collected across several years, that found that 9.5% of foundation doctors intended to apply for academic training after Foundation Year 2.[21] This is not surprising as one would expect academic trainees to be more likely to apply for further academic training than their peers. It is rather weak evidence of the success of the programme, but it is also possible that these doctors would have aimed for an academic career with or without the AFP.

Figure 3 Image from The Academic Rough Guide, page 8.[6] Reproduced with permission from UKFPO

ADVICE: Research the structure of the different AFPs on offer and apply to those that best suit you.

Several respondents commented on expecting more structure to the programme with other comments relating to having freedom to pursue their own academic interests in both a positive and negative light. The free-text comments from a previous national survey on the impact of the AFP on academic aspirations suggested that many respondents wanted more flexibility in choosing their own projects.[19]

The finding that most supervisors found the experience to be positive is reassuring. The experience of being an academic, as opposed to clinical or educational, supervisor is not one that has been explored in the literature. Despite the availability of the Academic Rough Guide[6] that outlines possible approaches to the AFP that can be taken, many supervisors felt that they did not receive any guidance. Given that in the trainee survey only 47.1% of AFP doctors stated that they accessed the Rough Guide it may be that supervisors were not aware of its existence.

On the whole supervisors believed that preparation was an important element for success in the AFP. Nearly all trainees reported having contacted their supervisor prior to the academic block, which would imply it to be almost a requisite. A report by four AFP doctors[13] concurred that early planning is important for success.

The characteristic of individual trainees is not something that was reflected in the trainee survey, which is to be expected as such a survey is really the wrong tool to extract introspective thoughts. Other online tools may have offered the opportunity to extract this data but it was not the aim of this study. Some of the publications reflecting single AFP doctor's experience echo some of the supervisors' opinion, such as the importance of self-motivation,[14,17] the correct attitude[15] and taking advantage of available opportunities.[13]

The realities of hospital medicine and the change associated with going from student to new doctor were seen as important by many supervisors. Indeed much research has been conducted on this transition and it is increasingly being recognised as vital for patient safety and doctors' wellbeing and development.[22,23] A small scale interview study reported that many of the difficulties faced 'reflected the "realities of academic practice, particularly in the district general"'[18] and this was reiterated by several of the supervisors.

Limitations of the study

Trainee survey

This method of data collection is subject to possible problems, perhaps most prominent being the range of potential biases that can be inadvertently introduced. A selection effect is likely to exist. We contacted all AFP doctors in the North West; it is possible that this group is not representative of the national picture. This is a strength in terms of applying the results locally; however, it also a caveat if one tries to apply the results either nationally or to a different region.

The effect of a potential difference between responders and nonresponders, known as nonresponse bias when analysed in statistical terms,[24] may have skewed the results. The fact that the survey was sent out towards the end of the academic year brings in the possibility of recall bias. While these biases have been recognised little could be carried out to reduce their effect, so they must be borne in mind when interpreting the results.

Supervisor interviews

Initially all the interviews were planned to be face-to-face, however, due to the combination of the geography of the region and limited availability of participants, a number of interviews were conducted either by telephone or by an online communication platform. While it can be argued that something is lost by not being able to appreciate as easily the important nonverbal cues that one receives face-to-face, the interviews simply would not have occurred if this pragmatic approach had been shunned in favour of methodological rigidity. Again the findings from seven supervisors cannot be taken as representative and is therefore not immediately generalisable. However, we believe that the results can prove useful to other contexts.

What is already known on the subject

- The AFP, while relatively new, is becoming an established part of early clinical academic training in the UK.
- Academic medicine is struggling to retain sufficient numbers of staff, especially at senior levels.
- Small studies of the programme identified it to offer an authentic experience and to be good for career progression, but with numerous weaknesses and challenges.

The study's main messages

- There is a disconnect between trainees' expectation for a structured programme of academic skill development and supervisors valuing the authentic experience of clinical academia.
- There is evidence that the AFP is succeeding in encouraging clinical academic careers.
- Increasing opportunities for networking is one possible way to improve the programme.

Current research questions

- How do early medical academics balance developing as a clinician and researcher?
- Why do early clinical academics leave academia?
- What allows early clinical academics to progress through the ranks?

Online Supplementary Material

Appendices 1–3 are available with the online version of this paper, which can be accessed at https://www.rcpe.ac.uk/journal.

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