

## Editorial

### Authors:

Veronica Ranieri <sup>12</sup> *Research Associate,*

Department of Applied Health Research, University College London, London WC1E 6BT, UK  
Academic Careers Office, School of Life and Medical Sciences, University College London, London WC1E 6BT, UK

E: [v.ranieri@ucl.ac.uk](mailto:v.ranieri@ucl.ac.uk)

T: +44(0)20 7679 6655 / +44(0)207679 3237

Helen Barratt<sup>1</sup> *Clinical Senior Research Associate,*

Department of Applied Health Research, University College London, London WC1E 6BT, UK

E: [h.barratt@ucl.ac.uk](mailto:h.barratt@ucl.ac.uk)

T: +44 (0)20 7679 8285

Naomi Fulop<sup>1</sup> *Professor of Health Care Organisation and Management*

Department of Applied Health Research, University College London, London WC1E 6BT, UK

E: [n.fulop@ucl.ac.uk](mailto:n.fulop@ucl.ac.uk)

T: +44 (0)20 3108 3267

Geraint Rees<sup>2</sup> *Dean of the UCL Faculty of Life Sciences & Director of Academic Careers Office*

Academic Careers Office, School of Life and Medical Sciences, University College London, London WC1E 6BT, UK

E: [g.rees@ucl.ac.uk](mailto:g.rees@ucl.ac.uk)

T: +44(0)20 7679 5496

### Contributors and Sources:

We thank the Wellcome Trust, Cancer Research UK and the British Heart Foundation for sharing their clinical academic trainees' exit data on career destinations. The supporting evidence presented below is based on a scoping review of the barriers, facilitators and motivators experienced by early career clinical researchers. This collection of studies consisted of systematic reviews, commentaries and empirical studies

All authors designed the research and contributed to the interpretation and writing of the manuscript. The research was supported by the National Institute for Health Research (NIHR) Collaboration for Leadership in Applied Health Research and Care North Thames at Barts Health NHS Trust. The views expressed are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health.

Competing interests: All authors have read and understood the BMJ's policy on disclosure of conflicts of interest. All authors have completed the ICMJE uniform disclosure form found at [www.icmje.org/coi\\_disclosure.pdf](http://www.icmje.org/coi_disclosure.pdf). A copy of these forms is available from the corresponding author. All authors declare that they were not in receipt of financial or other support from any organization for this article.

“The Corresponding Author has the right to grant on behalf of all authors and does grant on behalf of all authors, an exclusive licence (or non exclusive for government employees) on a

worldwide basis to the BMJ Publishing Group Ltd. (“BMJ”), and its Licensees to permit this article (id accepted) to be published in The BMJ’s editions and any other BMJ products and to exploit all subsidiary rights, as set out in our licence.”

## Editorial

### Academic medicine: how to support postdoctoral career development

Veronica Ranieri <sup>1,2</sup> *Research Associate*, Helen Barratt<sup>1</sup> *Clinical Senior Research Associate*, Naomi Fulop<sup>1</sup> *Professor of Health Care Organisation and Management*, Geraint Rees<sup>2</sup> *Dean of the UCL Faculty of Life Sciences & Director of Academic Careers Office*

<sup>1</sup> NIHR CLAHRC North Thames, Department of Applied Health Research, University College London, London WC1E 6BT, UK

<sup>2</sup> Academic Careers Office, School of Life and Medical Sciences, University College London, London WC1E 6BT, UK

Correspondence to: G. Rees [g.rees@ucl.ac.uk](mailto:g.rees@ucl.ac.uk)

Understanding the experiences and perceptions of current early career clinical academics could guide us in helping others succeed in the future.

Over the past 20 years, many authors have warned us of an impending ‘crisis’ in academic medicine due to a failure to attract and retain medically qualified, clinical researchers (1, 2). In 2005, in response to these challenges, the UK government established an Integrated Academic Training (IAT) pathway to generate a ‘pipeline’ of world-class future clinical academics. This pathway, overseen by the National Institute for Health Research, encourages junior doctors with an interest in research to advance from an Academic Clinical Fellowship, and after successful completion of a PhD, onto a Clinical Lectureship (3). Each step along this path is competitively awarded and provides a formal structure in which trainees receive protected research time, alongside their clinical training. However, this pathway has yet to be assessed in terms of its ability to boost our supply of clinical academics.

Recent exit data for clinical PhD graduates from two of the largest funding bodies in the UK, the Wellcome Trust and Cancer Research UK, suggest that approximately a third progressed to a formal academic post, such as a clinical lectureship or clinician scientist fellowship (4, 5). Additionally, the British Heart Foundation, in a ‘light touch’ internet search of their PhD graduates, found that as few as 40% of those clinicians who completed their PhD since the year 2000 were subsequently research active (6). These data should motivate us to ensure that

early career clinical academics are provided with a training environment that is as supportive as possible.

A new UK cross-funder review of early career clinical academics' career paths and progression has identified some of the barriers and enablers to career progression (7). There is also a body of literature, predominantly American and Canadian, that may help us understand the experiences of postdoctoral clinical researchers. Four crucial factors influence postdoctoral career progression within academic medicine: mentorship; work environment; access to funding; and intrinsic motivation. The first of these, mentorship, suggests that doctors who experience supportive mentorship and positive role models tend to pursue academic medicine with greater career satisfaction and confidence (8). Supportive mentors are those who protect and encourage their trainees' personal and career development and, consequentially, promote both greater independence of thought within research and a desire to remain within clinical academia (9, 10). Allied to mentoring, early career clinical academics express a desire to work in an environment that is inclusive, respectful and attentive to their needs in an institution that is committed to their career progression (11, 12). Access to such an environment may, however, depend on attaining research funding and financial stability. Indeed, difficulties in acquiring research grants feature strongly in early career researchers' accounts. Those who experience financial pressure, such as debt, and are unable to obtain research funding may be unable to advance in their academic careers (13). Nevertheless, trainees' internal motivation and reasoning for becoming a researcher may play a part in determining their academic career path. Intrinsically motivated junior clinical academics who perceive research to be highly valuable pursue it in light of their uncertainty of career success (14, 15). These junior academics find their role intellectually stimulating and discovery exciting (16). When inevitably met with rejection from academic journals or sources of funding, these early career researchers persevere in their careers and develop resilience (17).

In light of this evidence, there are a number of actions we can take. Although more substantive data are needed on the experiences of UK trainees, there are three key actions that will create a more supportive environment for junior clinical researchers in the UK. First, research institutions should implement measures to help trainees feel welcome and supported within their environment. Such interventions may be aimed at improving mentorship by providing continuous support and training to mentors, but should not be solely restricted to

this area. In this instance, training may impart approaches for facilitating an inclusive, inspiring and collectivistic work culture. Secondly, we should ensure that data relating to trainees' career pathways are routinely collected within UK universities and by funding bodies; that such data are widely shared and accessible to all who need them; and that data collection methods are continuously improved. Decisions based on such data, must also be transparent and explicable to all parties. Finally, including trainees in a collaborative dialogue with research institutions and funding bodies could generate creative and inclusive approaches to supporting postdoctoral career progression.

The future of academic medicine depends on a continuous source of clinical researchers to undertake research and translate it into practice. The Integrated Academic Training programme provides a platform for UK-based clinicians to launch their clinical academic careers. We, therefore, must strengthen our efforts to ensure that early career clinical researchers are supported and that this platform is thoroughly assessed for its effectiveness.

## REFERENCES

1. Stewart PM. Academic medicine: a faltering engine - Action is needed to respond to growing need and opportunities. *British Medical Journal*. 2002;324(7335):437-8.
2. Clark J, Tugwell P. Who cares about academic medicine? *British Medical Journal*. 2004;329(7469):751-2.
3. Funston G, Cerra, C., Kirkham, D., Doherty, G. & O'Neill, P. The road to a clinical academic career. *BMJ Careers*. 2015. Epub 19th February 2015.
4. Wellcome Trust. Wellcome Trust Clinical Career Tracker Results of wave 3 (2013) Summary report. London: Wellcome Trust, 2014.
5. Cancer Research UK. Clinical Careers Review. 2015.
6. British Heart Foundation. Strategy Review. 2015.
7. Medical Research Council, the Academy of Medical Sciences, British Heart Foundation, Cancer Research UK, National Institute for Health Research, Wellcome Trust. A Cross-Funder Review of Early-Career Clinical academics: Enablers and Barriers to Progression. London: Medical Research Council, 2015.
8. Horn L, Koehler E, Gilbert J, Johnson DH. Factors associated with the career choices of hematology and medical oncology fellows trained at academic institutions in the United States. *Journal of clinical oncology : official journal of the American Society of Clinical Oncology*. 2011;29(29):3932-8.
9. Sambunjak D, Straus SE, Marusic A. Mentoring in academic medicine: a systematic review. *Jama*. 2006;296(9):1103-15.
10. Straus SE, Straus C, Tzanetos K, International Campaign to Revitalise Academic M. Career choice in academic medicine: systematic review. *Journal of general internal medicine*. 2006;21(12):1222-9.
11. Bucklin BA, Valley M, Welch C, Tran ZV, Lowenstein SR. Predictors of early faculty attrition at one Academic Medical Center. *BMC medical education*. 2014;14:27.
12. Pololi L, Conrad P, Knight S, Carr P. A study of the relational aspects of the culture of academic medicine. *Academic medicine : journal of the Association of American Medical Colleges*. 2009;84(1):106-14.
13. Kubiak NT, Guidot DM, Trimm RF, Kamen DL, Roman J. Recruitment and retention in academic medicine--what junior faculty and trainees want department chairs to know. *The American journal of the medical sciences*. 2012;344(1):24-7.
14. Sanders AB, Fulginiti JV, Witzke DB, Bangs KA. Characteristics influencing career decisions of academic and nonacademic emergency physicians. *Annals of emergency medicine*. 1994;23(1):81-7.
15. Weinert CR, Billings J, Ryan R, Ingbar DH. Academic and career development of pulmonary and critical care physician-scientists. *American journal of respiratory and critical care medicine*. 2006;173(1):23-31.
16. Osborn EH, Ernster VL, Martin JB. Women's attitudes toward careers in academic medicine at the University of California, San Francisco. *Academic medicine : journal of the Association of American Medical Colleges*. 1992;67(1):59-62.
17. DeCastro R, Sambuco D, Ubel PA, Stewart A, Jagsi R. Batting 300 is good: perspectives of faculty researchers and their mentors on rejection, resilience, and persistence in academic medical careers. *Academic medicine : journal of the Association of American Medical Colleges*. 2013;88(4):497-504.