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A Cross-Funder Survey of Enablers and Barriers to Progressing a Research-Related Academic Career in the Non-Medical Health Professions

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Chapter 1: Executive Summary

1.1 Health Education England (HEE), as part of the Shape of Caring[1] programme of nurse education reform, commissioned a survey of factors that enable and inhibit the career progression of applicants for an NIHR personal research training award. This initiative was led by HEE in collaboration with NIHR.

1.2 Other research funders engaged in the review were the Alzheimer's Society, Arthritis Research UK, Diabetes UK, the Higher Education Funding Council for England (HEFCE), Kidney Research UK, the Medical Research Council and the Stroke Association. Each of the funders has an important role in supporting researchers from health professions other than medicine. Between them, they provide a range of mechanisms to support those who wish to progress a research-related academic career.

1.3 The research aimed to understand :

- the routes by which healthcare professionals first develop an interest in academic careers and gain first research experience
- the career paths they pursue
- the nature of any enablers and barriers to pursuing a clinical academic career and to consider how we might best support people through the most difficult transitions

1.4 This study brings together for the first time an overview of the career progression of nurses, midwives and allied health professionals (NMAHPs) who wish to pursue independent research and clinical academic careers and of the enablers and barriers to progress in this field. It builds on the recent findings from the NIHR strategic review of training and makes recommendations regarding interventions and initiatives to support such careers and remove unnecessary barriers.

1.5 The first phase of the research surveyed applicants to NIHR/HEE fellowship schemes, both awarded and rejected; the second phase surveyed applicants who successfully applied to other funding bodies (Appendix 1). Categories of award included doctoral and post-doctoral, clinical and traditional fellowships.

Research methods

1.6 In Phase 1, all applicants for whom the NIHR had contact details were invited to take part in the study and complete an online survey. Out of a potential 904 applicants, 231 eligible responses were received. The fieldwork was carried out between March and May 2017 (Appendix 3). In Phase 2, successful applicants to seven additional funding bodies were invited to take part in the survey (see chapter 7).

Key findings: enablers and barriers

1.7 It is clear that being awarded a fellowship has a positive impact on careers. The award of a fellowship was linked to a greater likelihood of being research active; being more likely to direct and lead their own research team and for post-doctoral award holders being more likely to commission and regulate research.

[1] Raising the bar. Shape of caring: a review of the future of education and training of registered nurses and health care assistants. HEE, 2015

1.8 Most participants in this survey were in the early stages of their career, with a high proportion still undertaking their fellowship. The most common enablers to supporting progression in research were success in securing funding, experience and skills gained through training or research, and advice, support and guidance.

1.9 Most of those awarded a doctoral fellowship encountered some sort of barrier during the transition to their first role post-fellowship; the barriers tended to relate to research roles, including funding, availability of positions and maintaining research activity. Nearly half of the awarded doctoral respondents encountered inadequate support from their employing organisation as a barrier.

1.10 The transition to the post-doctoral phase was acknowledged in the 2017 NIHR strategic review of training as a pinch point and deserving of attention. Support to navigate into the immediate post-doctoral phase is lacking and this therefore tends to be a very challenging phase in a clinical academic career (CAC). Since completion of their fellowship, many awarded doctoral participants had transitioned to an academic position or a clinical post (with no formal sessions for research) at the end of their fellowship. Initially post fellowship, the highest proportion returned to the role they held pre-fellowship or took the position as they considered it their only option.

1.11 At the post-doctoral level, the awarded respondents were more likely to have transitioned to a research leadership position (Reader/Professor) since their fellowship and a higher proportion had taken their first position because it fitted with their research career aspirations, demonstrating they had more control and choice over their career trajectory.

1.12 Overall, nearly 99% of respondents indicated they were currently pursuing a research related career path - the numbers actually doing research were lower (70% for doctoral and 90% for post-doctoral participants).

Enabling factors and barriers

Enablers

- Being awarded funding
- Experience/skills gained through training and research
- Advice, support and guidance
- Support from a mentor or manager

Potential enablers (related to CAC)

- Clearer career paths for clinical academics (CA)
- Greater integration across clinical and academic departments to support CA roles
- More grant/fellowship funding opportunities
- Greater visibility/number senior CA role models
- Greater alignment: NHS/University employment
- Larger number CA training positions

Barriers

- Availability of positions
- Availability of funding
- Maintaining research activity
- Inadequate support from employing institution

Challenges on completion of higher degree

- Securing a research-related post that reflected chosen area of focus
- Securing a post:
  - at an appropriate clinical level
  - that reflected knowledge and skills acquired
  - where they could sustain research activity

Barriers related to pursuing a CAC

- Financial implications

Next steps

Build interest in research-related careers

1.13 Opportunities to learn about and engage with career researchers should be further developed, including setting up a programme similar to the 'Inspire' programme for undergraduate medical and dental students. Undergraduate curricula in the different professions should offer similar opportunities to learn about research and build awareness of the potential of research careers.

Retain ICA programme funding, and review arrangements for funding in early post-doctoral phase

1.14 Fellowships provide protected research time at critical career stages and the impact on those awarded one was obvious. There is a need to retain opportunities for fellowship funding amongst non-medical clinicians. In particular, funders should review how to best support individuals immediately following doctoral training, to secure benefits to patient care over the longer term.

Address and clarify career pathways for academic non-medical clinicians

1.15 There is an overwhelming need to introduce a career structure for NMAHPs pursuing a clinical academic career. A career pathway to integrate clinical and academic training should be developed to:

- provide tangible career opportunities suited to the early, mid- and senior stages of a clinical academic career
- support development of roles that enable individuals to sustain research activity and put to good use newly acquired skills and knowledge

Remove barriers to developing a clinical academic career

1.16 There needs to be better integration, with agreed principles and guidance, between university academic departments and the NHS – at the moment this lack is a significant obstacle and fails to support existing and emerging talent. NHS employers should also support people to remain research active. Pay and reward frameworks need to be systematically examined to ensure they don't disadvantage those pursuing a clinical academic route.

1.17 These initiatives should enhance recruitment to the ICA pathway and support its long-term sustainability. The findings from the NIHR Strategic Review[2] strongly reinforce the need for such a review and provide the opportunity to develop a framework for academic non-medical clinicians to effectively combine clinical and research strands of work.

Enhance mentorship and career support

1.18 Funders, university academic departments, NHS employers, professional organisations and senior academics all have a responsibility to provide tailored careers advice and mentorship at all stages of a career. All these stakeholders play a key role in ensuring nurses, midwives and allied health professionals pursuing a research-related career get access to the information, advice and support needed. A framework should be devised to illustrate career routes and opportunities for academic non-medical clinicians and used consistently by organisations, such as NHS Health Careers and NIHR.

Review long-term destinations and roles

1.19 As the ICA programme is only 10 years old, respondents to this survey were largely early on in their careers. A survey similar to this one should be repeated in five years to assess the long-term impact.

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[2] Cotterill, L Hanley, N Hewison, J Iredale, J Magee, C Mulvey, M Jones, D (2017) Ten years on: adapting and evolving to new challenges in developing tomorrow's health research leaders. NIHR trainees Co-ordinating Centre, Leeds. July 2017: https://www.nihr.ac.uk/our-faculty/documents/TCC-NIHR-Strategic-Review-of-Training-2017.pdf

Chapter 2: Introduction and Background

2.1 This document reports the findings from research undertaken to explore the experiences and career pathways of nurses, midwives and allied health professionals (NMAHP's) who want to pursue an academic career as an independent researcher, with a particular focus on the clinical academic career route.

2.2 Past applicants to fellowship schemes administered by NIHR/HEE, both awarded and rejected, were surveyed for the first phase of this research; awarded past applicants to the following funders were surveyed in phase 2: the Alzheimer's Society, Kidney Research UK, Medical Research Council (MRC), Arthritis Research UK, the Higher Education Funding Council for England (HEFCE), Diabetes UK and the Stroke Association. Details of each of the research funders can be found in Appendix 1.

Background

2.3 Historically, nurses, midwives and allied health professionals have rarely chosen to pursue a career as an independent researcher. There have been few training opportunities and no clear pathway by which to pursue a career which combines clinical and academic work.

2.4 In 2007 the Finch Report[3] examined the roles of nurses as researchers and educators, and investigated the barriers faced by nurses who wished to pursue a research career. It envisaged a more flexible career structure that would enable development of a clinical academic role – combining clinical and academic work – as the norm for nurses pursuing a research career, rather than requiring them to pursue one role at the expense of the other. It recommended a coordinated range of research training opportunities be made available and organised at 4 sequential levels ranging from masters to senior fellowships.

2.5 Whilst initially focusing on nurses and midwives, the findings and recommendations of the Finch report[1] were felt to be equally applicable to the allied health professions.

2.6 In response, the Chief Nursing Officer for England (CNO) and Chief Allied Health Professions Officer commissioned a clinical academic training (CAT) programme for nurses, midwives and the allied health professions in England. The National Institute for Health Research Trainees Coordinating Centre (NIHR TCC) has successfully hosted the masters, clinical doctoral and clinical lectureship parts of the training pathway since 2008.

2.7 The Higher Education Funding Council for England (HEFCE) initiated their senior clinical lectureship award programme in 2010. In 2012,[4] the Department of Health asserted its continued commitment to sustaining a national training pathway for NMAHP's.

2.8 In 2015, Health Education England[5] set out a clinical academic careers framework aimed at optimising clinical academic careers across the health professions. It brought together

[3] *Developing the best research professionals - Qualified graduate nurses: recommendations for preparing and supporting clinical academic nurses of the future. Report of the UKCRC Subcommittee for Nurses in Clinical Research (Workforce).* 2007 [Dame Janet Finch] - http://www.ukcrc.org/wp-content/uploads/2014/07/Nurses-report-August-07-Web.pdf

[4] Developing the Role of the Clinical Academic Researcher in the Nursing, Midwifery and Allied Health Professions, London: 2012. http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_133094.pdf https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/215124/dh_133094.pdf

[5] https://www.hee.nhs.uk/sites/default/files/documents/HEE_Clinical_Academic_Careers_Framework.pdf

previous funding and collaborative initiatives in order to streamline the approach to developing clinical academic careers and identified a common approach to capacity and capability training to support clinical academic careers across all the healthcare professions. It consolidated previous schemes for the health professions (excluding doctor and dentists) under the umbrella of the HEE/NIHR Integrated Clinical Academic (ICA) Programme.

2.9 The establishment of the ICA programme was a significant landmark in the development of a clinical academic career pathway for nurses, midwives and the allied health professions. The awards typically offer 3 years support at the doctoral level and up to 5 years for the most senior post-doctoral fellowships. Alongside the HEE/NIHR programme, the research councils and some major charities have a history of offering research training fellowships to eligible NMAHP's.

2.10 Doctoral level awards support individuals to undertake a PhD. Awards are typically for three years and support a fellow's salary, tuition fees and research and training costs. They buy out time from other commitments to undertake a period of research and training to support career development. Post-Doctoral Research Training Fellowships of various kinds support individuals who have already obtained a PhD to support the transition to independent research leader. Awards typically offer 3-5 years' support. Those awards with a clinical element enable health professionals to engage in clinical practice whilst also carrying out research and teaching, placing them in a unique position to secure and sustain connections between clinical research and practice, and to pose new research questions arising from their clinical observations and experience.

2.11 The Shape of Caring review (2015)[6] emphasised the importance of clinical academic roles in nursing and the need to expand and develop them. It concluded that if the number of nursing clinical academics was to be increased then nationally co-ordinated investment was required, as well as local organisation. During engagement events and written responses to inform HEE's response to Shape of Caring (HEE, 2016),[7] various barriers to participation in research were cited such as funding, training, mentoring and fears over job security.

2.12 The NIHR conducts regular evaluations of the HEE/NIHR scheme. However, since the original work by Finch (2007)[1] there has been only limited review of the various aspects of career support for NMAHPs who wish to sustain a clinical academic career. More recently work has been undertaken to set out the important role of infrastructure, particularly strategic partnerships and provide guidance to organisations seeking to build local research capacity[8]. The NIHR completed a strategic review of training in July 2017 and whilst the increase in training opportunities brought about by the ICA scheme have been effective there remains concern about long-term career opportunities[9]. Little is known of the specific experiences and barriers to role development and career progression of those aspiring to or pursuing an academic career, and particularly a clinical academic career.

[6] Raising the bar. Shape of caring: a review of the future of education and training of registered nurses and health care assistants. HEE, 2015

[7] Raising the Bar: Shape of Caring': Health Education England's response. Health Education England's response to A Review of the Future Education and Training of Registered Nurses and Care Assistants in England. HEE, 2016

[8] Carrick-Sen, D; Richardson, A; Moore A; Dolan, S (2016), Transforming Healthcare Through Clinical Academic Roles in Nursing, Midwifery and Allied Health Professions: A Practical Resource For Healthcare Provider Organisations, AUKUH, London

[9] Cotterill, L Hanley, N Hewison, J Iredale, J Magee, C Mulvey, M Jones, D (2017) Ten years on: adapting and evolving to new challenges in developing tomorrow's health research leaders. NIHR trainees Co-ordinating Centre, Leeds.

2.13 This research is the first to provide an overview of not only career progression, but the experiences and views of a broad range of past fellowship applicants to better understand the enablers and barriers to progression of a research-related academic career, and to inform initiatives and interventions to ensure these careers are visible, attractive and accessible. Past applicants to a range of funder's schemes, with and without a clinical element, were surveyed for the research presented in this report. It builds on, and will inform future actions developed as a consequence of, the very recent findings from the NIHR strategic review of training[10].

Research objectives

2.14 The research aimed to understand:

- The routes by which healthcare professionals (excluding doctors and dentists) first develop an interest in academic careers and gain their first research experience
- The career paths they pursue
- The nature of the enablers and barriers to pursuing a clinical academic career and how individuals can be appropriately supported through the most difficult transitions

2.15 The findings will identify areas that require concerted action to accelerate efforts to grow this important segment of the non-medical Healthcare Professional workforce. This will help ensure that the potential in our clinical academic workforce can be better realised for the benefit of patients

2.16 The research was conducted in two phases. The first phase involved surveying applicants to NIHR/HEE schemes whereas the second phase involved surveying successful applicants to a number of other funders (listed in Appendix 1).

Participants

2.17 The applicants invited to participate in phase 1 were past NMAHP applicants (2008-2016) to the following NIHR doctoral and post-doctoral level schemes, both awarded and rejected (Figure 2.1)

Figure 2.1: Table showing doctoral and post-doctoral level NIHR schemes included in phase 1

Funder	Doctoral Level Awards	Post-Doctoral Level Awards
HEE/NIHR	- HEE/NIHR Clinical Doctoral Research Fellowship (CAT and ICA) - HEE/NIHR Healthcare Science Doctoral Research Fellowship - NIHR Doctoral Research Fellowship	- NIHR/HEE Clinical Lectureship (CAT and ICA) - HEE/NIHR Healthcare Science Post-Doctoral Research Fellowship - NIHR Post-Doctoral Research Fellowship - NIHR/HEE Senior Clinical Lectureship (CAT, Healthcare Science and ICA) - NIHR Career Development Fellowship - NIHR Senior Research Fellowship

[10] Cotterill, L Hanley, N Hewison, J Iredale, J Magee, C Mulvey, M Jones, D (2017) Ten years on: adapting and evolving to new challenges in developing tomorrow's health research leaders. NIHR trainees Co-ordinating Centre, Leeds. July 2017: https://www.nihr.ac.uk/our-faculty/documents/TCC-NIHR-Strategic-Review-of-Training-2017.pdf

2.18 The applicants invited to participate in phase 2 were NMAHP applicants (awarded only) to the following doctoral and post-doctoral level schemes (Figure 2.2) from the additional funders listed in Appendix 1.

Figure 2.2: Table showing doctoral and post-doctoral schemes included by the additional funders in phase 2.

Funder	Doctoral Level Awards	Post-Doctoral Level Awards
Medical Research Council	- Clinical Research Training Fellowship - Skills Development Fellowship	- Clinician Scientist Fellowship - Senior Clinical Fellowship
Arthritis Research UK	- PhD Scholarships (2014-2016) - Nurse and Allied Health Professional Fellowships (2009-2013)	- Foundation Fellowship (2010-2016) - Career Development Fellowship (2010-2016)
Diabetes UK	- Allied Health Professional, Nurse, Midwife Research Training Fellowship (2009-2011) - The Sir George Alberti Clinical Training Fellowship (2012-present)	Harry Keen Intermediate CF (2015-present)
Alzheimer's Society	Clinician Training Fellowships (2013-2017)	
Kidney Research UK	Allied Health Professional Fellowships (clinical)	
Stroke Association	Postgraduate Fellowship	- Post-doctoral Fellowship - Clinical Lectureship for Nurse and Allied Health Professionals - Senior Clinical Lectureship for Nurses and Allied Health Professionals
Higher Education Funding Council for England		Senior Clinical Lectureship Awards for Nurses, Midwives, Allied Health Professionals and Healthcare Scientists

2.19 Important note: Applicants for 'Research Training Fellowships' where the focus is solely on the research itself and development as an academic researcher and 'Clinical Research Training Fellowships' which support award holders in the dual areas of research and clinical practice were all invited to participate in the survey.

2.20 During the report, the respondents are referred to as awarded and rejected (phase 1 only):

- **Awarded applicants** - The term 'awarded doctoral applicants' refers to doctoral applicants that have completed a PhD from 2011 onwards or are still undertaking their PhD funded by NIHR and/or HEE. The term 'awarded post-doctoral applicants' refers to those who indicated that their most recent application was successful.
- **Rejected applicants -** The term 'rejected doctoral applicants' refers to those that have not been 'awarded' and the term 'rejected post-doctoral applicant' refers to those who indicated that their most recent application was not successful.

2.21 Not all participants were presented with every question in the survey (adaptive questioning was used); survey questions were tailored to the participant and in some cases the question pathway depended on responses to earlier questions. This aimed to minimise the complexity of the survey for participants.

2.22 The protocol for the research was reviewed and approved by the Faculty of Health Sciences Research Ethics Committee (reference no. 29715).

Method

Phase 1

2.23 For phase 1, the NIHR TCC located the contact details of applicants, both awarded and rejected, to the eligible schemes (Figure 2.1). All applicants for whom up-to-date contact details were available to the NIHR were invited to take part in the study. They were sent an invitation email with a link to the participant information sheet (Appendix 2) and the online survey. The participants were asked to tick a box to confirm they had read and understood the participant information sheet and consented to take part in the survey before they were able to proceed to the survey questions. A reminder email invitation was sent approximately 3 weeks after the original send-out.

2.24 A total of 904 email invitations to the online survey were successfully delivered during phase 1[11] and 231[12] eligible participants went on to complete the survey; this was a response rate of 25.6%. Data collection took place between March 2017 and May 2017. The participants in the survey were a convenience sample.

2.25 The online survey for phase 1 is included in Appendix 3. It is an amended version of the survey used by IFF Research (2015)[13], adapted for completion by non-medical health professionals. The survey was pre-tested during the adaptation and development stage. The survey responses were automatically saved into a database. Only those that had reached the end of the survey were included in the analysis.

Phase 2

2.26 During phase 2, 7 additional funders (Alzheimer's Society, Arthritis Research UK, Kidney Research UK, Diabetes UK, Stroke Association, the Medical Research Council and the Higher Education Funding Council for England)[14] sent email invitations to awarded applicants to their eligible schemes (Figure 2.2) for whom they had contact details. The participants were asked to tick a box to confirm they had read and understood the participant information sheet and consented to take part in the survey before they were able to proceed to the survey questions. A reminder email invitation was sent approximately 3 weeks after the original send-out.

2.27 It was possible that individuals could be invited to complete the survey by more than one funder (if they had completed a fellowship application from more than 1 funder); in the invitation email sent during phase 2, the study team apologised if the recipient had already received an invitation and confirmed that they did not need to complete the survey a second time.

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[11] The NIHR sent out 1074 email invitations to 695 doctoral applicants, 362 post-doctoral and 17 other applicants; overall, 30.4% of the invited applicants had been awarded a fellowship. 170 of the email invitation bounced, so there were 904 successful invitations sent.

[12] In total, there were 232 respondents to the survey, but one participant was found to be ineligible when considering the survey data and was not included in the analysis

[13] A cross-funder review of early-career clinical academics: enablers and barriers to progression. IFF Research November 2015

[14] During phase 2, the additional funders sent approximately the following number of invitations to the online survey: the Alzheimer's Society – 10 (unconfirmed number), Arthritis Research UK – 9, Diabetes UK – 18, the Stroke Association – 24 (26 sent and 2 unsuccessful emails), Medical Research Council – 7, Kidney Research UK – 5, the Higher Education Funding Council for England – 12.

2.28 A total of approximately 85[15] email invitations to the online survey were successfully delivered during phase 2 and 25[16] eligible participants went on to complete the survey; this corresponded to a response rate of 29.4%. Data collection occurred between July 2017 and September 2017. The online survey for phase 2 was an amended version of the survey sent in phase 1 to reflect the fact that all respondents were awarded (Appendix 3)[17].

2.29 The findings from phase 2 are presented in chapter 7 of this report.

Important notes about the findings

2.30 In the survey introduction, the participants were directed to consider their most recent NIHR fellowship application (or application to additional funder) wherever there was a question referring to 'fellowship' throughout the survey.

2.31 For the purposes of this report, apart from when it is specified differently in a particular section, the group '***still undertaking a fellowship/funded programme of study'*** can be defined as the following: participants who specified in section C of the survey ('Career since applying for fellowship') when asked about specific roles since completing (or applying for) fellowship that they were still undertaking their fellowship or specified they were a holder of any type of fellowship from an external funder or specified in other they were undertaking a PhD funded from whatever source (i.e. doing a funded programme of study).

2.32 The findings included in this report are shown as frequencies and percentages only. There has been no analysis of the data to determine if the differences between groups are significant, analysis is descriptive only. Any references to differences between groups are based on the frequencies and percentages only.

Limitations

2.33 The survey responses must be considered in the light of the low response rate to the survey; the participants were also a convenience sample. Data generated from questions directed to specific sub-groups should be viewed cautiously as numbers involved were small. The doctoral respondents considered to be awarded were those who had completed their PhD since 2011 or were currently completing their PhD funded by NIHR or HEE as determined by the survey responses. We have no further detail for the doctoral or post-doctoral respondents regarding the fellowship type they were funded for or whether they were integrated clinical academic fellowships or research only fellowships.

[15] We do not have the confirmed numbers from 1 of the funders and will update this section

[16] One participant completed the survey, but from the responses could be deemed to be ineligible, so was excluded

[17] The introduction was tailored to each funder, including the names of the fellowships included, and amendments were made through the questionnaire to reflect the fact that all respondents were awarded.

Chapter 3: Profile of participants: Demographics and Current roles

3.1 This chapter provides an overview of the demographic characteristics and research activity and roles of participants in phase 1 of the survey.

Profile of participants: Demographic characteristics

3.2 The demographic characteristics of respondents are shown in Figure 3.1.

Figure 3.1: Demographic characteristics of respondents to the survey by fellowship level

Demographics	Doctoral n=134 (%)	Post-doctoral n=96 (%)
Sex: % female	101 (75.4)	76 (79.2)
Age: <50	106 (79.1)	57 (59.4)
Professional group: % nurse, midwife, health visitor	46 (34.3)	26 (27.1)
Ethnicity: % white – British	87 (64.9)	77 (80.2)
Nationality: % UK National	117 (87.3)	87 (90.6)
Fellowship: % awarded	62 (46.3)	47 (49.0)

Table data information: The table includes the demographics for all respondents to the survey where data on fellowship level was available (n=230). For 1 participant the information on fellowship type was missing. The percentages shown are calculated from the total number of respondents within each cohort.

3.3 A higher proportion of females to males in both the doctoral and post-doctoral cohorts (75.4% and 79.2% females respectively) participated in the survey. The doctoral applicants tended to be younger with nearly 80% under 50, whereas only 59.4% of the post-doctoral applicants were under 50.

3.4 Nearly two thirds of the doctoral applicants were from other health professional groups including the allied health professions (AHPs), healthcare scientists and pharmacists; only a third were nurses, midwives or health visitors. This was broadly similar in the post-doctoral cohort.

3.5 In both the doctoral[18] and post-doctoral[19] cohort there were slightly more rejected than awarded respondents; there were 62 awarded doctoral applicants[20] (46.3%) and 47 awarded post-doctoral applicants[21] (49.0%).

3.6 The majority of respondents were white British or had specified white English, Welsh, Scottish, Northern Irish or Irish (n=188, 81.4%). A broad range of different ethnic groups were represented within the sample of respondents, including Chinese, Indian and Asian, African and Caribbean and those of mixed ethnic background.

[18] The term doctoral applicant includes those that applied for HEE/NIHR Clinical Doctoral Research Fellowships, HEE/NIHR Healthcare Science Doctoral Research Fellowships or NIHR Doctoral Research Fellowships.
[19] The term post-doctoral applicant includes those that applied for an HEE/NIHR Clinical Lectureship, NIHR Healthcare Science Post-doctoral Research Fellowship, NIHR Post-doctoral Research Fellowship, HEE/NIHR Senior Clinical Lectureship, NIHR Career Development Fellowship or NIHR Senior Research Fellowship.
[20] The term 'awarded doctoral applicants' refers to doctoral applicants that have completed a PhD from 2011 onwards or are still undertaking their PhD funded by NIHR and/or HEE. The term 'rejected doctoral applicants' refers to those that have not been 'awarded'
[21] For the post-doctoral applicants, the term awarded and rejected is determined from the question: 'Was your most recent application successful?'

3.7 Most respondents were UK Nationals or non-UK Nationals from within the EU (n=217, 93.9%); only 3% of respondents were from outside of the EU.

Profile of participants: Doctoral applicants

Profile of current roles: Doctoral applicants

3.8 Current roles of doctoral respondents are shown in Figure 3.2 and Figure 3.3.

Figure 3.2: A table showing the current roles of doctoral respondents to the survey.

Current role	Doctoral applicants			
	Doctoral Awarded n=62 (%)	Doctoral Rejected n=71 (%)	Doctoral Unknown n=1 (%)	Overall n=134 (%)
Still undertaking a fellowship/funded programme of study[22]	38 (61.3)	13 (18.3)	1	52 (38.8)
Clinical post – with no sessions funded for research	6 (9.7)	24 (33.8)	0	30 (22.4)
Combined research and clinical role[23]	4 (6.5)	12 (16.9)	0	16 (11.9)
Clinical Research Staff/Research Fellow – NHS employee[24]	3 (4.8)	12 (16.9)	0	15 (11.2)
Academic post – University employee (non-clinical)[25]	7 (11.3)	3 (4.2)	0	10 (7.5)
Research based career outside of health profession	1 (1.6)	2 (2.8)	0	3 (2.2)
Career break	0	1 (1.4)	0	1 (0.7)
Other[26]	1 (1.6)	2 (2.8)	0	3 (2.2)
Missing	2 (3.2)	2 (2.8)	0	4 (3.0)

Table data information: The table includes the current roles of doctoral respondents to the survey (n=134) as specified in section C of the survey. Note: participants that were still undertaking a fellowship/funded programme of study via any funder were included together in that category. Several of the category options from the survey question C1 have been combined and most of the roles specified in 'other' have been included in one of the original categories or a new category has been created to properly reflect the role described.

3.9 In total, 52 doctoral applicants (38.8%) indicated they were still undertaking a fellowship. Of the remaining respondents (that were not still undertaking a fellowship/funded programme of study), the highest proportion of awarded respondents were in an academic post (11.3%), such as Research Fellow and Research Associate roles. There were a similar number in a clinical post with no sessions funded for research (9.7%).

3.10 Of the 10 participants that held an academic post, 3 specified they held a senior role (not including professor or Reader). None of these 10 indicated they had a clinical element to their role.

[22] The 'still undertaking category' included those that responded to question C1 in the following ways: those that were 'still undertaking', 'holder of a clinical research training fellowship of some type from an external funder', 'holder of a senior clinical research training fellowship of some type from an external funder', or those who specified in other they were still undertaking their fellowship, PhD or holder of any type of fellowship. This includes those still undertaking fellowship funded by NIHR/HEE and those funded by other sources.

[23] The combined research and clinical role includes the following categories from the survey: 'clinical post (with some sessions funded for research)', 'a post that combines clinical and research duties', academic clinical lecturer and academic senior clinical lecturer or specified a combined role in 'other'.

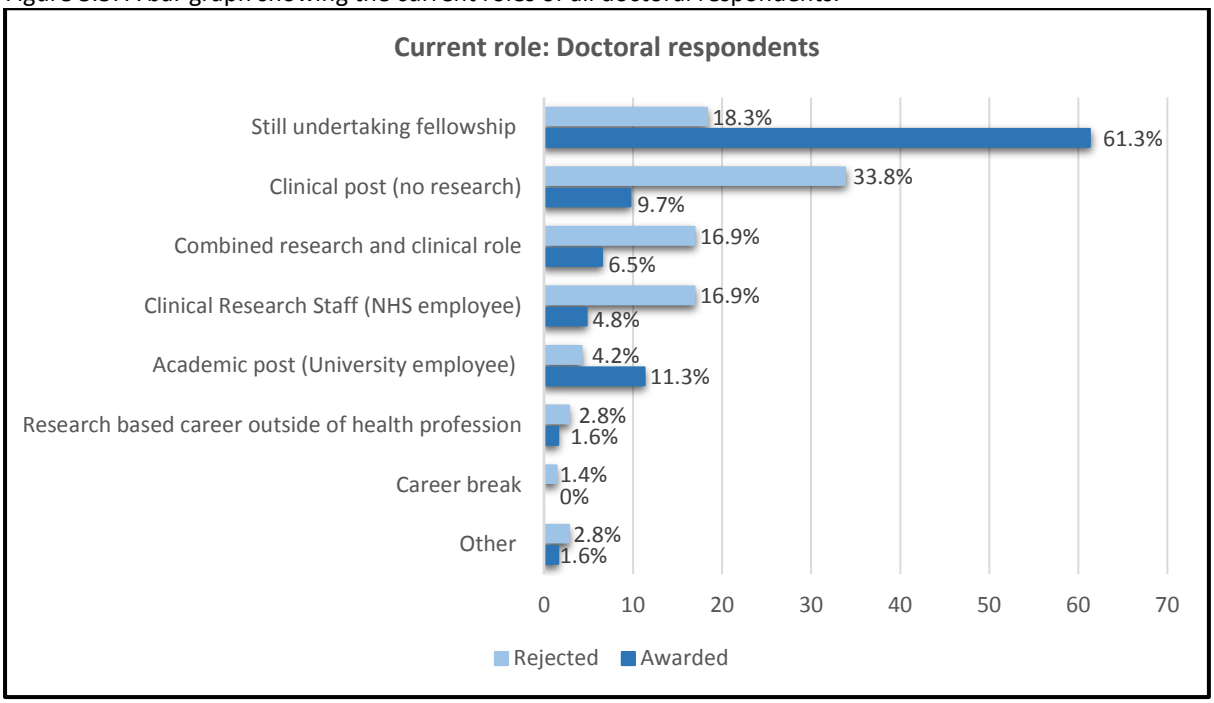
[24] The 'clinical research staff (NHS employee)' category also now includes the category: 'research fellow (NHS employee)' from the survey

[25] The 'academic post (University employee) category also now includes the following categories from the survey: Research fellow (University employee), Academic Lecturer (with no sessions funded for clinical work) and Academic Senior Lecturer or Associate Professor (with no sessions funded for clinical work) and those that indicated in 'other' they were a Senior Research Fellow or Research Associate (Senior or not) or other academic role.

[26] Where the respondent had specified their role in 'other' this was checked and where possible included in the appropriate category

3.11 A smaller proportion of the rejected doctoral applicants were still undertaking a fellowship/funded programme of study (18.3%). The highest proportion of the rejected doctoral cohort were in a solely clinical post with no research sessions (n=24, 33.8%). A combined research and clinical post or Clinical Research Staff role were both commonly indicated roles in the rejected cohort (both 16.9%).

Figure 3.3: A bar graph showing the current roles of all doctoral respondents.



Graph data information: The graph includes the demographics for the doctoral respondents classified awarded or rejected (n=133). One doctoral respondent could not be classified as awarded or rejected.

Profile of current employing institution: Doctoral applicants

3.12 The employing institution of doctoral respondents is shown in Figure 3.4. The cohort that were still undertaking a fellowship/funded programme of study (n=52) were not included in this analysis.

Figure 3.4: A table showing the employing institution of doctoral applicants in the survey

Current employing institution	**Doctoral: awarded/rejected**		
	Doctoral Awarded n=24 (%)	**Doctoral Rejected n=58 (%)**	**Overall n=82 (%)**
NHS organisation	15 (62.5)	44 (75.9)	59 (72.0)
University	9 (37.5)	7 (12.1)	16 (19.5)
Other public sector organisation	0	3 (5.2)	3 (3.7)
Private sector organisation	0	1 (1.7)	1 (1.2)
Career break	0	1 (1.7)	1 (1.2)
Other research institute	0	0	0
Other	0	2 (3.4)	2 (2.4)

Table data information: The table includes the primary employing institution of 82 doctoral respondents (excluding those that indicated they were undertaking a fellowship/funded programme of study in section C of the survey). The participants were asked to select one option only or specify in other.

3.13 Nearly three quarters of the respondents were employed by the NHS, with the next highest being the University.

3.14 Both the awarded and rejected participants were most commonly employed by the NHS, with a slightly higher proportion of the rejected compared to the awarded respondents (75.9% versus 62.5%). The awarded participants were more likely to be employed by the University when compared to the rejected respondents (Figure 3.4).

Profile of research activity – research active status: Doctoral applicants

3.15 The survey asked respondents (excluding the still undertaking cohort) whether they felt they were research active in their current role, in 2 different ways:
1. Direct question asking whether they are research active in their current role[27]
2. Asked to indicate percentage of time spent on research in each role[28]

3.16 Out of the 82 doctoral applicants (that were not undertaking a fellowship), 57 (69.5%) indicated they were research active in their current role; the data showed that 79.2% of awarded respondents and 65.5% of rejected respondents were research active in their current role.

3.17 There were complete data regarding percentage of time spent on research in 68[29] of the doctoral respondents. Overall, 70.6% of these doctoral applicants spent some time on research in their current role; the awarded and rejected cohorts were similar with 75% of awarded and 68.8% of rejected applicants indicating they spent some time on research.

3.18 The data regarding research activity from both sources were similar; approximately 70% of the doctoral cohort were research active and awarded applicants were slightly more likely to be research active (nearer 80%).

Profile of research activity – type and areas of research activity: Doctoral applicants

3.19 Those who were research active in their current role[30] (n=57) were asked to indicate which type(s) of research activity they were involved in (Figure 3.5).

3.20 When considering specific activities, 'contributing to research led by others' was the most commonly indicated by both the awarded and rejected respondents (78.9% and 68.4% respectively).

3.21 Awarded respondents were more likely than rejected respondents to be doing the following:
- teaching (63.2% versus 42.1%)
- giving a lecture (57.9% versus 21.1%)
- directing/leading their own research programme(s) and team (57.9% versus 31.6%)
- supervising post-graduate student projects (68.4% versus 18.4%)
- supervising undergraduate student projects (36.8% versus 21.1%)

[27] Based on question D2a in the survey (see Appendix 3)
[28] Based on question C5 in the survey (see Appendix 3)
[29] There were 5 doctoral respondents where the percentages did not add to 100%, 8 were missing and 1 on a career break
[30] Based on responses from question D2a in the survey (see Appendix 3)

3.22 As at an early stage in in their research career, there was only 1 doctoral applicant involved in 'commissioning and/or shaping research strategies and/or major funding decisions' and only 3 were 'regulating research'.

Figure 3.5: A table showing types of research activity 'research active' doctoral respondents were involved in

Type of research activity	Doctoral: awarded/rejected		
	Doctoral Awarded n=19 (%)	Doctoral Rejected n=38 (%)	Overall n=57 (%)
Contributing to research led by others (e.g. by providing clinical/health material, subject or technical expertise, and/or data	15 (78.9)	26 (68.4)	41 (71.9)
Research administrative activities	13 (68.4)	20 (52.6)	33 (57.9)
Teaching activities	12 (63.2)	16 (42.1)	28 (49.1)
Directing/leading your own research programme(s) and team	11 (57.9)	12 (31.6)	23 (40.4)
Supervising post-graduate student projects	13 (68.4)	7 (18.4)	20 (35.1)
Lecturing	11 (57.9)	8 (21.1)	19 (33.3)
Clinical teaching	4 (21.1)	12 (31.6)	16 (28.1)
Supervising undergraduate student projects	7 (36.8)	8 (21.1)	15 (26.3)
Other research activity	4 (21.1)	8 (21.1)	12 (21.1)
Other teaching activity	5 (26.3)	6 (15.8)	11 (19.3)
Other administrative activity	2 (10.5)	5 (13.2)	7 (12.3)
Regulating research e.g. as a member of an ethics committee	2 (10.5)	1 (2.6)	3 (5.3)
Commissioning research and/or shaping institutional research strategies and/or major funding decisions	1 (5.3)	0	1 (1.8)

Table data information: The table includes information about the types of research activity undertaken by doctoral respondents who were research active in their current role (n=57) showing awarded and rejected. The respondents selected all responses options that applied or specified in other.

3.23 The 57 'research active' doctoral respondents were asked to determine in which specific areas they were research active (Figure 3.6).

Figure 3.6: A table to show the areas of research activity 'research active' doctoral respondents are involved in.

Areas of research activity	Doctoral: awarded/rejected		
	Doctoral Awarded n=19 (%)	Doctoral Rejected n=38 (%)	Overall n=57 (%)
Clinical research, other than trials	8 (42.1)	22 (57.9)	30 (52.6)
Health services and delivery research	10 (52.6)	16 (42.1)	26 (45.6)
Education and training	6 (31.6)	11 (28.9)	17 (29.8)
Clinical trials of health technologies	4 (21.1)	8 (21.1)	12 (21.1)
Clinical trials of drugs and/or devices	2 (10.5)	9 (23.7)	11 (19.3)
Laboratory based biomedical research	1 (5.3)	6 (15.8)	7 (12.3)
Public health research	2 (10.5)	2 (5.3)	4 (7.0)
Biotechnology/medical device development	2 (10.5)	0	2 (3.5)
Other	1 (5.3)	2 (5.3)	3 (5.3)

Table data information: The table shows the areas of research activity undertaken by those that indicated in the survey that they were 'research active' doctoral applicants (n=57) showing awarded and rejected. The respondents selected all response options that applied or specified in other.

3.24 Overall, around 40% of research active doctoral applicants were involved in clinical trials (whether drugs, devices or health technologies). Half of the awarded respondents were involved in the health services and delivery research, and nearly half (42.1%) were undertaking clinical research, other than trials.

Profile of participants: Post-doctoral applicants

Profile of current roles: Post-doctoral applicants

3.25 Current roles of all post-doctoral respondents are shown in Figure 3.7 and Figure 3.8.

Figure 3.7: A table showing the current roles of all post-doctoral respondents.

Current role	Doctoral: awarded/rejected			
	Post-doctoral Awarded n=47 (%)	**Post-doctoral Rejected n=46 (%)**	**Post-doctoral Unknown n=3 (%)**	**Overall n=96 (%)**
Still undertaking a fellowship/funded programme of study[31]	26 (55.3)	2 (4.3)	0	28 (29.2)
Academic post – University employee[32]	9 (19.1)	25 (54.3)	2 (66.7)	36 (37.5)
Combined research and clinical role[33]	5 (10.6)	13 (28.3)	0	18 (18.8)
Clinical post – with no sessions funded for research	2 (4.3)	8 (17.4)	0	10 (10.4)
Reader/Professor (Clinical or non-clinical)[34]	5 (10.6)	0	1 (33.3)	6 (6.3)
Followed a research based career outside of health profession	1 (2.1)	1 (2.2)	0	2 (2.1)
Total number of different roles included (due to some having 2 or more)[35]	**48**	**49**	**3**	**100**

Table data information: The table includes the current roles of all post-doctoral respondents to the survey (n=96). There was one awarded respondent who specified 2 separate posts, so they have been included in both categories (hence the total number is 48 in that column). There were 3 rejected respondents that indicated 2 separate posts and each has been included (hence the total number of posts is 49). The percentages are taken from the total number in the cohort (not from the number of posts indicated) e.g. Out of 47 for awarded and 46 for rejected. There were 2 that were waiting to start the fellowship and 2 that specified in 'other' that they were undertaking a fellowship alongside other roles. These 4 were included in the still undertaking a fellowship/funded programme of study group.

3.26 Over half of the awarded post-doctoral applicants were still undertaking a fellowship/funded programme of study (55.3%).

3.27 Excluding those still undertaking fellowship/funded programme of study, the highest proportion of both awarded and rejected respondents were in an academic post. Of those in an academic post, 16 specified they held a senior role. Just over 10% of the awarded respondents had a combined research and clinical role. There was 1 awarded respondent and 3 rejected respondents who indicated they had 2 roles that involved research and clinical; the roles were not integrated (separate roles) and are recorded separately in Figure 3.7, but it does demonstrate a desire for a combined role.

[31] The 'still undertaking category' included those that responded to question C1 in the following ways: those that were 'still undertaking', 'holder of a clinical research training fellowship of some type from an external funder', 'holder of a senior clinical research training fellowship of some type from an external funder', or those who specified in other they were still undertaking their fellowship, PhD or holder of any type of fellowship. This includes those still undertaking fellowship funded by NIHR/HEE and those funded by other sources

[32] The 'academic post (University employee) category also now includes the following categories from the survey: Research fellow (University employee), Academic Lecturer (with no sessions funded for clinical work) and Academic Senior Lecturer or Associate Professor (with no sessions funded for clinical work) and those that indicated in 'other' that they were a Senior Research Fellow or Research Associate (Senior or not).

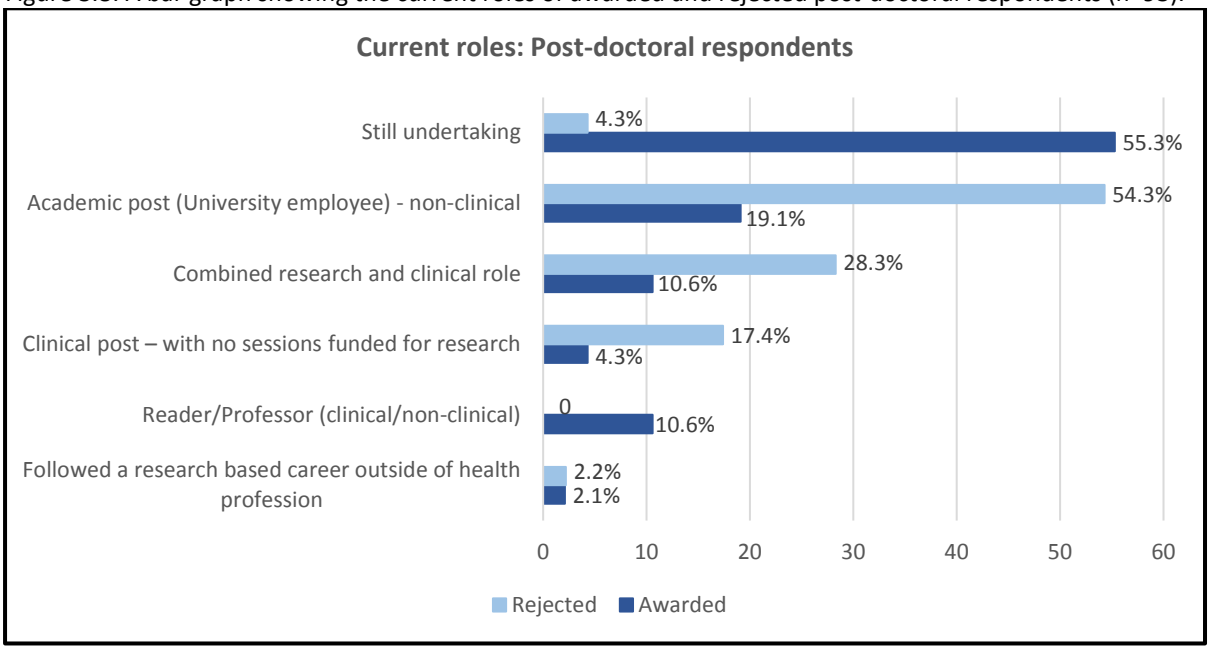
[33] The combined research and clinical role includes the following categories from the survey: 'clinical post (with some sessions funded for research)', 'a post that combines clinical and research duties', academic clinical lecturer and academic senior clinical lecturer or specified a combined role in 'other'.

[34] The 'Reader/Professor (clinical or non-clinical) includes the category: 'clinical professor' and also those that specified in 'other' their role as 'reader' or 'non-clinical professor'

[35] 5 of the post-doctoral applicants specified 2 or more separate posts and each post has been included in the table

3.28 10% of the awarded respondents were in the position of Reader/Professor, but none of the rejected respondents were in this role.

Figure 3.8: A bar graph showing the current roles of awarded and rejected post-doctoral respondents (n=93).



Graph data information: The graph includes the current roles of the post-doctoral respondents that were classified awarded or rejected (n=93). 3 post-doctoral respondents could not be classified as awarded or rejected. There were 4 respondents that indicated they were doing 2 separate roles, so each role was included separately. A total of 97 different roles are included in this graph.

Profile of current employing institution: Post-doctoral applicants

3.29 The employing institution of the post-doctoral applicants is shown in Figure 3.9. The cohort that were undertaking a fellowship/funded programme of study (n=28) were not included in this analysis.

Figure 3.9: A table showing the current employing institution of post-doctoral applicants

Current employing institution	**Post-doctoral: awarded/rejected**			
	Post-doctoral Awarded n=21 (%)	**Post-doctoral Rejected n=44 (%)**	**Post-doctoral Unknown n=3 (%)**	**Overall n=68 (%)**
University	15 (71.4)	24 (54.5)	3	42 (61.8)
NHS organisation	3 (14.3)	16 (36.4)	0	19 (27.9)
Third sector organisation	0	1 (2.3)	0	1 (1.5)
Other	3 (14.3)	3 (6.8)	0	6 (8.8)

Table data information: The table includes the information about employing institution from the 68 post-doctoral respondents (excluding those still undertaking a fellowship/funded programme of study). The participants were asked to select one option only as their primary employer or specify in other.

3.30 The highest proportion of both awarded and rejected post-doctoral respondents were employed by a University (71.4% and 54.5%). The next highest proportion in both groups were employed by an NHS organisation.

3.31 The awarded post-doctoral applicants were more likely to be employed by a University than the rejected respondents, but the rejected respondents were more likely to be employed by the NHS than the awarded participants.

3.32 Only very few were employed by any other employer.

Profile of research activity – research active status: Post-doctoral applicants

3.33 The survey asked respondents (excluding the still undertaking cohort) whether they felt they were research active in their current role, in 2 different ways:
1. Direct question asking whether they are research active in their current role[36]
2. Asked to indicate percentage of time spent on research in their current role[37]

3.34 Out of the 68 post-doctoral applicants (that were not undertaking a fellowship/funded programme of study), 92.6% (n=63) indicated they were research active in their current role. A similar proportion of awarded and rejected post-doctoral respondents were research active in their current role; 95.2% of awarded and 90.9% of rejected.

3.35 There were complete data regarding percentage of time spent on research for 63[38] of the post-doctoral respondents. Overall, 92.1% spent some time on research in their current role; 95% of the awarded and 90% of the rejected cohorts spent some time on research, respectively.

Profile of research activity – type and areas of research activity: Post-doctoral applicants

3.36 Those who were research active in their current role (n=63)[39] were asked to indicate which type(s) of research activity they were involved in (Figure 3.10).

3.37 When considering specific activities, supervising post-graduate student projects was the most commonly indicated by both awarded and rejected respondents (both 85%). The same proportion of awarded respondents also indicated they contributed to research led by others.

3.38 Awarded respondents were more likely than rejected respondents to be:
- directing/leading their own research programme(s) and team (80% versus 60%)
- commissioning research and/or shaping institutional research strategies and/or major funding decisions (25% versus 12.5%)
- regulating research (25% versus 5.0%)
- contributing to work led by others (e.g. by providing clinical/health material, subject or technical expertise, and/or data) (85% versus 75%)

3.39 Rejected post-doctoral applicants were more likely to be supervising undergraduate student projects compared to awarded applicants (52.5% and 45% respectively).

[36] Based on question D2a in the survey (see Appendix 3)
[37] Based on question C5 in the survey (see Appendix 3)
[38] There were 5 not included - 3 respondents where percentages did not equal 100% and 2 respondents with missing data
[39] Based on question D2a in the survey (see Appendix 3)

Figure 3.10: A table showing types of research activity 'research active' post-doctoral respondents are doing

	Post-Doctoral: awarded/rejected			
Type of research activity	**Post-doctoral Awarded n=20 (%)**	**Post-doctoral Rejected n=40 (%)**	**Post-doctoral Unknown n=3 (%)**	**Overall n=63 (%)**
Supervising post-graduate student projects	17 (85.0)	34 (85.0)	3 (100.0)	54 (85.7)
Contributing to research led by others (e.g. by providing clinical/health material, subject or technical expertise, and/or data	17 (85.0)	30 (75.0)	3 (100.0)	50 (79.4)
Directing/leading your own research programme(s) and team	16 (80.0)	24 (60.0)	2 (66.7)	42 (66.7)
Teaching activities	14 (70.0)	24 (60.0)	2 (66.7)	40 (63.5)
Research administrative activities	13 (65.0)	24 (60.0)	2 (66.7)	39 (61.9)
Lecturing	13 (65.0)	21 (52.5)	2 (66.7)	36 (57.1)
Supervising undergraduate student projects	9 (45.0)	21 (52.5)	2 (66.7)	32 (50.8)
Other research activity	8 (40.0)	17 (42.5)	1 (33.3)	26 (41.3)
Other teaching activity	5 (25.0)	16 (40.0)	1 (33.3)	22 (34.9)
Clinical teaching	6 (30.0)	8 (20.0)	1 (33.3)	15 (23.8)
Other administrative activity	5 (25.0)	8 (20.0)	0	13 (20.6)
Commissioning research and/or shaping institutional research strategies and/or major funding decisions	5 (25.0)	5 (12.5)	0	10 (15.9)
Regulating research e.g. as a member of an ethics committee	5 (25.0)	2 (5.0)	1 (33.3)	8 (12.7)

Table data information: The table includes information about the types of research activity undertaken by the 'research active' post-doctoral (n=63) showing awarded and rejected. The respondents were asked to select all options that applied or specified in other.

3.40 The 63 research active post-doctoral respondents were asked to determine in which areas they were research active (Figure 3.11).

Figure 3.11: A table showing areas of research activity 'research active' post-doctoral respondents were doing.

Areas of research activity	**Doctoral: awarded/rejected**			
	Post-doctoral Awarded n=20 (%)	**Post-doctoral Rejected n=40 (%)**	**Post-doctoral Unknown n=3 (%)**	**Overall n=63 (%)**
Health services and delivery research	13 (65.0)	28 (70.0)	3	44 (69.8)
Clinical research, other than trials	11 (55.0)	22 (55.0)	2	35 (55.6)
Clinical trials of health technologies	8 (40.0)	10 (25.0)	1	19 (30.2)
Education and training	7 (35.0)	11 (27.5)	1	19 (30.2)
Public health research	4 (20.0)	10 (25.0)	1	15 (23.8)
Clinical trials of drugs and/or devices	5 (25.0)	6 (15.0)	1	12 (19.0)
Biotechnology/medical device development	1 (5.0)	4 (10.0)	0	5 (7.9)
Laboratory based biomedical research	3 (15.0)	2 (5.0)	0	5 (7.9)
Other	1 (5.0)	2 (5.0)	0	3 (4.8)

Table data information: The table includes information about the areas of research activity undertaken by the 'research active' post-doctoral respondents (n=63) showing awarded and rejected. The respondents were asked to select all responses options that applied or specified in other.

3.41 The highest proportion of both awarded and rejected post-doctoral applicants were involved in health services and delivery research, and over half of both groups were involved in clinical research other than trials.

3.42 More of the awarded post-doctoral applicants were involved in clinical trials (whether health technologies, drugs and/or devices) than rejected respondents (65% versus 40%).

Profile of participants: Integrated Clinical Academic Career pathway

3.43 Participants were asked to indicate whether they were pursuing an integrated clinical academic career.[40] 109 of respondents indicated they were pursuing this career pathway.

Profile of current roles: Integrated clinical academic career pathway

3.44 Current roles of the 109 respondents currently pursuing an integrated clinical academic career are shown in Figure 3.12.

Figure 3.12: A table to show current roles of those pursuing (or not pursuing) a Clinical Academic Career

Current role	Pursuing a Clinical Academic Career?			
	Yes n=109 (%)	No n=121 (%)	Missing n=1 (%)	Overall n=231 (%)
Still undertaking a fellowship/funded programme of study	55 (50.5)	25 (20.7)	0	80 (34.6)
Academic post – University employee[41]	7 (6.4)	39 (32.2)	0	46 (19.9)
Clinical post – with no sessions funded for research	13 (11.9)	27 (22.3)	0	40 (17.3)
Combined research and clinical role[42]	25 (22.9)	9 (7.4)	0	34 (14.7)
Clinical Research Staff/Research Fellow – NHS employee[43]	7 (6.4)	8 (6.6)	0	15 (6.5)
Reader/Professor (clinical or non-clinical)[44]	1 (0.9)	5 (4.1)	0	6 (2.6)
Followed a research based career outside of health profession	1 (0.9)	4 (3.3)	0	5 (2.2)
Career break	0	1 (0.8)	0	1 (0.4)
Other[45]	1 (0.9)	2 (1.7)	0	3 (1.3)
Missing	1 (0.9)	3 (2.5)	1	5 (2.2)
Total	**111**	**123**	**1**	**235**

Table data information: The table includes current roles of all respondents to the survey (n=231) showing those pursuing a clinical academic career and those that are not. There were 4 respondents that indicated 1 or more separate posts and each of these is included in the table, so the total number of posts included is 235. The percentages are taken from the number of participants in each cohort.

3.45 Just over a third of all respondents were still undertaking a fellowship/funded programme of study of some type. About half (n=55, 50.5%) of those currently pursuing a clinical academic career were still undertaking a fellowship/funded programme of study. The next highest proportion of those pursuing a clinical academic career (*nearly half of those not still undertaking a fellowship*) were in a combined role with a clinical post and with some sessions for research; 22.9% were in this position compared to 7.4% of those not pursuing this career path.

3.46 Over half of those not pursuing this pathway were either in an academic post or in a clinical post with no sessions funded for research.

[40] Based on question E3a in the survey (see Appendix 3)

[41] The 'academic post (University employee) category also now includes the following categories from the survey: Research fellow (University employee), Academic Lecturer (with no sessions funded for clinical work) and Academic Senior Lecturer or Associate Professor (with no sessions funded for clinical work) and those that indicated in 'other' they were a Senior Research Fellow or Research Associate (Senior or not).

[42] The combined research and clinical role includes the following categories from the survey: 'clinical post (with some sessions funded for research)', 'a post that combines clinical and research duties', academic clinical lecturer and academic senior clinical lecturer or a combined role specified in 'other'.

[43] The 'clinical research staff/Research Fellow (NHS employee)' category also now includes the category: 'research fellow (NHS employee)' from the survey

[44] The 'Reader/Professor (clinical or non-clinical) category includes the category: 'clinical professor' and also those that specified in 'other' their role as 'reader' or 'non-clinical professor'

[45] Those that indicated in 'other' that they had separate clinical and research roles, were included in both categories – 'clinical post with no sessions funded for research' and also 'academic post (University employee)

Profile of current employing institution: Integrated clinical academic career pathway

3.47 The employing institution of those pursuing this pathway is shown in Figure 3.13. The cohort that were undertaking a fellowship/funded programme of study (n=80) were not included in this analysis.

Figure 3.13: A table to show employing institution of those pursuing a Clinical Academic Career

Current employing institution	Pursuing An Integrated Clinical Academic Career?			
	Yes n=54 (%)	No n=96	Missing n=1	Overall n=151 (%)
NHS organisation	38 (70.4)	40 (41.7)	0	78 (51.7)
University	9 (16.7)	49 (51.0)	0	58 (38.4)
Other public sector organisation	1 (1.9)	2 (2.1)	0	3 (2.0)
Private Sector Organisation	1 (1.9)	0	0	1 (0.7)
Third sector organisation	0	1 (1.0)	0	1 (0.7)
Career break	0	1 (1.0)	0	1 (0.7)
Other	5 (9.3)	3 (3.1)	0	8 (5.3)
Missing	0	0	1	1 (0.7)

Table data information: The table includes information about employing institution from the 151 respondents that were not undertaking a fellowship/funded programme of study showing pursuit of integrated clinical academic career or not. The participants were asked to select one option only.

3.48 Those pursuing a clinical academic career were more likely to be employed by an NHS organisation compared to those not pursuing this pathway (70.4% versus 41.7%). A lower proportion of those pursuing an integrated clinical academic career path were employed by a University (16.7%) compared to those not pursuing this career path (51.0%).

Profile of research activity – research active status: Integrated clinical academic career

3.49 The survey asked respondents whether they were research active in their current role[46]. A total of 151 respondents were included in this analysis; 87% (n=47) of those pursuing an integrated clinical academic career described themselves as research active in their current role, compared with 76% (n=73) of those not pursuing this pathway. In total 120 of the respondents were research active in their current role.

Profile of research activity – type and areas of research activity: Integrated clinical academic career pathway

3.50 Those who were research active in their current role[47] (n=120) were asked to indicate which type(s) of research activity they were involved in (Figure 3.14).

[46] Based on question D2a in the survey (see Appendix 3)

[47] Based on question D2a in the survey (see Appendix 3)

Figure 3.14: A table to show the types of research activity in all 'research active' respondents pursuing (or not pursuing) an integrated clinical academic career pathway.

Type of research activity	Pursuing an Integrated Clinical Academic Career?		
	Yes n=47 (%)	No n=73 (%)	Overall n=120 (%)
Contributing to research led by others	35 (74.5)	56 (76.7)	91 (75.8)
Supervising post-graduate student projects	26 (55.3)	48 (65.8)	74 (61.7)
Research administrative activities	25 (53.2)	47 (64.4)	72 (60.0)
Teaching activities	25 (53.2)	43 (58.9)	68 (56.7)
Directing/leading your own research programme(s) and team	28 (59.6)	37 (50.7)	65 (54.2)
Lecturing	23 (48.9)	32 (43.8)	55 (45.8)
Supervising undergraduate student projects	11 (23.4)	36 (49.3)	47 (39.2)
Other research activity	12 (25.5)	26 (35.6)	38 (31.7)
Other teaching activity	14 (29.8)	19 (26.0)	33 (27.5)
Clinical teaching	18 (38.3)	13 (17.8)	31 (25.8)
Other administrative activity	7 (14.9)	13 (17.8)	20 (16.7)
Commissioning research and/or shaping institutional research strategies and/or major funding decisions	4 (8.5)	7 (9.6)	11 (9.2)
Regulating research e.g. as a member of an ethics committee	5 (10.6)	6 (8.2)	11 (9.2)

Table data information: The table includes the information about the types of research activity undertaken by 'research active' respondents (n=120) (excluding those still undertaking fellowship/funded programme of study) showing whether they are pursuing an integrated clinical academic career or not. The respondents ticked all responses options that applied or specified in other

3.51 The findings were broadly similar between those pursuing an integrated clinical academic career and those not.

3.52 Those pursuing a clinical academic career were more likely to be involved in clinical teaching (38.3% versus 17.8). Those not pursuing a clinical academic career were more likely to be supervising undergraduate and postgraduate student projects than those that were pursuing this career pathway (Figure 3.14).

3.53 The 120 'research active' respondents were asked to determine in which areas they were research active (Figure 3.15).

Figure 3.15: A table showing the areas of research activity in 'research active' respondents by whether or not they are pursuing a clinical academic career

Areas of research activity	Pursuing an Integrated Clinical Academic Career?		
	Yes n=47 (%)	No n=73 (%)	Overall n=120 (%)
Health services and delivery research	23 (48.9)	47 (64.4)	70 (58.3)
Clinical research, other than trials	32 (68.1)	33 (45.2)	65 (54.2)
Education and training	17 (36.2)	19 (26.0)	36 (30.0)
Clinical trials of health technologies	14 (29.8)	17 (23.3)	31 (25.8)
Clinical trials of drugs and/or devices	12 (25.5)	11 (15.1)	23 (19.2)
Public health research	1 (2.1)	18 (24.7)	19 (15.8)
Laboratory based biomedical research	5 (10.6)	7 (9.6)	12 (10.0)
Biotechnology/medical device development	3 (6.4)	4 (5.5)	7 (5.8)
Other	3 (6.4)	3 (4.1)	6 (5.0)

Table data information: The table includes the information about the areas of research activity undertaken by 'research active' respondents (n=120) (excluding those still undertaking) by those pursuing an integrated clinical academic career and those that are not. The respondents ticked all responses options that applied or specified in other

3.54 Those pursuing an integrated clinical academic career were most likely to be involved in clinical research, other than trials and those not were most likely to be in health services and delivery research. A much lower proportion of those pursuing a clinical academic career were involved in public health research (2.1% versus 24.7%).

Chapter 4: Overview of career choices

4.1 This chapter aims to provide a summary of the career choices and career transitions of all respondents to the online survey. It starts with initial interest and experiences of research and then considers the career path of participants and reasons for the role changes they have made during their careers so far.

Routes into an academic career: Developing an interest in research

What sparked interest in research

4.2 Participants were asked about the factors that sparked their interest in research (Figure 4.1).

Figure 4.1: Responses by Professional group about which factors sparked their interest in research

Factors that sparked an interest in a career involving research	Professional group			
	Nurse, midwife, health visitor n=72 (%)	Other health professional groups n=155 (%)	Prefer not say/Missing n=4 (%)	Overall n=231 (%)
Interaction with people in research positions	31 (43.1)	83 (53.5)	2 (50.0)	116 (50.2)
Issue encountered in practice or service delivery	34 (47.2)	63 (40.6)	1 (25.0)	98 (42.4)
Involvement in audit, service evaluation or quality improvement projects	24 (33.3)	47 (30.3)	0	71 (30.7)
Attendance at lectures/seminars during undergraduate or postgraduate diploma/degree	25 (34.7)	40 (25.8)	1 (25.0)	66 (28.6)
Attendance at a conference or continuing education event	13 (18.1)	40 (25.8)	2 (50.0)	55 (23.8)
Advert for research bursary, internship or fellowship from HEE or NIHR	5 (6.9)	14 (9.0)	0	19 (8.2)
Hearing about experiences of those already in receipt of a training award	0	16 (10.3)	0	16 (6.9)
Advert for research bursary, internship or fellowship from university	1 (1.4)	8 (5.2)	0	9 (3.9)
Advert for research bursary, internship or fellowship from charity	0	3 (1.9)	0	3 (1.3)
Other (please specify)	9 (12.5)	29 (18.7)	2 (50.0)	40 (17.3)

Table data information: including all respondents (n=231) to the survey. The 'other health professional groups' includes allied health professionals, healthcare scientists, pharmacists and the 'other' category. The participants were asked to select all the options that applied.

4.3 Overall, interaction with people in research positions was the most commonly mentioned factor (50.2%). An issue encountered in practice or service delivery was specified by 42.4% of respondents and involvement in audit, service evaluation or quality improvement projects was identified by nearly a third (30.7%) as sparking their interest in a research career.

4.4 The nurse, midwife and health visitor cohort were most likely to select an issue encountered in practice or service delivery (47.2%), whereas the highest proportion of the other health professional group cohort specified interaction with people in research positions (53.5%).

4.5 Hearing about experiences of those already in receipt of a training award was not specified by any of the nurse, midwife and health visitor cohort, but by 10.3% of the 'other health professional groups'. Overall, this was identified by only 16 respondents (6.9%).

4.6 Advert for research bursary, internship or fellowship from HEE or NIHR, University or Charity was mentioned by 8.3% of the nurse, midwife and health visitor cohort, but by 16.1% of the 'other health professional groups' cohort (13.4% overall).

4.7 When considering responses by fellowship type (Figure 4.2), interaction with people in research positions and issue encountered in practice or service delivery were the most common factors that sparked an interest in research for both groups. Involvement in audit, service evaluation or quality improvement projects was indicated by a higher proportion of the doctoral applicants (37.3%) than the post-doctoral applicants (21.9%)

Figure 4.2: Responses by fellowship type about which factors sparked interest in research

What sparked interest in research?	Fellowship type		
	Doctoral n=134 (%)	Post-doctoral n=96 (%)	Overall n=231 (%)
Interaction with people in research positions	65 (48.5)	51 (53.1)	116 (50.2)
Issue encountered in practice or service delivery	53 (39.6)	44 (45.8)	98 (42.4)
Involvement in audit, service evaluation or quality improvement projects	50 (37.3)	21 (21.9)	71 (30.7)
Attendance at lectures/seminars during undergraduate or postgraduate diploma/degree	36 (26.9)	30 (31.3)	66 (28.6)
Attendance at a conference or continuing education event	35 (26.1)	20 (20.8)	55 (23.8)
Advert for research bursary, internship or fellowship from HEE or NIHR	14 (10.4)	5 (5.2)	19 (8.2)
Hearing about experiences of those already in receipt of a training award	11 (8.2)	5 (5.2)	16 (6.9)
Advert for research bursary, internship or fellowship from university	5 (3.7)	4 (4.2)	9 (3.9)
Advert for research bursary, internship or fellowship from charity	0	3 (3.1)	3 (1.3)
Other	23 (17.2)	17 (17.7)	40 (17.3)

Table data information: including all respondents (n=231) to the survey and is shown by fellowship type. The respondents selected all the options that applied or specified in other.

Stage of career when first became interested in a career involving research

4.8 All respondents were asked at which stage in their career they first became interested in a career involving research (Figure 4.3). The highest proportion of respondents indicated they became interested in a research-related career whilst working in a clinical role (35.1%), with just over 20% indicating interest developed whilst undertaking a Master's degree that followed registration as a health professional.

Figure 4.3: Responses by professional group about which stage of their career became interested in a career involving research

Stage of career first interested	Professional group			
	Nurse, midwife, health visitor n=72 (%)	Other health professional groups n=155 (%)	Prefer not to say/ missing n=4 (%)	Overall n=231 (%)
Whilst working in a clinical role	25 (34.7)	52 (33.5)	4 (100.0)	81 (35.1)
Whilst undertaking a Master's degree, that followed registration as a health professional	14 (19.4)	33 (21.3)	0	47 (20.3)
During initial training that led to registration as a health professional	8 (11.1)	26 (16.8)	0	34 (14.7)
Whilst undertaking an undergraduate degree, that also led to registration as a health professional	7 (9.7)	15 (9.7)	0	22 (9.5)
Whilst undertaking some other form of post registration education and training	4 (5.6)	8 (5.2)	0	12 (5.2)
Whilst undertaking an undergraduate degree, that followed registration as a health professional	7 (9.7)	2 (1.3)	0	9 (3.9)
Whilst undertaking a Master's degree, that also led to registration as a health professional	4 (5.6)	3 (1.9)	0	7 (3.0)
Other (please specify)	3 (4.2)	16 (10.3)	0	19 (8.2)

Table data information: including all respondents (n=231) to the survey. The respondents specified one option only. The 'other health professional groups' includes allied health professionals, healthcare scientists, pharmacists and the 'other' category.

4.9 When considering the fellowship type cohorts (Figure 4.4), both doctoral and post-doctoral applicants most commonly indicated that interest first developed whilst working in a clinical role. After this, the doctoral applicants were more likely to indicate that it was 'whilst undertaking a Master's degree that followed registration as a health professional' (26.1%) than the post-doctoral applicants (12.5%). The post-doctoral respondents were more likely to indicate that it was 'during initial training that led to registration as a health professional' (19.8%) than the doctoral respondents (11.1%)

Figure 4.4: Responses by fellowship type about which stage of career they became interested in a career involving research

Stage of career first interested	Fellowship type		
	Doctoral n=134 (%)	Post-doctoral n=96 (%)	Overall n=231 (%)
Whilst working in a clinical role	47 (35.1)	33 (34.4)	81 (35.1)
Whilst undertaking a Master's degree, that followed registration as a health professional	35 (26.1)	12 (12.5)	47 (20.3)
During initial training that led to registration as a health professional	15 (11.1)	19 (19.8)	34 (14.7)
Whilst undertaking an undergraduate degree, that also led to registration as a health professional	12 (9.0)	10 (10.4)	22 (9.5)
Whilst undertaking some other form of post registration education and training	5 (3.7)	7 (7.3)	12 (5.2)
Whilst undertaking an undergraduate degree, that followed registration as a health professional	8 (6.0)	1 (1.0)	9 (3.9)
Whilst undertaking a Master's degree, that also led to registration as a health professional	3 (2.2)	4 (4.2)	7 (3.0)
Other (please specify)	9 (6.7)	10 (10.4)	19 (8.2)

Table data information: The table includes all respondents (n=231) to the survey. The respondents specified one option only.

4.10 Figure 4.5 shows the factors that sparked an interest in research considered by the stage of their career they first became interested in a research-related career.

4.11 Those that first became interested in a career involving research early in their career during their training more commonly selected 'interaction with people in research positions' (52.4%) or 'attendance at lectures/seminars during undergraduate or postgraduate degree/diploma' (47.6%) as factors that sparked their interest in research. Those that first became interested in a research-related career whilst working in a clinical role were more likely to cite 'issue encountered in practice or service delivery' (56.8%).

Figure 4.5: Responses to factors that sparked an interest in research and stage of career at which first became interested in a career involving research

What sparked interest?	**Stage of career they first became interested in a career involving research**				
	DURING TRAINING: ***Undergraduate degree or master's degree*** **n=63 (%)**	**AFTER REGISTRATION AS HEALTH PROFESSIONAL:** ***During undergraduate or Master's degree or other education/training*** **n=68 (%)**	**AFTER REGISTRATION AS HEALTH PROFESSIONAL:** ***Whilst working in a clinical role*** **n=81 (%)**	**Other n=19 (%)**	**Total n=231 (%)**
Attendance at lectures/seminars during undergraduate or postgraduate diploma/degree	30 (47.6)	22 (32.4)	6 (7.4)	8 (42.1)	66 (28.6)
Attendance at a conference or continuing education event	12 (19.0)	14 (20.6)	23 (28.4)	6 (31.6)	55 (23.8)
Interaction with people in research positions	33 (52.4)	35 (51.5)	35 (43.2)	13 (68.4)	116 (50.2)
Hearing about experiences of those already in receipt of a training award	4 (6.3)	6 (8.8)	4 (4.9)	2 (10.5)	16 (6.9)
Advert for research bursary, internship or fellowship from university	1 (1.6)	4 (6.0)	2 (2.5)	2 (10.5)	9 (3.9)
Advert for research bursary, internship or fellowship from charity	1 (1.6)	0	1 (1.2)	1 (5.3)	3 (1.3)
Advert for research bursary, internship or fellowship from HEE or NIHR	3 (4.8)	8 (11.8)	6 (7.4)	2 (10.5)	19 (8.2)
Involvement in audit, service evaluation or quality improvement projects	11 (17.5)	27 (39.7)	31 (38.3)	2 (10.5)	71 (30.7)
Issue encountered in practice or service delivery	16 (25.4)	30 (44.1)	46 (56.8)	6 (31.6)	98 (42.4)
Other (please specify)	11 (17.5)	12 (17.6)	14 (17.3)	3 (15.8)	40 (17.3)
Percentage of respondents	**27.3%**	**29.4%**	**35.1%**	**8.2%**	**100%**

Table data information: Including all respondents (n=231) to the survey. The respondents specified one career stage only, but as many options as were relevant in terms of what sparked interest. The percentages given are out of the total number for each career stage.

Gaining first research experience

4.12 Overall, the majority of respondents gained their first research experience during their BSc undergraduate project (47.6%) or an MSc project (21.6%) (Figure 4.6). The first experience of research was not commonly gained through support from a research bursary, internship or fellowship (3.0%) or informal time with a research group (2.6%).

4.13 A higher proportion of the 'other health professional group' cohort (51.6%) indicated that their first research experience was during their BSc undergraduate project than the nurse, midwife and health visitor cohort (37.5%)

4.14 The nurse, midwife and health visitor cohort were more likely than the 'other health professional groups' to gain their first research experience through working as clinical research staff (16.7% compared to 1.9%).

Figure 4.6: Responses by Professional group on gaining first research experience

How did you gain your first research experience?	Professional group			
	Nurse, midwife, health visitor n=72	Other health professional groups n=155 (%)	Prefer not to say/missing n=4 (%)	Total n=231 (%)
BSc undergraduate project	27 (37.5)	80 (51.6)	3 (75.0)	110 (47.6)
MSc project	17 (23.6)	33 (21.3)	0	50 (21.6)
Experience gained through involvement with a research project(s)	11 (15.3)	15 (9.7)	0	26 (11.3)
Experience gained through working as clinical research staff	12 (16.7)	3 (1.9)	0	15 (6.5)
Experience supported via research bursary, internship or fellowship	1 (1.4)	6 (3.9)	0	7 (3.0)
Informal time spent with a research group	1 (1.4)	5 (3.2)	0	6 (2.6)
Other (please specify)	3 (4.2)	13 (8.4)	1 (25.0)	17 (7.4)

Table data information: including all respondents (n=231) to the survey. The respondents specified one option only. The 'other health professional groups' includes allied health professionals, healthcare scientists, pharmacists and the 'other' category.

4.15 The doctoral and post-doctoral applicants were broadly similar in the ways they gained their first research experience.

Routes into an academic career: Undergraduate and higher research degrees

Undertaking a higher degree

4.16 Overall, the majority of respondents had undertaken or were currently undertaking a higher degree (n=207, 89.6%) and for most this was a PhD (n=184, 79.7%).

4.17 The proportion of male and female respondents undertaking (or had previously undertaken a higher degree) was similar; 91.0% of the female and 84.1% of the male respondents. However, overall, only 44 (19.0%) of respondents were male.

4.18 When considering the professional group cohorts, findings were similar across cohorts - 88.9% of the nurse, midwife and health visitor cohort and 89.7% of the other health professional groups cohort were completing or had completed a higher degree; for the majority this was a PhD (83.3% and 77.4% respectively).

4.19 Overall, a total of 207 were undertaking or had undertaken a higher degree. Of these respondents, the majority were either still undertaking (n=62, 30.0%) or had been awarded between 2010 and 2016 (n=96, 46.4%). Only 7 respondents (3.4%) had been awarded their higher degree before the year 2000.

Funding for higher degree

4.20 Just under half of the 207 respondents undertaking or who had undertaken a higher degree (n=100, 48.3%) were funded by NIHR and/or HEE. Of the remaining 107, the highest proportion were funded by department/supervisor funds (n=36, 17.4%), a charity (n=32, 15.5%) or self-funded (n=29, 14.0%) (Figure 4.7).

Figure 4.7: Responses by Professional group about funding for higher degree

How funded?	Professional group			
	Nurse, midwife, health visitor n=63 (%)	Other health professional groups n=139 (%)	Prefer not to say/Missing n=4	Total n=207
NIHR and/or HEE	27 (42.9)	70 (50.4)	3	100 (48.3)
Department/supervisor funds	15 (23.8)	20 (14.4)	1	36 (17.4)
Charity	7 (11.1)	25 (18.0)	0	32 (15.5)
Self-funded	8 (9.5)	21 (15.1)	0	29 (14.0)
Research council e.g. MRC, ESRC	2 (3.2)	8 (5.8)	0	10 (4.8)
Professional association	1 (1.6)	4 (2.9)	0	5 (2.4)
Other (please specify)	13 (20.6)	20 (14.4)	0	33 (15.9)

Table data information: Including only respondents that had undertaken or were undertaking a higher degree (n=207). The respondents could specify all options that applied. The 'other health professional groups' includes allied health professionals, healthcare scientists, pharmacists and the 'other' category.

Motivation for undertaking higher degree

4.21 Overall, the main motivation for undertaking a higher degree was to support a longer term career ambition of becoming a senior academic (Figure 4.8). Of the 207 respondents included, just under a third considered this their main motivation (n=67, 32.4%). The respondents also commonly cited 'to investigate a particular research question relating to clinical care provision' (n=45, 21.7%).

4.22 When considering professional group, a higher proportion of the nurse, midwife and health visitor cohort (40.6%) than the other health professional group cohort (28.1%) wanted to support a longer term career ambition of becoming a senior academic. The other health professional group cohort was more likely than the nurse, midwife and health visitor cohort to undertake a higher degree in order to support their clinical career.

Figure 4.8: Responses by Professional group about motivation to undertake a higher degree

Main motivation for decision to undertake higher degree	Nurse, midwife, health visitor n=64 (%)	Other health professional groups n=139 (%)	Prefer not to say/Missing n=4 (%)	Total n=207 (%)
To support your longer term career ambition of becoming a senior academic	26 (40.6)	39 (28.1)	2	67 (32.4)
To investigate a particular research question relating to clinical care provision	16 (25.0)	28 (20.1)	1	45 (21.7)
To support your clinical career by gaining access to wider opportunities, consultant practitioner level post etc.	6 (9.4)	25 (18.0)	0	31 (15.0)
Personal motivation	9 (14.1)	20 (14.4)	0	29 (14.0)
To aid the translation of a particular therapeutic or diagnostic tool or intervention into everyday clinical use	3 (4.7)	11 (7.9)	0	14 (6.8)
To investigate a particular basic/discovery science research question of interest	1 (1.6)	11 (7.9)	0	12 (5.8)
To investigate a particular research question relating to health professional education	1 (1.6)	1 (0.7)	0	2 (1.0)
Other (please specify)	0	4 (2.9)	1	5 (2.4)
Missing	2 (3.1)	0	0	2 (1.0)

Table data information: including only respondents that had undertaken or were undertaking a higher degree (n=207). The respondents could specify one option only. The 'other health professional groups' includes allied health professionals, healthcare scientists, pharmacists and the 'other' category.

4.23 The proportions of respondents indicating various different motivation for undertaking a higher degree were broadly similar in the doctoral and post-doctoral applicants (Figure 4.9), however, a higher proportion of post-doctoral applicants (10.4% v 1.8%) wanted to investigate a particular basic/discovery science question of interest. The doctoral applicants were more likely than the post-doctoral applicants to want to support their clinical career by gaining access to wider opportunities, consultant practitioner posts etc. (18.2% v 11.5%).

Figure 4.9: Responses by fellowship type on the main motivation for decision to undertake higher degree

Main motivation for decision to undertake higher degree	Doctoral n=110 (%)	Post-doctoral n=96 (%)	Unknown n=1 (%)	Total n=207 (%)
To support your longer term career ambition of becoming a senior academic	37 (33.6)	30 (31.3)	0	67 (32.4)
To investigate a particular research question relating to clinical care provision	23 (20.9)	21 (21.9)	1	45 (21.7)
To support your clinical career by gaining access to wider opportunities, consultant practitioner level post etc.	20 (18.2)	11 (11.5)	0	31 (15.0)
Personal motivation	15 (13.6)	14 (14.6)	0	29 (14.0)
To aid the translation of a particular therapeutic or diagnostic tool or intervention into everyday clinical use	9 (8.2)	5 (5.2)	0	14 (6.8)
To investigate a particular basic/discovery science research question of interest	2 (1.8)	10 (10.4)	0	12 (5.8)
To investigate a particular research question relating to health professional education	1 (0.9)	1 (1.0)	0	2 (1.0)
Other (please specify)	1 (0.9)	4 (4.2)	0	5 (2.4)
Missing	2 (1.8)	0	0	2 (1.0)

Table data information: including only respondents that had undertaken or were undertaking a higher degree (n=207). The respondents could specify one option only.

Hearing about fellowship opportunities

4.24 Overall, respondents were most likely to have heard about the fellowship they applied for from an academic supervisor (23.5%). Just over 10% had heard about them from an existing NIHR/HEE fellowship award holder (Figure 4.10).

4.25 A higher proportion of the doctoral applicants than post-doctoral applicants specified academic supervisor; 38.1% of the doctoral applicants heard about the fellowship from either an academic supervisor or other academic, but only 27.1% of the post-doctoral specified these academic sources. The highest proportion of post-doctoral applicants had heard via an advert or circular about training opportunities.

Figure 4.10: Responses by fellowship type as to how they first heard about research training fellowships.

How did you first hear about the doctoral/post-doctoral fellowship you applied for?	**Doctoral n=134**	**Post-doctoral n=96 (%)**	**Total n=230**
From an academic supervisor	35 (26.1)	19 (19.8)	54 (23.5)
Advert/circular about training opportunities	22 (16.4)	25 (26.0)	47 (20.4)
From an existing HEE/NIHR fellowship award holder	13 (9.7)	13 (13.5)	26 (11.3)
Other academic	16 (11.9)	7 (7.3)	23 (10.0)
Web search for funding/careers options	12 (9.0)	7 (7.3)	19 (8.3)
From a mentor	9 (6.7)	8 (8.3)	17 (7.4)
From a clinical colleague	13 (9.7)	2 (2.1)	15 (6.5)
Careers workshop	2 (1.5)	3 (3.1)	5 (2.2)
Advice from funders	0	4 (4.2)	4 (1.7)
Other (please specify)	10 (7.5)	6 (6.3)	16 (7.0)
Missing	2 (1.5)	2 (2.1)	4 (1.7)

Table data information: doctoral applicants (n=134) and post-doctoral applicants (96) were asked how they heard about the most recent doctoral or post-doctoral research training fellowship they applied for. They could select one option. The participant where fellowship type was missing was not asked this question.

Career path and drivers for career decisions

Positions and transitions through roles

This section does not include the participants who were still undertaking their fellowship/funded programme of study (n=80), so the total number of respondents included is 151.

4.26 The career transitions of awarded and rejected doctoral and post-doctoral respondents are considered in this section to explore the career pathways of these groups. In both the doctoral and post-doctoral cohorts, the number of awarded applicants is low due to the exclusion of those still undertaking their fellowship/funded programme of study.

4.27 When defining roles, and especially mixed and combined roles, it was challenging to categorise people according to whether they held some form of clinical role alongside a research-related role post fellowship as there is no well accepted terminology to describe these different types of roles in the nursing, midwifery and allied health professions.

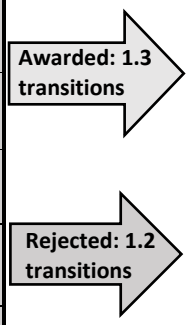
Doctoral applicants

4.28 The majority of the doctoral applicants had made one transition following their fellowship (or fellowship application) (81.7%); only 15 doctoral respondents had transitioned through 2

or more roles (Figure 4.11). The average number of career transitions was 1.3 and 1.2 for the awarded and rejected participants respectively.

Figure 4.11: Responses for the awarded and rejected doctoral respondents about their first position after the fellowship and their current role. The table shows the average number of role transitions so far.

First position after fellowship	Award n=24	Rejected n=58
Academic post – University[48] employee (non-clinical)	8 (33.3)	3 (5.2)
Clinical post – no sessions funded for research	5 (20.8)	25 (43.1)
Combined research/clinical post[49]	4 (16.7)	14 (24.1)
Clinical Research Staff/Research Fellow – NHS employee[50]	3 (12.5)	10 (17.2)
Holder - clinical research training fellowship from external funder[51]	0	1 (1.7)
Research based career outside health profession	1 (4.2)	2 (3.4)
Career break	0	1 (1.7)
Other	1 (4.2)	1 (1.7)
Missing	2 (8.3)	1 (1.7)



Current Role	Award n=24	Rejected n=58
Academic post[45] – University employee (non-clinical)	7 (29.2)	3 (5.2)
Clinical post – no sessions funded for research	6 (25.0)	24 (41.4)
Combined research/clinical post[46]	4 (16.7)	12 (20.7)
Clinical Research Staff/Research Fellow – NHS employee[47]	3 (12.5)	12 (20.7)
Holder - clinical research training fellowship from external funder	0	0
Research based career outside health profession	1 (4.2)	2 (3.4)
Career break	0	1 (1.7)
Other	1 (4.2)	2 (3.4)
Missing	2 (8.3)	2 (3.4)

Table data information: The awarded (n=24) and rejected (n=58) doctoral respondents were asked about their first role following their fellowship/fellowship application and then about each role after that. The respondents indicated a maximum of 4 different roles following their fellowship. Several of the category options from the survey have been combined in the table and the 'other category' has been checked and where possible the responses were included in categories that already existed, categories were slightly amended or new categories were formed. The participants could select one option or specify in other.

4.29 Figure 4.11: A third of the awarded doctoral respondents held an academic post employed by the University (33.3%) for their first position following their fellowship. A significant proportion (20.8%) of the awarded respondents were in a clinical role with no sessions for research as their first position post-fellowship. As this group had not made many career transitions, the data for final current role are similar to the initial roles following fellowship.

[48] The 'academic post (University employee) category includes the following category options from the survey: Research fellow (University employee), Academic Lecturer (with no sessions funded for clinical work), Academic Senior Lecturer or Associate Professor (with no sessions funded for clinical work) and those that indicated in 'other' that they were a Senior Research Fellow or Research Associate (Senior or not) or other academic role.

[49] The combined research and clinical role includes the following categories from the survey: 'clinical post (with some sessions funded for research)', 'a post that combines clinical and research duties', academic clinical lecturer and academic senior clinical lecturer and those that specified a combined role in 'other'.

[50] The 'clinical research staff (NHS employee)' category also now includes the category: 'research fellow (NHS employee)' from the survey

[51] This category was included where the participant had held a fellowship then moved to a different current role – for those participants where holder of research fellowship was current role, they were included in the 'still undertaking category'

4.30 Nearly 30% of the awarded doctoral applicants had either taken up a clinical research staff or research fellow (NHS employee) position or held a combined role (i.e. a clinical post that included some sessions funded for research) as their first role after the fellowship.

4.31 Around 40% of the rejected cohort had a clinical post with no research both as their first role and their current role. Clinical research staff or mixed research/clinical role were both commonly indicated positons for the rejected cohort and only 5% had an academic post.

Post-doctoral applicants

4.32 The responses related to initial role and current role were considered in awarded and rejected post-doctoral respondents to explore the career pathway in these groups. The average number of career transitions was 1.4 for both the awarded and rejected participants respectively (Figure 4.12).

Figure 4.12: Responses for awarded and rejected post-doctoral respondents showing their first position after the fellowship (or fellowship application) and their final current role. The table shows the average number of career transitions for this group so far.

First position after fellowship	Award n=21	Rejected n=44
Academic post – University employee (non-clinical)[52]	11 (52.4)	26 (59.1)
Combined research/clinical post[53]	7 (33.3)	13 (29.5)
Clinical post – no sessions funded for research	1 (4.8)	8 (18.2)
Reader/Professor (clinical or non-clinical)[54]	2 (9.5)	0
Research based career outside health profession	1 (4.8)	1 (2.3)
Clinical Research Staff/Research Fellow (NHS employee)[55]	0	0
Total	22	48

Awarded: 1.4 transitions

Rejected: 1.4 transitions

Current Role	Award n=21	Rejected n=44
Academic post – University employee (non-clinical)[49]	9 (42.9)	25 (56.8)
Reader/Professor (clinical or non-clinical)[51]	5 (23.8)	0
Clinical post – no sessions funded for research	2 (9.5)	8 (18.2)
Combined research/clinical post[50]	5 (23.8)	13 (29.5)
Research based career outside health profession	1 (4.8)	1 (2.3)
Clinical Research Staff/Research Fellow (NHS employee)[52]	0	0
Total	22	47

Table data information: The awarded (n=21) and rejected post-doctoral respondents (n=44) (excluding those undertaking a fellowship/funded programme of study) were asked about their first role following fellowship (or fellowship application) and then about each role after that. Several of the category options from the survey have been combined and the 'other category' has been checked and where possible included in existent categories, or categories were slightly amended or formed. One awarded participant specified in other that they had 2 separate roles both as initial role and current role – both roles were included, so there is a total of 22 roles included for the awarded cohort. 4 of the rejected participants had 2 separate roles initially and 3 of them had 2 separate roles as current role. In each case both roles were included in the above table.

4.33 Figure 4.12: Around 50% of the awarded and 60% of the rejected post-doctoral applicants had an academic post as their initial role after application/fellowship, but this dropped to

[52] The 'that indicated in 'other' that they were a Senior Research Fellow or Research Associate (Senior or not) or other academic role.

[53] The combined research and clinical role includes the following categories from the survey: 'clinical post (with some sessions clinical lecturer and academic senior clinical lecturer or those that specified a combined role in 'other'.

[54] The 'and also those that specified in 'other' their role as 'reader' or 'non-clinical professor'

[55] The 'clinical (NHS employee)' from the survey

around 40% in the awarded respondents as their current role. There was a smaller proportion of awarded post-doctoral applicants in clinical posts as their first role (either with or without sessions for research) compared to the rejected respondents (38.1% versus 47.7%).

4.34 Although the highest proportion of both awarded and rejected post-doctoral respondents had an academic post as their initial and current role, the transition to a higher academic position such as Reader or Professor had occurred in the awarded group. Over 20% of the awarded post-doctoral applicants had moved to a current role of Reader/Professor, but none of the rejected group had made this career move (Figure 4.13). Of the 5 post-doctoral Professor/Readers, only 1 indicated they were a 'clinical' professor/Reader.

Primary reason for taking their first position

4.35 The respondents (excluding those still undertaking a fellowship/funded programme of study)[56] were asked to indicate their primary reason for taking each position or career break since their most recent fellowship or fellowship application.

4.36 When considering the doctoral applicants (Figure 4.13), the highest proportion of both awarded and rejected groups took their initial post as they were returning to or continuing in the post held pre-fellowship; although this was more likely in the rejected than the awarded applicants (32.8% v 20.8%). This included 5 of the rejected doctoral applicants who specified in 'other' that they continued in the same position. The primary reason for taking the post was more likely to be 'the only option' in the rejected doctoral applicants than the awarded applicants.

Figure 4.13: Responses for doctoral applicants only showing awarded and rejected about the primary reason for taking their FIRST position following fellowship completion (or application in those not successful)

Primary reason for taking position/career break	Doctoral Awarded n=24 (%)	Doctoral Rejected n=58 (%)	Doctoral total n=82 (%)
To return to the post I held pre-fellowship (or continue in post already held)	5 (20.8)	19 (32.8)	24 (29.3)
It was the only option	5 (20.8)	16 (27.6)	21 (25.6)
Fitted with my research career aspirations	2 (8.3)	9 (15.5)	11 (13.4)
Personal reasons	3 (12.5)	3 (5.2)	6 (7.3)
Fitted with my clinical career aspirations	1 (4.2)	5 (8.6)	6 (7.3)
I was awarded funding	2 (8.3)	2 (3.4)	4 (4.9)
It was an obvious next step	2 (8.3)	3 (5.2)	5 (6.1)
Other (please specify)	1 (4.2)	0	1 (1.2)
Missing	3 (12.5)	1 (1.7)	4 (4.9)

Table data information: This includes the responses of only the doctoral participants (excluding those still undertaking their fellowship/funded programme of study) showing the awarded and rejected applicants separately (n=82). The participants specified one option only. The table shows the primary reason given for taking the first position after the fellowship only. The 'personal reasons' category included family commitments, location and other personal reasons.

4.37 When considering the post-doctoral applicants (Figure 4.14), nearly a third of rejected respondents (29.5%) indicated that the first role after the fellowship application was their 'only option', whereas this was the case for only 9.5% of the awarded respondents. The

[56] See section 2.30 of this report for the definition.

rejected applicants were much more likely to return to or continue in the post they had pre-fellowship application than the awarded applicants.

4.38 By far the highest proportion of the awarded post-doctoral respondents (42.9%) took the first position after their fellowship because it fitted with their research career aspirations.

Figure 4.14: Responses for post-doctoral applicants showing awarded and rejected applicant's primary reason for taking their first position following fellowship completion (or application in those not successful)

Primary reason for taking position/career break	Post-doctoral Awarded n=21 (%)	Post-doctoral Rejected n=44 (%)	Post-doctoral Unknown n=3 (%)	Post-doctoral Overall n=68 (%)
It was the only option	2 (9.5)	13 (29.5)	1	16 (23.5)
Fitted with my research career aspirations	9 (42.9)	6 (13.6)	1	16 (23.5)
To return to the post I held pre-fellowship (or continue in post for those unsuccessful with fellowship application)	2 (9.5)	12 (27.3)	1	15 (22.1)
Fitted with my clinical career aspirations	1 (4.8)	3 (6.8)	0	4 (5.9)
Personal reasons	2 (9.5)	3 (6.8)	0	5 (7.4)
It was an obvious next step	2 (9.5)	2 (4.5)	0	4 (5.9)
Job and financial security/stability	1 (4.8)	3 (6.8)	0	4 (5.9)
I was awarded funding	0	0	0	0
Develop as a Clinical Academic	1 (4.8)	1 (2.3)	0	2 (2.9)
Keep options open	0	1 (2.3)	0	1 (1.5)
Missing	1 (4.8)	0	0	1 (1.5)

Table data information: This includes the responses of only the post-doctoral applicants (excluding those still undertaking a fellowship/funded programme of study) showing the awarded and rejected applicants separately (n=68). The participants specified one option only. The table shows the primary reason given for taking the first position after the fellowship only. The 'personal reasons' category included the combined responses from family commitments, location and other personal reasons. Additional categories – 'job and financial security/stability', 'develop as a clinical academic' and 'keep options open' – were created as they were specified in other and would not fit within the current categories.

Pursuing a Clinical Academic Career

4.39 Nearly half of the respondents (47.2%, n=109) were currently pursuing an integrated clinical academic career. The overall data from those pursuing an integrated clinical academic career and those that weren't were compared to determine any difference in the career pathway.

Respondents pursuing an integrated Clinical Academic Career (n=109)

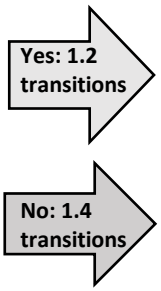
4.40 Of the 109 respondents pursuing a clinical academic career, 55 were still undertaking their fellowship, so 54 were included in the analysis (Figure 4.15). Of the 122, not currently pursuing a clinical academic career, 25 were still undertaking a fellowship and 1 missing, therefore 96 participants were included in the analysis.

4.41 Of those pursuing a clinical academic career, 48.1% (n=26) held an initial role that included both clinical and research sessions as an integrated role and 46.3% remained in this type of post in their current role post fellowship or post fellowship application.

4.42 The highest proportion of those not pursuing an integrated clinical academic career were in an academic post of some sort (40.6%).

Figure 4.15: Responses by whether currently pursuing an integrated clinical academic career (CAC) or not about initial post following the fellowship (or fellowship application) and current role.

First position after fellowship	Pursuing a CAC? Yes n=54	Pursuing a CAC? No n=96
Academic post – University employee (non-clinical)[57]	9 (16.6)	41 (42.7)
Combined research/clinical post[58]	26 (48.1)	12 (12.5)
Clinical post – no sessions funded for research	12 (22.2)	27 (28.1)
Reader/Professor (clinical or non-clinical)[59]	0	3 (3.1)
Research based career outside health profession	1 (1.9)	4 (4.2)
Clinical Research Staff/Research Fellow (NHS employee)[60]	7 (13.0)	6 (6.3)
Holder - clinical research training fellowship from external funder	0	1 (1.0)
Career break	0	1 (1.0)
Other	1 (1.9)	1 (1.0)
Missing	0	3 (3.1)
Total	56	99



Current Role	Pursuing a CAC? Yes n=54	Pursuing a CAC? No n=96
Academic post – University employee (non-clinical)[54]	7 (13.0)	39 (40.6)
Combined research/clinical post[55]	25 (46.3)	9 (9.4)
Clinical post – no sessions funded for research	13 (24.1)	27 (28.1)
Reader/Professor (clinical or non-clinical)[56]	1 (1.9)	5 (5.2)
Research based career outside health profession	1 (1.9)	4 (4.2)
Clinical Research Staff/Research Fellow (NHS employee)[57]	7 (13.0)	8 (8.3)
Holder – clinical research training fellowship from external funder	0	0
Career break	0	1 (1.0)
Other	1 (1.9)	2 (2.1)
Missing	1 (1.9)	3 (3.1)
Total	56	98

Table data information: This includes the responses of the respondents that indicated in the survey that they were currently pursuing an integrated clinical academic career (excluding those still undertaking their fellowship) and those that are not pursuing this career path. The participants specified one option only for their initial role and then each role through their career – the maximum number of role changes was 4. The average number of career transitions is shown in the table. There were 2 respondents pursuing a CAC that was in 2 separate posts for their initial and current role, so both roles have been included in the table. There were 3 respondents not pursuing this path that had an initial role with 2 separate posts and 2 of them were involved in 2 separate posts in their current role – in each case, both posts were included in the table.

Career aspirations

4.43 All the participants were asked about their long-term career aspirations and provided qualitative open-text responses. A total of 217 responded to this question, with the highest proportion aspiring towards an integrated clinical academic role, see Figure 4.16.

[57]The 'academic post (University employee) category includes the following category options from the survey: Research fellow (University employee), Academic Lecturer (with no sessions funded for clinical work), Academic Senior Lecturer or Associate Professor (with no sessions funded for clinical work), Academic clinical lecturer and Academic senior Clinical Lecturer. It also includes those that indicated in 'other' that they were a Senior Research Fellow or Research Associate (Senior or not) or other academic role.

[58] The combined research and clinical role includes the following categories from the survey: 'clinical post (with some sessions funded for research)', 'a post that combines clinical and research duties', academic clinical lecturer and academic senior clinical lecturer or specified combined role in 'other'.

[59]The 'Reader/Professor (clinical or non-clinical) includes the category: 'clinical professor' and also those that specified in 'other' their role as 'reader' or 'non-clinical professor'

[60] The 'clinical research staff (NHS employee)' category also now includes the category: 'research fellow (NHS employee)' from the survey

Figure 4.16: The responses to the qualitative open-text question regarding long-term career aspirations.

Career aspiration	Frequency	Comments
Integrated clinical academic role	122 (52.8)	This included 15 who aspired to be clinical academic professor
Professor	53 (22.9)	This included 15 who aspired to be a clinical academic professor
Academic or research	39 (16.9)	
Improve patient care	14 (6.1)	
Clinical role (Consultant, leading or senior)	8 (3.5)	
Personal issues	7 (3.0)	
Further fellowship	3 (1.3)	
Support colleagues/ NHS Trust	2 (0.9)	
Missing or unknown	14 (6.1)	

Table data information: The table shows the responses to the open text question regarding their long-term career aspirations. There were 14 missing or unknown responses. The percentages are taken from the total number of participants (n=231). The responses were coded and then the codes were merged into main career categories. Those who aspired to be a 'clinical academic professor' were included in both the 'professor' and the 'integrated clinical academic role' categories.

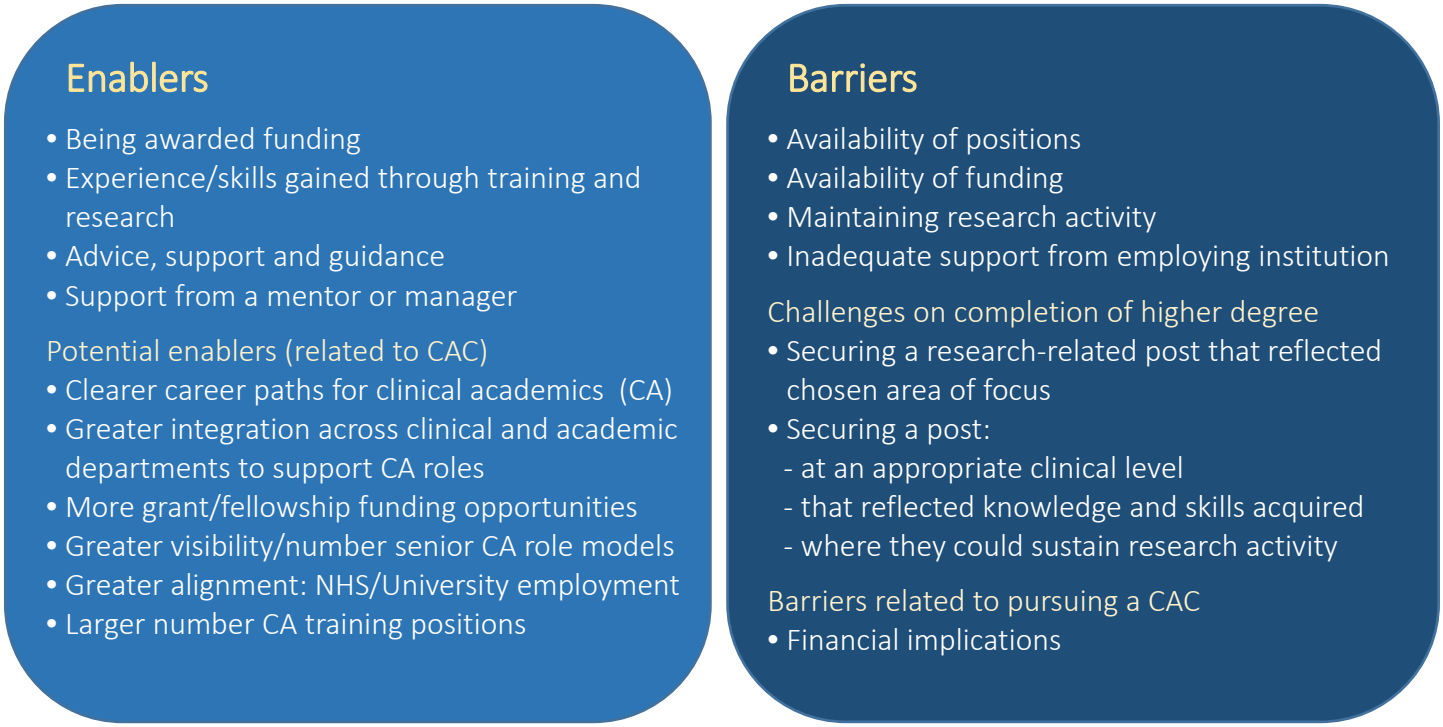
4.44 Of those aspiring to be a professor, there were 5 participants who mentioned the difficulties they considered to be associated with this. There was discussion about the waste that it had necessitated stepping out of clinical practice and the lack of optimism that it was a realistic aspiration.

4.45 Of those who aspired towards an integrated clinical academic role, 21 out of 122 (17.2%) mentioned difficulties associated with this. One concluded that pursuing a clinical academic role in their particular field was extremely difficult and several discussed the lack of these combined roles available to them even though they aspired towards them.

Chapter 5: Enablers and Barriers

5.1 This sections includes information about how easy it is to pursue clinical, research and integrated career pathways and the enablers and barriers experienced.

Figure 5.1: A table to show the enablers and barriers to research-related career development summarised from the survey data of the doctoral and post-doctoral applicant respondents.



Ease of pursuing a clinical, research or integrated clinical academic career

Ease of pursuing a clinical career path/job role

5.2 All participants in the survey were asked to indicate how easy or difficult it is to pursue the clinical career path/job role they wanted[61].

5.3 In total, 31 respondents (13.4%) indicated they had chosen not to pursue a clinical career path; these respondents were predominantly post-doctoral applicants (n=27, 11.7%) rather than doctoral applicants (n=4, 1.7%) and were not included in this analysis.

5.4 Figure 5.2: Overall, there were more respondents who indicated it was difficult (or very difficult) to pursue a clinical career path (48.0%) compared to those who had found it easy (or very easy) (30%). However, the post-doctoral were more likely than the doctoral applicants to find the pursuit of a clinical career difficult (or very difficult) (55.1% compared with 44.6%).

5.5 Overall, for both the doctoral and post-doctoral applicants, rejected participants were more likely to find the pursuit of a clinical career easy (or very easy) in comparison to the awarded participants (doctoral: 45.7% (rejected) compared to 28.8% (awarded), post-doctoral: 24.2% (rejected) compared to 11.8% (awarded)).

[61] Based on question E1 in the survey (see Appendix 3)

5.6 The awarded doctoral applicants were more likely to find the pursuit of a clinical career difficult compared with the rejected doctoral respondents (54.2% compared with 37.1%), but there was no difference in the post-doctoral cohorts.

Figure 5.2: Responses showing how easy or difficult participants found pursuing a clinical career path/job role by fellowship type.

How easy or difficult have you found it to pursue a clinical career?	Fellowship type			
	Doctoral n=130 (%)	Post-doctoral n=69 (%)	Unknown n=1 (%)	Overall n=200 (%)
Very easy	23 (17.7)	6 (8.7)	0	29 (14.5)
Easy	26 (20.0)	6 (8.7)	0	32 (16.0)
Neither easy or difficult	23 (17.7)	19 (27.5)	0	42 (21.0)
Difficult	34 (26.2)	19 (27.5)	0	53 (26.5)
Very difficult	24 (18.5)	19 (27.5)	0	43 (21.5)
Missing	0	0	1	1 (0.5)

Table data information: The table includes only those who had chosen to pursue a clinical career (n=200). A total of 31 participants indicated this question was not applicable as they had chosen not to pursue a clinical career. The percentages shown are out of the total number of each cohort who had chosen to pursue a clinical career. The participants selected one option only.

5.7 Figure 5.3: Just over half of the nurse, midwife and health visitor group and just under half of the 'other health professional groups' found the pursuit of a clinical career difficult (or very difficult) (55.0% and 45.6%).

Figure 5.3: Responses showing how easy or difficult participants have found pursuing a clinical career path/job role by professional group.

How easy or difficult have you found it to pursue a clinical career?	Professional group			
	Nurse, midwife, health visitor n=60 (%)	Other health professional groups n=136 (%)	Prefer not to say/Missing n=4	Overall n=200 (%)
Very easy	8 (13.3)	21 (15.4)	0	29 (14.5)
Easy	9 (15.0)	23 (16.9)	0	32 (16.0)
Neither easy or difficult	10 (16.7)	30 (22.1)	2 (50.0)	42 (21.0)
Difficult	12 (20.0)	41 (30.1)	0	53 (26.5)
Very difficult	21 (35.0)	21 (15.4)	1 (25.0)	43 (21.5)
Missing	0	0	1 (25.0)	1 (0.5)

Table data information: The table includes only those who had chosen to pursue a clinical career (n=200). A total of 31 participants indicated this question was not applicable as they had chosen not to pursue a clinical career. The percentages shown are out of the total number of each cohort who had chosen to pursue a clinical career. The 'other health professional groups' includes allied health professionals, healthcare scientists, pharmacists and those that specified 'other'.

Ease of pursuing a research career path/job role

5.8 All participants in the survey were asked to indicate how easy or difficult it is to pursue the research career path/job role they wanted[62]. Almost all respondents were pursuing a research career; only 3 respondents (1.3%) indicated they had chosen not to and were not included in the analysis.

[62] Based on question E2 in the survey (see Appendix 3)

5.9 Figure 5.4: The majority of respondents found the pursuit of a research career difficult; overall 70.2% of participants found it difficult or very difficult (this was the case for both the doctoral (72.7%) and the post-doctoral (67.4%) applicants). Only 12.1% of the doctoral applicants and 10.5% of the post-doctoral applicants found it easy (or very easy).

Figure 5.4: Responses showing how easy or difficult participants have found pursuing a research career path/job role by fellowship type.

How easy or difficult have you found it to pursue a research career?	Fellowship type			
	Doctoral n=132 (%)	Post-doctoral n=95 (%)	Unknown n=1 (%)	Overall n=228 (%)
Very easy	7 (5.3)	3 (3.2)	0	10 (4.4)
Easy	9 (6.8)	7 (7.4)	0	16 (7.0)
Neither easy or difficult	20 (15.2)	20 (21.1)	0	40 (17.5)
Difficult	56 (42.4)	46 (48.4)	0	102 (44.7)
Very difficult	40 (30.3)	18 (18.9)	0	58 (25.4)
Missing	0	1 (1.1)	1	2 (0.9)

Table data information: The table includes only those who had chosen to pursue a research career (n=228). A total of 3 participants indicated that this question was not applicable so were not included. The percentages shown are out of the total number of each cohort that had chosen to pursue a research career. The participants selected one option only.

5.10 Figure 5.5: When considering the doctoral applicants only, the rejected respondents were more likely to indicate it was difficult (or very difficult) compared to the awarded respondents (84.5% compared to 58.3%). Only 5.6% of the rejected respondents had found it easy to pursue a research career.

Figure 5.5: Responses showing how easy or difficult doctoral applicants found pursuing a research career path/job role by awarded and rejected.

How easy or difficult have you found it to pursue a research career?	Doctoral applicants: awarded/rejected			
	Doctoral Awarded n=60 (%)	Doctoral Rejected n=71 (%)	Doctoral Unknown n=1 (%)	Overall n=132 (%)
Very easy	5 (8.3)	2 (2.8)	0	7 (5.3)
Easy	7 (11.7)	2 (2.8)	0	9 (6.8)
Neither easy or difficult	13 (21.7)	7 (9.9)	0	20 (15.2)
Difficult	22 (36.7)	33 (46.5)	1	56 (42.4)
Very difficult	13 (21.7)	27 (38.0)	0	40 (30.3)

Table data information: The table includes only doctoral applicants who had chosen to pursue a research career (n=132). A total of 2 participants indicated that this question was not applicable as they had chosen not to pursue a research career. The percentages shown are out of the total number of each cohort that had chosen to pursue a research career. The participants selected one option only or indicated if not applicable.

5.11 Figure 5.6: When considering the post-doctoral applicants only, rejected respondents were more likely to indicate it was difficult (or very difficult) compared to awarded respondents (77.8% compared to 61.7%). Just over 10% of both rejected and awarded post-doctoral applicants found it easy (or very easy) to pursue a research career.

Figure 5.6: Responses showing how easy or difficult post-doctoral applicants have found pursuing a research career path/job role by awarded and rejected.

How easy or difficult have you found it to pursue a research career?	Post-doctoral applicants: awarded/rejected			
	Post-doctoral Awarded n=47 (%)	Post-doctoral Rejected n=45 (%)	Post-doctoral Unknown n=3 (%)	Overall n=95 (%)
Very easy	1 (2.1)	2 (4.4)	0	3 (3.2)
Easy	4 (8.5)	3 (6.7)	0	7 (7.4)
Neither easy or difficult	12 (25.5)	5 (11.1)	3	20 (21.1)
Difficult	23 (48.9)	23 (51.1)	0	46 (48.4)
Very difficult	6 (12.8)	12 (26.7)	0	18 (18.9)
Missing	1 (2.1)	0	0	1 (1.1)

Table data information: The table includes only those post-doctoral applicants who had chosen to pursue a research career (n=95). A total of 1 participant indicated that this question was not applicable as they had chosen not to pursue a research career. The percentages shown are out of the total number of each cohort that had chosen to pursue a research career. The participants selected one option only.

5.12 The ease by which respondents pursued a research career was broadly similar in both the nurse, midwife and health visitor cohort and the 'other professional groups' cohort.

Ease of pursuing an integrated clinical academic career path/job role

5.13 All participants in the survey were asked whether they were pursuing an integrated clinical academic career path/job role[63]; those that indicated that they were rated how easy or difficult it was to pursue this career path. Just under half of the respondents (n=109, 47.2%) were pursuing an integrated clinical academic career path; this included 69 doctoral (51.5%) and 40 post-doctoral (41.7%) applicants.

5.14 See Figure 5.7: The majority of both doctoral (75.4%) and post-doctoral (82.5%) applicants pursuing an integrated clinical academic career found it difficult (or very difficult). Only around 7% of both cohorts found pursuing an integrated academic career easy.

5.15 The earlier findings in this chapter showed that a high proportion of respondents found the pursuit of a clinical career and pursuit of a research career difficult; this was similar for those pursuing an integrated clinical academic career path.

[63] Based on questions E3a and E3 from the survey (see Appendix 3)

Figure 5.7: Responses showing how easy or difficult participants have found pursuing an integrated clinical academic career path/job role by fellowship type.

How easy or difficult have you found it to pursue an integrated clinical academic career?	Fellowship type		
	Doctoral n=69 (%)	Post-doctoral n=40 (%)	Overall n=109 (%)
Very easy	1 (1.4)	0	1 (0.9)
Easy	5 (7.2)	3 (7.5)	8 (7.3)
Neither easy or difficult	7 (10.1)	3 (7.5)	10 (9.2)
Difficult	25 (36.2)	18 (45.0)	43 (39.4)
Very difficult	27 (39.1)	15 (37.5)	42 (38.5)
Missing	4 (5.8)	1 (2.5)	5 (4.6)

Table data information: The table includes only those who are currently pursuing a clinical academic career (n-109). A total of 122 participants were not asked this question as they were currently not pursuing an integrated clinical academic career/job role or this information was missing. The percentages shown are out of the total number of each cohort that had chosen to pursue a clinical career. The participants selected one option.

5.16 When considering the doctoral applicants only, the responses from the awarded and rejected participants were very similar; 74.4% of awarded doctoral applicants found it difficult (or very difficult) to pursue an integrated clinical academic career compared with 75.9% of the rejected group.

5.17 When considering the post-doctoral applicants, the responses from the awarded and rejected participants were similar; 82.6% of awarded post-doctoral applicants found it difficult (or very difficult) to pursue an integrated clinical academic career compared with 82.4% of the rejected group.

Enablers to career progression

Impact of a fellowship

Doctoral applicants

5.18 Approximately 70% of doctoral applicants were research active in their current role[64] (excluding those still undertaking a fellowship/funded programme of study) (Figure 5.8). Around 10% more of the awarded respondents were research active than rejected respondents (79.2% compared with 65.5 %).

Figure 5.8: Responses show the research active status of the awarded and rejected doctoral applicants

Research active status in current role	Doctoral applicants: awarded/rejected		
	Doctoral Awarded n=24 (%)	Doctoral Rejected n=58 (%)	Overall n=82 (%)
Yes	19 (79.2)	38 (65.5)	57 (69.5)
No	5 (20.8)	19 (32.8)	24 (29.3)
Missing	0	1 (1.7)	1 (1.2)

Table data information: The doctoral applicants currently undertaking their fellowship or on a career break (n=1) were not asked this question. The data includes the doctoral respondents that had completed their fellowship or were not awarded (n=82). The participants were asked to select one option only.

[64] Based on question D2a from the survey (see Appendix 3)

5.19 The doctoral applicants who indicated they were research active in their current role (n=57), were asked about the kind of research activities they were involved in. The awarded respondents were more likely (when compared with the rejected respondents) to be:

- teaching (63.2% versus 42.1%)
- give a lecture (57.9% versus 21.1%)
- directing/leading their own research programme(s) and team (57.9% versus 31.6%)
- supervising post-graduate student projects (68.4% versus 18.4%)
- supervising undergraduate student projects (36.8% versus 21.1%)

Post-doctoral applicants

5.20 The majority of the post-doctoral applicants were research active in their current role[65] (Figure 5.9); a slightly higher proportion of awarded respondents were research active compared to the rejected respondents (95.2% and 90.9% respectively).

Figure 5.9: Responses show the research active status of the awarded and rejected post-doctoral applicants

Research active status in current role	Post-doctoral applicants: awarded/rejected			
	Post-doctoral Awarded n=21 (%)	Post-doctoral Rejected n=44 (%)	Post-doctoral Unknown n=3 (%)	Overall n=68 (%)
Yes	20 (95.2)	40 (90.9)	3	63 (92.6)
No	1 (4.8)	4 (9.1)	0	5 (7.4)

Table data information: Post-doctoral applicants are currently undertaking a fellowship (n=28) were not asked this question. The data includes the post-doctoral applicants that had completed their fellowship or were not awarded (n=68).

5.21 The research active post-doctoral applicants (n=63) were asked about the research activities they were involved in. The awarded post-doctoral applicants were more likely (compared with the rejected respondents) to be:

- directing/leading their own research programme(s) and team (80% versus 60%)
- commissioning research and/or shaping institutional research strategies and/or major funding decisions (25% versus 12.5%)
- regulating research (25% versus 5.0%)
- contributing to work led by others (e.g. by providing clinical/health material, subject or technical expertise, and/or data) (85% versus 75%)

Opportunities and advice/future enablers

Doctoral applicants

5.22 When asked about the importance of various factors in progressing their research-related career, the 'research active'[66] doctoral applicants (n=57) found the following to be very important[67]: experience and skills gained through training or research (64.9%), advice, support and guidance (64.9%) and success in securing funding (61.4%). Support from a

[65] Based on question D2a in the survey (see Appendix 3)
[66] Based on question D2a in the survey (see Appendix 3)
[67] This based on those that rated 5 for the selected option in question D4 of the survey

mentor was very important for 59.6% of the research active doctoral respondents. Support from a manager and support from an employer were considered very important by 52.6% and 47.4% of this sample[68].

5.23 Less than 2% of this sample considered a placement abroad or in other sectors such as industry, charity or government to be very important in progressing their research career and only around 9% gave collaborative visits to other UK institutions the highest level of importance in terms of career progression.

5.24 The awarded and rejected respondents gave broadly similar responses.

Post-doctoral applicants

5.25 When asked about the importance of various factors in progressing their research related career, the 'research active' post-doctoral applicants (n=63) found the following to be very important: the experience and skills gained through training or research (73.0%), success in securing funding (71.4%), advice, support and guidance (54.0%), support from a manager (52.4%) and support from employer (42.9%). The support of a mentor was considered very important by 39.7% of respondents[8].

5.26 The research active post-doctoral applicants did not generally consider placements abroad, collaborative visits to other UK institutions and placements in other sectors to be very important; 34.9% of this sample considered a placement abroad to be 'not important at all' and 41.3% considered a placement in another sector such as industry, charity or government 'not important at all'.

Those pursuing a clinical academic career

5.27 Those pursuing a clinical academic career (n=109) were asked about the factors that might have made it easier to pursue a clinical academic career. The broad range of factors that might have made it easier and the **main** factors can be found in Figure 5.10.

[68] The research active respondents were asked to indicate on a scale from 1 to 5, where 1 is not important at all and 5 is very important, how important a list of options were in progressing their research related career to date. Based on question D4 of the survey (see Appendix 3)

Figure 5.10: Responses regarding what might have made it easier to pursue a clinical academic career in those pursuing an integrated clinical academic career pathway and the MAIN factor.

What might have made it easier to pursue a clinical academic career?	All Factors (select all that apply)			MAIN Factor (one option only)		
	Doctoral n=69 (%)	Post-doc n=40 (%)	Overall n=109 (%)	Doctoral n=69 (%)	Post-doc n=40 (%)	Overall n=109 (%)
Greater integration across clinical and academic departments to support clinical academic roles	51 (73.9)	30 (75.0)	81 (74.3)	14 (20.3)	9 (22.5)	23 (21.1)
More grant/fellowship funding opportunities	42 (60.9)	27 (67.5)	69 (63.3)	9 (13.0)	9 (22.5)	18 (16.5)
Clearer career paths for clinical academics	50 (72.5)	31 (77.5)	81 (74.3)	10 (14.5)	7 (17.5)	17 (15.6)
Better support from host employer	35 (50.7)	15 (37.5)	50 (45.9)	7 (10.1)	3 (7.5)	10 (9.2)
Greater alignment of NHS and University employment	43 (62.3)	23 (57.5)	66 (60.6)	6 (8.7)	3 (7.5)	9 (8.3)
Larger number of clinical academic training positions	35 (50.7)	24 (60.0)	59 (54.1)	6 (8.7)	3 (7.5)	9 (8.3)
More variation in clinical and/or academic roles available	33 (47.8)	22 (55.0)	55 (50.5)	6 (8.7)	2 (5.0)	8 (7.3)
Greater visibility/number of senior clinical academic role models	41 (59.4)	27 (67.5)	68 (62.4)	3 (4.3)	1 (2.5)	4 (3.7)
Greater financial support	11 (15.9)	5 (12.5)	16 (14.7)	1 (1.4)	2 (5.0)	3 (2.8)
More guidance and/or support in making career choices	28 (40.6)	14 (35.0)	42 (38.5)	1 (1.4)	0	1 (0.9)
Greater job security within academic roles	32 (46.4)	21 (52.5)	53 (48.6)	1 (1.4)	0	1 (0.9)
More opportunities to work part-time	11 (15.9)	2 (5.0)	13 (11.9)	1 (1.4)	0	1 (0.9)
Less intense working hours	14 (20.3)	11 (27.5)	25 (22.9)	0	0	0
Greater support for career breaks and flexible working	16 (23.2)	6 (15.0)	22 (20.2)	0	0	0
Missing	0	0	0	4 (5.8)	1 (2.5)	5 (4.6)

Table data information: The respondents that indicated they were pursuing a clinical academic career (n=109) were asked to specify from a list of options what might have made it easier to pursue a clinical academic career. The respondents could tick all the options that apply for all the factors. They were then asked to select the main factor (one option only). The data shown is number of respondents and percentage of each cohort.

All factors

5.28 Figure 5.10: When considering all factors, 77.5% of post-doctoral applicants and 72.5% of doctoral applicants indicated that 'clearer career paths for clinical academics' would help their pursuit of a clinical academic career. For both doctoral and post-doctoral applicants, 'greater integration across clinical and academic departments to support clinical academic roles' was considered to be a factor by 73.9% and 75.0% respectively.

5.29 For both cohorts, the intensity of the working hours, flexibility and opportunities for part-time working were only important for a small proportion.

Main factor

5.30 Figure 5.10: The highest proportion of doctoral applicants indicated that the MAIN factor was 'greater integration across clinical and academic departments to support clinical academic roles' (20.3%) followed by 'clearer career paths for clinical academics' (14.5%).

5.31 The highest proportions of post-doctoral applicants considered both 'greater integration across clinical and academic departments to support clinical academic roles' and 'more grant/fellowship opportunities' as the main factor (both 22.5%).

5.32 13% of the doctoral applicants indicated the main enabler would be more funding opportunities and they were all rejected respondents. For the post-doctoral applicants, a higher proportion of rejected respondents considered funding opportunities to be the main factor compared to awarded respondents (29.4% and 17.4% respectively).

5.33 See Figure 5.11, the enablers were similar in the nurse, midwife and health visitor cohort compared to the 'other health professional groups' with greater integration across clinical and academic departments being the most common factor. The largest difference related to 'alignment of NHS and University employment'; 16.7% of the nurse, midwife, health visitor group considered this to be the main factor (the second highest), but only 5.1% of the other health professional group indicated this to be the main factor (seventh highest).

Figure 5.11: Responses regarding what was the main factor that might have made it easier to pursue a clinical academic career by professional group.

	Professional group		
What MAIN factor might have made it easier to pursue a CAC?	**Nurse, midwife, health visitor n=30 (%)**	**Other health professional groups n=79 (%)**	**Total n=109 (%)**
Greater integration across clinical and academic departments to support clinical academic roles	7 (23.3)	16 (20.3)	23 (21.1)
More grant/fellowship funding opportunities	3 (10.0)	15 (19.0)	18 (16.5)
Clearer career paths for clinical academics	4 (13.3)	13 (16.5)	17 (15.6)
Better support from host employer	4 (13.3)	6 (7.6)	10 (9.2)
Greater alignment of NHS and University employment	5 (16.7)	4 (5.1)	9 (8.3)
Larger number of clinical academic training positions	3 (10.0)	6 (7.6)	9 (8.3)
More variation in clinical and/or academic roles available	2 (6.7)	6 (7.6)	8 (7.3)
Greater visibility/number of senior clinical academic role models	1 (3.3)	3 (3.8)	4 (3.7)
Greater financial support	0	3 (3.8)	3 (2.8)
More guidance and/or support in making career choices	0	1 (1.3)	1 (0.9)
Greater job security within academic roles	0	1 (1.3)	1 (0.9)
Greater support for career breaks and flexible working	0	0	0
Less intense working hours	0	0	0
More opportunities to work part-time	0	1 (1.3)	1 (0.9)
Missing	1 (3.3)	4 (5.1)	5 (4.6)

Table data information: The respondents that indicated they were pursuing a clinical academic career (n=109) were asked to specify from a list of options what was the MAIN factor that might have made it easier to pursue a clinical academic career. The respondents could select one option only. The data shown is number of respondents in the professional groups and percentage of each cohort.

Careers advice, support and guidance

5.34 Participants were asked about the advice, support and guidance they received in their decision to take the career path they had chosen (Figure 5.12). Advice, support and guidance were considered very important by 28.4% of doctoral and 30.2% of post-doctoral applicants.

5.35 The awarded doctoral and post-doctoral applicants were more likely to consider the advice, support and guidance to be important; for the doctoral applicants, 33.9% of the awarded applicants considered it to be very important compared to 22.5% of the rejected applicants and this was also the case for the post-doctoral applicants (awarded: 44.7% versus rejected: 17.4%).

Figure 5.12: Responses about how important the advice, support and guidance received was in the decision to take the career path they have by fellowship type

How important was the advice, support and guidance you received in your decision to take the career path you have on a scale of 1 to 5, where 1=not important at all and 5=very important	**Fellowship type**		
	Doctoral n=134 (%)	**Post-doctoral n=96 (%)**	**Overall n=231 (%)**
1	3 (2.2)	11 (11.5)	14 (6.1)
2	13 (9.7)	7 (7.3)	20 (8.7)
3	24 (17.9)	21 (21.9)	45 (19.5)
4	48 (35.8)	26 (27.1)	74 (32.0)
5	38 (28.4)	29 (30.2)	67 (29.0)
Have not received any advice, support and guidance	7 (5.2)	2 (2.1)	9 (3.9)
Missing	1 (0.7)	0	2 (0.9)

Table data information: The table includes all respondents to the survey (n=231). They were asked to indicate on a scale of 1 to 5 (where 1=not important at all and 5=very important) how important the advice, support and guidance they had received had been in their career path to date. The respondents could indicate 1 option on the scale or tick that they had not received advice, support and guidance.

Barriers to career progression

On completion of higher degree

5.36 When considering the challenges faced on completion of a higher degree, the highest proportion of respondents (40.7%) found securing a research-related post that reflected their chosen area of focus to be a challenge (Figure 5.13). Securing a post that was at an appropriate clinical level, that reflected knowledge and skills acquired during the training fellowship or where they could sustain some research activity were all ascribed the highest level of challenge (5) by just over a quarter of respondents (28.3%, 27.6% and 26.9% respectively).

Figure 5.13: Responses regarding the challenges faced by respondents on completion of their higher degree

Type of challenge	How much of a challenge ranging from 1 (not a lot) to 5 (a lot)						
	1	2	3	4	5	N/A	Missing
Regaining clinical competency and confidence	49 (33.8)	18 (12.4)	15 (10.3)	16 (11.0)	12 (8.3)	32 (22.1)	3 (2.1)
Securing a post where I could sustain some research activity	20 (15.2)	24 (16.6)	19 (13.1)	32 (22.1)	39 (26.9)	8 (5.5)	3 (2.1)
Securing a post that reflected knowledge and skills acquired during RTF	18 (12.4)	24 (16.6)	12 (8.3)	34 (23.4)	40 (27.6)	14 (9.7)	3 (2.1)
Securing a post at an appropriate clinical level	21 (14.5)	17 (11.7)	15 (10.3)	16 (11.0)	41 (28.3)	31 (21.4)	4 (2.8)
Securing a research-related post that reflected chosen area of focus	17 (11.7)	19 (13.1)	19 (13.1)	17 (11.7)	59 (40.7)	11 (7.6)	3 (2.1)
Returning to post and adjusting role to reflect knowledge and skills required	22 (15.2)	13 (9.0)	19 (13.1)	21 (14.5)	22 (15.2)	45 (31.0)	3 (2.1)
Family/personal challenges	43 (29.7)	31 (21.4)	20 (15.2)	18 (12.4)	16 (11.0)	13 (9.0)	4 (2.8)
Retaining links with a Higher Education Institution	47 (32.4)	27 (18.6)	11 (7.6)	22 (15.2)	24 (16.6)	11 (7.6)	3 (2.1)

Table data information: The table includes responses from participants that had completed a higher degree (excluding those still undertaking or who had not completed a higher degree). The total number of respondents =145. The respondents were asked to rate the level of challenge posed by each of the factors from 1 (not a lot) to 5 (a lot) or indicate if not applicable. The respondents specified 1 option only.

5.37 Regaining clinical competency and confidence was a challenge for a lower proportion of respondents; just over a third of respondents (33.8%) considered this not to be much of a challenge. Almost a third of respondents (32.4%) indicated that retaining links with a higher education institution was not much of a challenge.

Across career transitions

5.38 The barriers encountered during first transition from fellowship to first role were considered. The barriers were divided into those relating to:
- Research roles
- Organisational support
- Personal support

5.39 Figure 5.14 shows the barriers encountered during transition from fellowship to first role in awarded respondents only (n=45) (excluding those still undertaking a fellowship/funded programme of study).

Figure 5.14: Responses regarding the barriers encountered during the transition from Fellowship to their first position in awarded doctoral and post-doctoral applicants.

Area	The barriers encountered during transition from research training fellowship to first position?	Fellowship type		
		Doctoral awarded n=24 (%)	Post-doctoral awarded n=21 (%)	Overall awarded n= 45 (%)
Research roles	Availability of positions	8 (33.3)	7 (33.3)	15 (33.3)
	Availability of funding	6 (25.0)	6 (28.6)	12 (26.7)
	Maintaining research activity	6 (25.0)	6 (28.6)	14 (31.1)
Organisational support	Inadequate support from employing institution	11 (45.8)	2 (9.5)	13 (28.9)
	Changing employers – contract issues	5 (20.8)	2 (9.5)	7 (15.6)
	Changing employers – pension issues	2 (8.3)	1 (4.8)	3 (6.7)
	Changing employers – maternity rights	1 (4.2)	1 (4.8)	2 (4.4)
	Changing employers – other issues	1 (4.2)	0	1 (2.2)
Personal support	(Re) location	3 (12.5)	1 (4.8)	4 (8.9)
	Family commitments	4 (16.7)	6 (28.6)	10 (22.2)
	Did not encounter barriers	3 (12.5)	4 (19.0)	7 (15.6)
	Other (please specify)	4 (16.7)	5 (23.8)	9 (20.0)

Table data information: The table shows the barriers encountered by respondents that had been awarded their fellowship and had completed it (not still undertaking the fellowship) during the transition from research training fellowship to first role. The respondents were given a list of options and indicated all that applied. The table includes 24 awarded doctoral applicants and 21 awarded post-doctoral applicants.

5.40 When considering this initial transition in the awarded respondents (Figure 5.14), just under 85% had encountered a barrier of some sort. The specific barriers encountered will be discussed under the 3 main headings – research roles, organisational support and personal support.

Barriers: Research roles

5.41 The 'availability of positions' was a barrier encountered by nearly a third of the awarded respondents; 'availability of funding' and 'maintaining research activity' were also both commonly indicated barriers (26.7% and 31.1% respectively). For the post-doctoral applicants, issues related to research roles were the most common barriers encountered (Figure 5.14).

Barriers: Organisational support

5.42 The highest proportion of the doctoral applicants found 'inadequate support from employing institution' to be a barrier; there was a large difference between the doctoral and post-doctoral applicants (45.8% versus 9.5%). Other aspects of organisational support, such as the contract issues related to changing employers was cited by 15.6% of awarded respondents, but issues such as pension, maternity rights and other 'changing employer' issues were only indicated as barriers by 13.3% in total.

Barriers: Personal support

5.43 Issues related to personal support, including family commitments and re-location, were barriers cited by the lowest numbers of respondents; however, 31.1% of respondents indicated either re-location or family commitments.

5.44 The personal issues surrounding financial impacts were considered in more detail in the 109 participants that were currently pursuing a clinical academic career. They were asked to indicate which financial penalties (if any) they had experienced as a result of pursuing a career as a clinical academic (Figure 5.15),

5.45 Just over 40% (n=44, 40.3%) of all respondents pursuing a clinical academic career indicated that this career path had not caused them any financial impact; therefore, around 60% of the respondents had been affected financially.

5.46 The awarded and rejected doctoral applicants were very similar, but in the post-doctoral group the awarded applicants were more likely to indicate they had been affected financially than the rejected group; 69.6% indicated some kind of financial impact in the awarded group compared to 52.9% in the rejected group.

5.47 The type of financial penalties suffered by those that indicated they had been affected financially (n=65) is shown in Figure 5.15. A slower progression through the salary bands was indicated by the highest proportion in all groups, except the rejected doctoral applicants; this group were more likely to specify lower current salary as the financial penalty. The 'other category' included reference to effect on pension and financial instability associated with taking up another type of post.

Figure 5.15: Responses regarding the financial penalties encountered by those pursuing a clinical academic career by fellowship type (awarded and rejected) – excluding those that had experienced no financial impact.

Financial penalties	**Fellowship type**				
	Doctoral Awarded n=23 (%)	**Doctoral Rejected n=17 (%)**	**Post-doctoral Awarded n=16 (%)**	**Post-doctoral Rejected n=9 (%)**	**Overall n=65 (%)**
Slower progression through the salary bands	13 (56.5)	7 (41.2)	11 (68.8)	8 (88.9)	39 (60.0)
Lower current salary	10 (43.5)	11 (64.7)	8 (50.0)	3 (33.3)	32 (49.2)
Taken out another loan	0	2 (11.8)	0	0	2 (3.1)
Use own funds for travel, conferences, PhD fees or finishing off PhD	3 (13.0)	0	0	0	3 (4.6)
Other (please specify)	4 (17.4)	1 (5.9)	1 (6.3)	1 (11.1)	7 (10.8)

Table data information: The participants that were pursuing a clinical academic career (n=109) were asked about the financial impact of pursuing a clinical academic career. The participants could select all the options that applied. They could indicate that there was no financial impact and these are excluded from the table – the table only refers to the financial impacts indicated (n=65). There were 14 respondents that specified in other; these were included in current categories where considered appropriate and an additional category 'use own funds' was also included.

5.48 The nurse, midwife and health visitor group were more likely to indicate they had experienced a financial impact of pursuing a clinical academic career; 73.3% had experienced some kind of financial penalty compared to 55.7% of the 'other health professional groups.

5.49 The type of financial penalties suffered by those that indicated they had been affected financially (n=65) are shown in Figure 5.16. A slower progression through the salary bands was indicated by the highest proportion in both groups, followed by a lower current salary. The findings are very similar in the nurse, midwife and health visitor group and the other health professional groups.

Figure 5.16: Responses regarding the financial penalties encountered by those pursuing a clinical academic career by professional group - excluding those that had experienced no financial impact

Financial penalties	Professional group		
	Nurse, midwife, health visitor n=22 (%)	Other health professional groups n=44 (%)	Overall n=65 (%)
Slower progression through the salary bands	13 (59.1)	26 (59.1)	39 (60.0)
Lower current salary	11 (50.0)	21 (47.7)	32 (49.2)
Taken out another loan	0	2 (4.5)	2 (3.1)
Use own funds for travel, conferences, PhD fees or finishing off PhD	1 (4.5)	2 (4.5)	3 (4.6)
Other (please specify)	3 (13.6)	4 (9.1)	7 (10.8)

Table data information: The participants that were pursuing a clinical academic career (n=109) were asked about the financial impact of pursuing a clinical academic career. The data included in the table is only those that indicated they had suffered financial penalties (n=65). The participants could select all the options that applied. The data is shown in the above table by professional group; the 'other health professional group' includes allied health professionals, healthcare scientists, pharmacists and those that specified an 'other' profession.

Reasons for limited research activity

5.50 Participants (excluding those still undertaking) were asked if they were research active in their current role; 29 indicated they were not research active. Of these, 93.1% would have preferred a research active role and the remaining 6.9% (n=2) were unsure.

5.51 These respondents (n=29) were asked about the main reason they were not research active; the findings can only be considered overall due to the low numbers in each group when considering fellowship type and awarded and rejected – there were 24 doctoral applicants and 5 post-doctoral applicants that were not research active.

5.52 When considering the main reasons for lack of research activity, lack of funding was the most common reason followed by lack of clinical academic posts and lack of support from host organisation (Figure 5.17)

Figure 5.17: Responses about the main reasons they were not research active – in the group of respondents (doctoral and post-doctoral) that indicated they were not research active

Main reasons not research active	Overall n=29 (%)
Lack of funding	15 (51.7)
Lack of clinical academic post in local area	14 (48.3)
Lack of support from host organisation	12 (41.4)
Better pay/promotion opportunities etc. available in non-research roles	11 (37.9)
Lack of job security in research positions	10 (34.5)
Lack of research outputs limited the number of roles/funding routes open to me to progress	8 (27.6)
Longer working hours needed to meet both clinical and research commitments	8 (27.6)
Lack of (quality) careers advice	8 (27.6)
Experienced difficulties balancing personal/family commitments with work commitments	6 (20.7)
Lack of academic post	4 (13.8)
Not aware of anyone with a similar background to you having a successful career in research	2 (6.9)
Did not enjoy research experience	0
You realised your career aspirations were not realistic	0
Other	6 (20.7)

Table data information: The participants that were not research active in their current role (n=29) were asked about the main reasons they were not research active. The participants could select all the options that applied.

Clarity on aspirations and routes

Higher degree

5.53 Participants were asked about how clear they were at the time of undertaking their higher degree about their research-related career aspirations, their clinical career aspirations, routes to further clinical training and development and routes to further research-related positions.

5.54 Just over a quarter (n=57, 27.5%) of respondents (excluding those that had not undertaken a higher degree, total: n=207) were very clear on their research-related career aspirations and 26.6% (n=55) were very clear about clinical career aspirations.

5.55 However, when considering the routes to gain further clinical/research training and development, the respondents were not as clear. Only 11.6% of the respondents (n=24) were very clear regarding routes to further clinical training and development and only 8.2% (n=17) indicated they were very clear about routes to further research-related positions.

Post-doctoral training

5.56 The awarded post-doctoral applicants only were asked about how clear they were at the time of undertaking their post-doctoral research training fellowship about their research-related career aspirations, their clinical career aspirations, routes to further clinical training and development and routes to further research-related positions (Figure 5.18).

5.57 Over two thirds of the respondents (70%) were very clear on their research related career aspirations, but only 29.8% were very clear about their routes to further research related positions.

5.58 Clarity regarding clinical career aspirations was not applicable for just over 12% of the respondents. When considering only those it was applicable to (n=41), 39% were very clear about their clinical career aspirations and just 20% were very clear about routes to further clinical training or development.

Figure 5.18: Responses showing clarity on aspirations and routes in awarded post-doctoral research training fellowship applicants at the time of undertaking their fellowship

Aspirations and routes	**Clarity ranging from not clear (1) to very clear (5)**					
	1	**2**	**3**	**4**	**5**	N/A
Your research related career aspirations	1 (2.1)	1 (2.1)	1 (2.1)	13 (27.7)	31 (66.0)	0
Your clinical career aspirations	2 (4.3)	4 (8.5)	5 (10.6)	14 (29.8)	16 (34.0)	6 (12.8)
Routes to further clinical training and development	2 (4.3)	7 (14.9)	9 (19.1)	14 (29.8)	8 (17.0)	7 (14.9)
Routes to further research related positions	1 (2.1)	2 (4.3)	13 (27.7)	17 (36.2)	14 (29.8)	0

Table data information: The awarded post-doctoral applicants (n=47) were asked to rate their clarity on aspirations and routes at the time of their post-doctoral fellowship on a scale of 1 to 5, where 1 is not clear at all and 5 is very clear. They could indicate if not applicable.

Qualitative open-text responses: Was there anything further they would like to say about clinical academic careers?

5.59 Participants were asked if they had anything more they would like to say about clinical academic careers; most participants commented (n=223).

Valuable career path/opportunity

5.60 Around 1 in 10 made comments about being positive/grateful/thankful for the award and/or described the importance, value and need for the clinical academic role within the NHS. They describe how they consider this role as a '*very important bridge that the NHS needs'* so that the NHS is research-led and research is embedded within all healthcare disciplines.

Difficulties of the career path

5.61 Some respondents commented on the difficulties of the pathway, describing it as tough, requiring resilience and endurance. One respondent described how you need to want to pursue it, but described how the difficulties had made them more determined. Some commented more specifically about the barriers and difficulties involved.

- **Funding journey**

5.62 Several talked about difficulties associated with the funding journey; participants described the extensive and difficult application process for funding, lack of feedback from failed applications, problems finding the right supervisors and support from the host organisations for the application process. A few described the lack of funding opportunities.

- **Lack of opportunities**

5.63 Several commented on the need for more opportunities that span academic employers and health employers so that clinical academic careers are embedded in clinical practice. However, several also thought there were more opportunities now than there used to be.

- **Integration of roles**

5.64 Several described the difficulties of performing consistently well in both their clinical and academic roles, finding it really challenging to excel in both career pathways. Respondents described the difficulties of integrating the clinical and research role. The difficulties of working across the '*very different cultures of research/academic life and NHS clinical life*' were acknowledged and the need for more recognition of the dual role, and its potential contribution both to higher education and the NHS.

- **Clearer career pathway**:

5.65 This related to the lack of visibility of this pathway within Trusts and how managers struggle to understand them. People recognised themselves as trailblazers in contexts where the role was not well understood.

- **Bridging/transition**

5.66 Some described difficulties with the transition period after a fellowship and/or the potential benefit of bridging funding. One described how the lack of bridging funding makes following a clinical academic career path difficult.

- **Personal issues**

5.67 Several described issues related to job security and salary and family/work life balance. They described the potential 'risk' of leaving a substantive clinical post to take a research role and short-term contracts as well as difficulties taking these risks with a family and mortgage.

- **Variation in opportunities**

5.68 Several respondents described difficulties in their particular discipline, speciality or profession and some compared the pathway for non-medical AHPs to that of the medical pathway. One respondent described how they would welcome more '*equity across clinical professions'*. A few described how there they felt there is more support in larger centres/large teaching hospitals/large cities and that regional variation existed.

Chapter 6: Advice, support and guidance

6.1 This section explores the sources, availability and importance of advice, support and guidance and subsequently focusses on how respondents think the advice, support and guidance on offer could be improved.

Sources of advice, support and guidance

6.2 Most respondents (96%) had received advice, support or guidance about pursuing a research-related career since they had first become interested in research (Figure 6.1).

6.3 Respondents indicated a variety of sources; on average the doctoral applicants selected 3.5 different sources per respondent, whilst post-doctoral applicants selected 3.6 per respondent.

6.4 Overall, the most commonly accessed source was from a senior clinical academic (56%). Around half of the respondents had received advice, support and guidance from a mentor or fellowship award holders (52% and 49% respectively) and 45% from peers.

6.5 When comparing the doctoral with the post-doctoral cohort; the doctoral cohort was most likely to have received advice, support and guidance from a senior clinical academic (58%), but the post-doctoral cohort were most likely to specify a mentor (59%) (Figure 6.1).

6.6 The post-doctoral cohort were more likely to gain advice, support and guidance from a mentor or senior non-clinical academic when compared with the doctoral cohort, whereas a higher proportion of the doctoral cohort received advice from a clinical colleague.

Figure 6.1: Responses showing the sources of advice, support and guidance received about pursuing a research-related career in all respondents by fellowship type

Sources of advice, support and guidance	Fellowship type		
	Doctoral n=134 (%)	Post-doctoral n=96 (%)	Overall n=231 (%)
Senior clinical academic	77 (57.5)	52 (54.2)	129 (55.8)
Mentor(s)	63 (47.0)	57 (59.4)	120 (51.9)
Fellowship award holders (current or previous)	65 (48.5)	47 (49.0)	112 (48.5)
Peers	58 (43.3)	45 (46.9)	103 (44.6)
Senior non-clinical academic	44 (32.8)	43 (44.8)	87 (37.7)
Research funders (e.g. NIHR, charities, MRC)	51 (38.1)	33 (34.4)	84 (36.4)
Clinical colleague	37 (27.6)	14 (14.6)	51 (22.1)
Online sources of advice and guidance	26 (19.4)	21 (21.9)	47 (20.3)
Research training programme director	17 (12.7)	10 (10.4)	27 (11.7)
University careers advice	10 (7.5)	5 (5.2)	15 (6.5)
Have not used/received any advice, guidance or support	7 (5.2)	2 (2.1)	9 (3.9)
Other formal careers advice	3 (2.2)	3 (3.1)	6 (2.6)
Other (please specify)	18 (13.4)	13 (13.5)	31 (13.4)

Table data information: The table includes all respondents to the survey (n=231). The participants selected all the options that applied or specified in 'other'.

Doctoral applicants

6.7 Figure 6.2: The highest proportion of both awarded and rejected doctoral applicants received advice, support and guidance from a senior clinical academic. The awarded respondents were more likely than those rejected to receive advice, support and guidance from fellowship award holders (57% versus 41%) and the rejected respondents were more likely than the awarded to receive it from a clinical colleague (34% versus 21%).

Figure 6.2: Responses showing the sources of advice, support and guidance received about pursuing a research-related career in doctoral applicants showing awarded and rejected.

Sources of advice, support and guidance	**Doctoral: awarded/rejected**			
	Doctoral Awarded n=62 (%)	**Doctoral Rejected n=71 (%)**	**Doctoral Unknown n=1 (%)**	**Overall n=134 (%)**
Senior clinical academic	37 (59.7)	39 (54.9)	1 (100.0)	77 (57.5)
Fellowship award holders (current or previous)	35 (56.5)	29 (40.8)	1 (100.0)	65 (48.5)
Mentor(s)	28 (45.2)	35 (49.3)	0	63 (47.0)
Peers	26 (41.9)	31 (43.7)	1 (100.0)	58 (43.3)
Research funders (e.g. NIHR, charities, MRC)	25 (40.3)	26 (36.6)	0	51 (38.1)
Senior non-clinical academic	23 (37.1)	21 (29.6)	0	44 (32.8)
Clinical colleague	13 (21.0)	24 (33.8)	0	37 (27.6)
Online sources of advice and guidance	15 (24.2)	11 (15.5)	0	26 (19.4)
Research training programme director	8 (12.9)	9 (12.7)	0	17 (12.7)
University careers advice	3 (4.8)	7 (9.9)	0	10 (7.5)
Have not used/received any advice, guidance or support	1 (1.6)	6 (8.5)	0	7 (5.2)
Other formal careers advice	2 (3.2)	1 (1.4)	0	3 (2.2)
Other (please specify)	12 (19.4)	6 (8.5)	0	18 (13.4)

Table data information: The table includes all doctoral respondents to the survey (n=134). The participants selected all the options that applied or specified in 'other'.

Post-doctoral applicants

6.8 Figure 6.3: Findings were broadly similar in the awarded and rejected post-doctoral applicants. A higher proportion of the awarded post-doctoral respondents had received advice, support and guidance from a mentor (68.1% versus 50%) or research funders (44.7% versus 23.9%) compared to the rejected respondents.

6.9 The awarded post-doctoral applicants were also more likely to have gained advice, support and guidance from a senior clinical academic (57.4% versus 47.8%).

Figure 6.3: Responses showing the sources of advice, support and guidance received about pursuing a research-related career in the post-doctoral applicants showing awarded and rejected.

Sources of advice, support and guidance	Post-doctoral: awarded/rejected			
	Post-doctoral Awarded n=47 (%)	Post-doctoral Rejected n=46 (%)	Post-doctoral Unknown n=3 (%)	Overall n=96 (%)
Senior clinical academic	27 (57.4)	22 (47.8)	3	52 (54.2)
Fellowship award holders (current or previous)	25 (53.2)	20 (43.4)	2	47 (49.0)
Mentor(s)	32 (68.1)	23 (50.0)	2	57 (59.4)
Peers	22 (46.8)	20 (43.5)	3	45 (46.9)
Research funders (e.g. NIHR, charities, MRC)	21 (44.7)	11 (23.9)	1	33 (34.4)
Senior non-clinical academic	20 (42.6)	21 (45.7)	2	43 (44.8)
Clinical colleague	7 (14.9)	6 (13.0)	1	14 (14.6)
Online sources of advice and guidance	6 (12.8)	14 (30.4)	1	21 (21.9)
Research training programme director	6 (12.8)	4 (8.7)	0	10 (10.4)
University careers advice	2 (4.3)	3 (6.5)	0	5 (5.2)
Have not used/received any advice, guidance or support	1 (2.1)	1 (2.2)	0	2 (2.1)
Other formal careers advice	1 (2.1)	2 (4.3)	0	3 (3.1)
Other (please specify)	7 (14.9)	6 (13.0)	0	13 (13.5)

Table data information: The table includes all post-doctoral respondents to the survey (n=96). The participants selected all the options that applied or specified in 'other'.

Importance of the advice, support and guidance received

6.10 In the previous chapter, when considering how important the advice, support and guidance had been to respondents less than a third of both doctoral and post-doctoral applicants indicated it was very important. More of the awarded cohort (both doctoral and post-doctoral) considered it to be very important when compared to their rejected counterparts (Figure 5.12).

Availability of the advice, support and guidance received

6.11 Participants were asked how satisfied they were with the availability of advice, support and guidance.

Doctoral applicants

6.12 Figure 6.4 shows level of satisfaction regarding the availability of advice, support and guidance amongst the doctoral cohort. Only 6.7% of the respondents described themselves as very satisfied with the advice, support and guidance received. The awarded doctoral respondents tended to be more satisfied than those that were rejected; 59.6% of the awarded respondents were very satisfied or fairly satisfied, but this was the case for only 36.6% of the rejected respondents.

Figure 6.4: Responses showing level of satisfaction with the availability of the advice, support and guidance received about pursuing a research-related career in the doctoral cohort showing awarded and rejected.

Level of satisfaction with advice, support and guidance	Doctoral: awarded/rejected			
	Doctoral Awarded n=62 (%)	Doctoral Rejected n=71 (%)	Doctoral Unknown n=1 (%)	Overall n=134 (%)
Very satisfied	5 (8.1)	4 (5.6)	0	9 (6.7)
Fairly satisfied	32 (51.6)	22 (31.0)	1 (100.0)	55 (41.0)
Neither satisfied or dissatisfied	14 (22.6)	19 (26.8)	0	33 (24.6)
Fairly dissatisfied	7 (11.3)	16 (22.5)	0	23 (17.2)
Very dissatisfied	2 (3.2)	8 (11.3)	0	10 (7.5)
Not applicable	2 (3.2)	2 (2.8)	0	4 (3.0)

Table data information: The table includes all doctoral respondents to the survey (n=134). The participants selected one option or indicated if not applicable.

Post-doctoral applicants

6.13 Figure 6.5 shows the level of satisfaction regarding the availability of advice, support and guidance amongst the post-doctoral cohort. The awarded post-doctoral respondents tended to be more satisfied than the rejected respondents; 55.3% of the awarded respondents were very satisfied or fairly satisfied, but this was the case for only 34.8% of the rejected respondents.

Figure 6.5: Responses showing level of satisfaction with the availability of the advice, support and guidance received about pursuing a research-related career in the post-doctoral cohort showing awarded and rejected.

Level of satisfaction with advice, support and guidance	Post-doctoral: awarded/rejected			
	Post-doctoral Awarded n=47 (%)	Post-doctoral Rejected n=46 (%)	Post-doctoral Unknown n=3 (%)	Overall n=96 (%)
Very satisfied	6 (12.8)	2 (4.3)	0	8 (8.3)
Fairly satisfied	20 (42.6)	14 (30.4)	2	36 (37.5)
Neither satisfied or dissatisfied	8 (17.0)	12 (26.1)	0	20 (20.8)
Fairly dissatisfied	10 (21.3)	11 (23.9)	1	22 (22.9)
Very dissatisfied	2 (4.3)	6 (13.0)	0	8 (8.3)
Not applicable	1 (2.1)	1 (2.2)	0	2 (2.1)

Table data information: The table includes all post-doctoral respondents to the survey (n=96). The participants selected one option or indicated if not applicable.

Clinical Academic Career: Factors related to advice, support and guidance that would have helped in the pursuit of a clinical academic career

6.14 The respondents currently pursuing a clinical academic career[69] (n=109) were asked to indicate the factors that might have made it easier to pursue this career pathway. Several of the factors indicated related specifically to advice, support and guidance.

6.15 Nearly half of those pursuing a clinical academic career (45.9%) indicated that better support from their host employer would make it easier to pursue this career pathway. This was particularly the case for the doctoral applicants, where over 50% of them indicated this.

[69] Based on those that indicated they were pursuing an integrated clinical academic career path/job role in question E3a (see Appendix 3)

6.16 There was also the need for more guidance and/or support in making career choices; this was indicated by both doctoral and post-doctoral respondents (40.6% and 35.0% respectively). Support related to career breaks and flexible working was identified by 20% of these respondents as something that would make it easier to pursue this career path and greater financial support was indicated by 15% of the respondents.

Qualitative open-text responses: What could have improved the advice, support and guidance on offer?

6.17 All participants were asked whether the advice, support and guidance that was on offer (or they received) could have been improved to make pursuing a research-related career easier. Over half (n=120, 51.9%) indicated it could have been improved and 119 participants provided open-text responses to specify what could be improved (Figure 6.6).

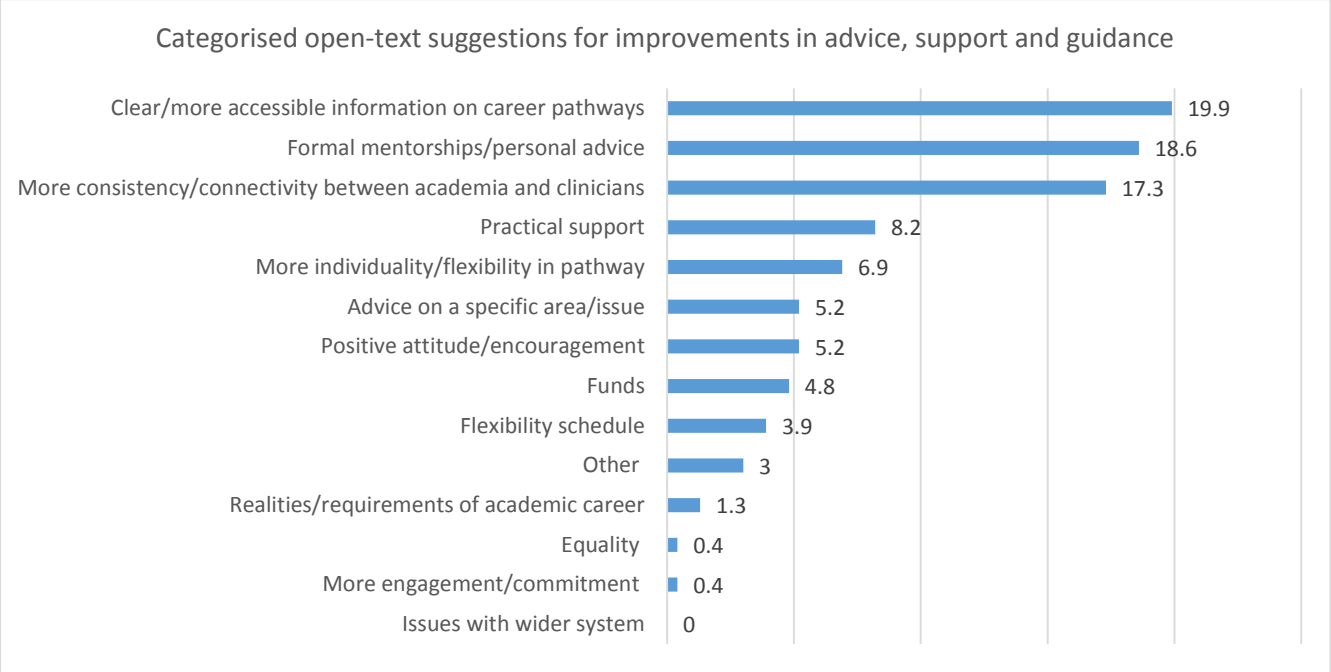
Figure 6.6: Responses showing the categories of advice, support and guidance on offer/received that could have been improved to make pursuing a research-related career easier.

Categories of advice, support and guidance	**Frequency**
No response	112 (48.5)
Clear/more accessible information on career pathways Sub theme: advertising different opportunities/more opportunities	46 (19.9)
Formal mentorships/personal advice	43 (18.6)
More consistency/connectivity between academia and clinicians Sub theme: More support from the NHS or Academia / Provide the managers within the clinical department with information related to clinical academic pathway / Future benefits / Next step	40 (17.3)
Practical support	19 (8.2)
More individuality/flexibility in pathway	16 (6.9)
Advice on a specific area/issue	12 (5.2)
Positive attitude/encouragement	12 (5.2)
Funds	11 (4.8)
Flexibility schedule	9 (3.9)
Other	7 (3.0)
Realities/requirements of academic career	3 (1.3)
More engagement/commitment	1 (0.4)
Equality	1 (0.4)
Issues with wider system	0

Table data information: The table includes responses from all respondents to the survey (n=231). The responses were coded and then merged into main categories, similar to those in the IFF survey for the medical profession.[70] The frequency shows total number and percentage of all respondents.

[70] A cross-funder review of early-career clinical academics: enablers and barriers to progression. IFF Research November 2015

Figure 6.7: Responses showing categories of advice, support and guidance that could was on offer/received that could have been improved to make pursuing a research-related career easier.



Clear/more accessible information on career pathways

6.18 When considering advice, support and guidance, respondents most frequently indicated the need for clearer and more accessible information on career pathways; for a number of respondents this meant advertising more and different types of opportunities. Some indicated information on the pathway was not 'readily available' or 'visible', from both a local and national perspective. One described how the different funding streams, funders and organisations involved a 'minefield' of complicated information.

6.19 Several described how there was interest in clinical academic careers within the professions, but individuals were not stimulated to pursue research careers due to lack of readily available information. They had to 'hunt down the information', which often meant finding colleagues who knew about research. One respondent described how they had to be highly self-motivated, had to search hard and be single-minded in their pursuit of this pathway.

6.20 Some emphasised the difficulties of finding information about the pathway when based outside a higher education institution (HEI) and the particular need for clinical managers to be more informed; they highlighted the need for clinical managers to know about the pathway but also understand the benefits to the clinical service both financially and from a quality, staff satisfaction and retention perspective. Information about the clinical academic career pathway should also be about potential barriers and how to navigate these.

Formal mentorships/personalised advice

6.21 The role of a mentor was considered important in helping people to pursue a research-related career. Several discussed the need for a mentor who had knowledge of their own current position, specialty or discipline, so they can fully understand and support. For those

pursuing an integrated clinical academic pathway, this included an understanding of both the academic and clinical elements of the role. Some described the need for more people to give advice with knowledge about the integrated role, so better support could be given; one person wanted to hear from people who had successfully balanced a clinical role, research role as well as family life so they could learn from this.

6.22 There was a desire for early support and advice and also consistency in terms of information and advice given. This advice and support specifically included personal encouragement to keep going 'despite barriers'.

More consistency/connectivity between academia and clinicians

6.23 Participants pursuing a clinical academic career described the need for more 'joined up thinking' and 'strengthening links' between NHS and Higher Education Institutions. There was particular focus regarding the support of local NHS trusts with some describing the lack of an established route for clinical academics within the NHS and therefore the lack of positions at the end of an award. The need for contracts that suit both parties and for both NHS Trusts and HEI's to work in collaboration and be accountable for the awards, roles and progression was highlighted. One participant described how the clinical academic role should be treated as one role, rather than two part time positions in clinical practice and academia.

Chapter 7: Summary of findings from phase 2 – Additional funders

7.1 This chapter provides an overview of findings from the survey with participants invited by the additional funders in phase 2 of the survey. Important note: all those invited, and therefore the respondents in phase 2, had been awarded a fellowship.

Profile of participants: Demographic characteristics

7.2 The respondents from phase 2 came from 6 of the 7 additional funders involved in this phase of the study (Figure 7.1).

Figure 7.1: The number of respondents (phase 2) for each funder by fellowship level

Funder	Doctoral n=14 (%)	Post-doctoral n=11 (%)	Overall n=25 (%)
Alzheimer's Society	3 (21.4)	0	3 (12.0)
Arthritis Research UK	3 (21.4)	0	3 (12.0)
Diabetes UK	0	0	0
Higher Education Funding Council for England	0	7 (63.6)	7 (28.0)
Kidney Research UK	1 (7.1)	0	1 (4.0)
Medical Research Council	1 (7.1)	1 (9.1)	2 (8.0)
Stroke Association	6 (42.9)	3 (27.3)	9 (36.0)

Table data information: The table includes the respondents for each funder for phase 2 of the survey. The percentages shown are calculated from the total number of phase 2 respondents within each cohort.

7.3 The respondents included 14 allied health professionals, 5 were in the nurse, midwife and health visitor group, 2 health care scientists, 1 pharmacist and 3 who specified other health care professions. The demographic characteristics of respondents (phase 2) are shown in Figure 7.2.

Figure 7.2: Demographic characteristics of respondents (phase 2) by fellowship level

Demographics	Doctoral n=14 (%)	Post-doctoral n=11 (%)	Overall n=25 (%)
Sex: % female	11 (78.6)	8 (72.7)	19 (76.0)
Age: <50	8 (57.1)	6 (54.5)	14 (56.0)
Professional group: % nurse, midwife, health visitor	2 (14.3)	3 (27.3)	5 (20.0)
Ethnicity: % white – British	8 (57.1)	7 (63.6)	15 (60.0)
Nationality: % UK National	11 (78.6)	11 (100.0)	22 (88.0)

Table data information: The table includes the demographics for phase 2 respondents to the survey (n=25). The percentages shown are calculated from the total number of phase 2 respondents within each cohort.

7.4 A higher proportion of females to males in both the doctoral and post-doctoral cohorts (78.6% and 72.7% females respectively) participated in the survey. Just under 15% of doctoral respondents were nurses, midwives or health visitors compared with just over a quarter of the post-doctoral respondents. The highest proportion of participants were white British. All of the post-doctoral level participants were UK Nationals, as were more than three quarters of the doctoral participants.

Profile of participants: Current roles

7.5 Current roles of phase 2 respondents are shown in Figure 7.3

Figure 7.3: A table showing the current roles of phase 2 respondents to the survey by fellowship type.

Current role	Fellowship type		
	Doctoral n=14 (%)	Post-Doctoral n=11 (%)	Overall n=25 (%)
Still undertaking a fellowship/PhD[71]	7 (50.0)	3 (27.3)	10 (40.0)
Academic post – University employee (non-clinical)[72]	4 (28.6)	4 (36.4)	8 (32.0)
Reader/Professor (clinical or non-clinical)	1 (7.1)	1 (9.1)	2 (8.0)
Clinical post – with no sessions funded for research	0	2 (18.2)	2 (8.0)
Combined research and clinical role[73]	0	2 (18.2)	2 (8.0)
Research based career outside of health profession	1 (7.1)	0	1 (4.0)
Clinical Research Staff/Research Fellow – NHS employee[74]	0	0	0
Other[75]	1 (7.1)	0	1 (4.0)

Table data information: The table includes the current roles of phase 2 respondents to the survey (n=25).
Note: Participants that specified in section C of the survey ('Career since applying for fellowship') when asked about specific roles since applying for or completing the fellowship that they were undertaking their fellowship or specified they held any type of fellowship or were undertaking a PhD funded from whatever source (ie. doing a funded programme of study) were included in the 'still undertaking a fellowship/PhD' category. Several of the category options from the survey section C have been combined and where possible the 'other' category was checked and combined with existing categories. One post-doctoral respondent indicated 2 separate posts and so were included in the 'academic post' and the clinical post (no research) categories.

7.6 Overall, 10 respondents (40%) indicated they were still undertaking a fellowship; a higher proportion of the doctoral respondents were still undertaking a fellowship (50%) compared with the post-doctoral respondents (27.3%).

7.7 Of the remaining participants, the highest proportion were in an academic post (non-clinical) (n=8, 32%). There were only 2 participants (8.0%) who had an integrated combined research and clinical role; there was a further participant who held 2 separate clinical and research posts (these are included as separate roles in Figure 7.3).

7.8 Two respondents had reached the level of Reader/Professor, both of whom indicated they were Clinical Professors. There were no respondents in the position of clinical research staff.

[71] The 'still undertaking category' included those that responded to question C1 in the following ways: those that were 'still undertaking', 'holder of a clinical research training fellowship of some type from an external funder', 'holder of a senior clinical research training fellowship of some type from an external funder', or those who specified in other they were still undertaking their fellowship, PhD or holder of any type of fellowship. This includes those still undertaking fellowship funded by NIHR/HEE and those funded by other sources.

[72] The 'academic post (University employee) category also now includes the following categories from the survey: Research fellow (University employee), Academic Lecturer (with no sessions funded for clinical work), Academic Senior Lecturer or Associate Professor (with no sessions funded for clinical work), Academic clinical lecturer and Academic senior Clinical Lecturer. It also includes those that indicated in 'other' that they were a Senior Research Fellow or Research Associate (Senior or not) or other academic role.

[73] The combined research and clinical role includes the following categories from the survey: 'clinical post (with some sessions funded for research)', 'a post that combines clinical and research duties', academic clinical lecturer and academic senior clinical lecturer.

[74] The 'clinical research staff (NHS employee)' category also now includes the category: 'research fellow (NHS employee)' from the survey

[75] Where the respondent had specified their role in 'other' it was checked and where possible included in another category

Profile of current employing institution: phase 2 respondents

7.9 The employing institution of respondents (phase 2) – excluding those still undertaking their fellowship - is shown in Figure 7.4.

Figure 7.4: A table to show the employing institution of phase 2 respondents by fellowship level

Current employing institution	Fellowship type		
	Doctoral n=7 (%)	Post-doctoral n=8 (%)	Overall n=15 (%)
University	6 (85.7)	5 (62.5)	11 (73.3)
NHS organisation	1 (14.3)	2 (25.0)	3 (20.0)
Other research institute	0	0	0
Other public sector organisation	0	0	0
Career break	0	0	0
Other	0	1 (12.5)	1 (6.7)

Table data information: The table shows primary employing institution of 15 participants who were not undertaking a fellowship or holder of an external fellowship from a different funder (n=10).

7.10 The majority of doctoral and post-doctoral applicants were employed by a University. A higher proportion of doctoral respondents were employed by a University than post-doctoral respondents (85.7% and 62.5% respectively). Only 20% of respondents from the additional funders were employed by an NHS organisation.

7.11 Participants (excluding those still undertaking fellowship) were asked whether they were research active in their current role.[76] All doctoral respondents and most post-doctoral respondents (n=7 out of 8, 87.5%) were research active in their current role. There was only 1 respondent not research active.

7.12 Those who were research active in their current role[77] (n=14) were asked to indicate which type(s) of research activity they were involved in (Figure 7.5).

[76] Based on responses from question 4.2a in the survey (see Appendix 3)

[77] Based on responses from question 4.2a in the survey (see Appendix 3)

Figure 7.5: A table to show types of research activity 'research active' phase 2 respondents were involved in.

Type of research activity	Fellowship type		
	Doctoral n=7 (%)	Post-doctoral n=7 (%)	Overall n=14 (%)
Contributing to research led by others (e.g. by providing clinical/health material, subject or technical expertise, and/or data	7 (100.0)	6 (85.7)	13 (92.9)
Supervising post-graduate student projects	4 (57.1)	7 (100.0)	11 (78.6)
Teaching activities	5 (71.4)	6 (85.7)	11 (78.6)
Research administrative activities	4 (57.1)	6 (85.7)	10 (71.4)
Directing/leading your own research programme(s) and team	3 (42.9)	7 (100.0)	10 (71.4)
Lecturing	4 (57.1)	5 (71.4)	9 (64.3)
Clinical teaching	3 (42.9)	5 (71.4)	8 (57.1)
Other research activity	2 (28.6)	4 (57.1)	6 (42.9)
Supervising undergraduate student projects	1 (14.3)	4 (57.1)	5 (35.7)
Other administrative activity	3 (42.9)	2 (28.6)	5 (35.7)
Other teaching activity	1 (14.3)	2 (28.6)	3 (21.4)
Regulating research e.g. as a member of an ethics committee	1 (14.3)	2 (28.6)	3 (21.4)
Commissioning research and/or shaping institutional research strategies and/or major funding decisions	0	1 (14.3)	1 (7.1)

Table data information: The table includes information about the types of research activity undertaken by phase 2 respondents who were research active in their current role (n=14) (excluding those still undertaking). The respondents ticked all response options that applied.

7.13 When considering specific activities, 'contributing to research led by others' was the most commonly indicated activity and all doctoral level respondents were involved in this. All post-doctoral respondents (excluding those still undertaking) were supervising post-graduate students, but only just over 50% of the doctoral level respondents.

7.14 All post-doctoral respondents, but only 42.9% of doctoral respondents, were directing/leading their own research programme and team. One post-doctoral respondent was commissioning and/or shaping institutional research strategies and/or major funding decisions.

7.15 The 14 'research active' respondents (excluding those still undertaking fellowship) were asked to determine in which areas they were research active (Figure 7.6).

Figure 7.6: A table to show areas of research activity the 'research active' phase 2 respondents are involved in

Areas of research activity	Fellowship level		
	Doctoral n=7 (%)	Post-doctoral n=7 (%)	Overall n=14 (%)
Health services and delivery research	3 (42.9)	5 (71.4)	8 (57.1)
Clinical research, other than trials	2 (28.6)	4 (57.1)	6 (42.9)
Education and training	2 (28.6)	3 (42.9)	5 (35.7)
Clinical trials of health technologies	2 (28.6)	2 (28.6)	4 (28.6)
Clinical trials of drugs and/or devices	1 (14.3)	1 (14.3)	2 (14.3)
Laboratory based biomedical research	0	2 (28.6)	2 (14.3)
Public health research	0	0	0
Biotechnology/medical device development	0	0	0
Other	1 (14.3)	0	1 (7.1)

Table data information: The table shows the areas of research activity undertaken by the 'research active' phase 2 respondents (n=14) (excluding those still undertaking) by fellowship level. The respondents ticked all response options that applied or specified in other.

7.16 Overall, around 40% of those who were research active were involved in clinical trials (whether drugs, devices or health technologies). Over half of the awarded respondents (57.1%) were involved in health services and delivery research, and nearly half (42.9%) were doing clinical research, other than trials.

7.17 All participants were asked whether they were currently pursuing a clinical academic career pathway. Half of the doctoral level respondents (n=7) and nearly three quarters (72.7%) of the post-doctoral level respondents were currently pursuing a clinical academic career; overall 60% (n=15) were pursuing this career path.

Overview of career choices

Routes into an academic career: Developing an interest in research

7.18 Participants were asked about the factors that sparked their interest in research (Figure 7.7).

Figure 7.7: Responses by professional group about which factors sparked their interest in research

What sparked an interest in a career involving research?	Nurse, midwife, health visitor n=5 (%)	Other professional groups n=20 (%)	Overall n=25 (%)
Interaction with people in research positions	1 (20.0)	9 (45.0)	10 (40.0)
Attendance at a conference or continuing education event	1 (20.0)	9 (45.0)	10 (40.0)
Involvement in audit, service evaluation or quality improvement projects	2 (40.0)	7 (35.0)	9 (36.0)
Attendance at lectures/seminars during undergraduate or postgraduate diploma/degree	2 (40.0)	6 (30.0)	8 (32.0)
Issue encountered in practice or service delivery	2 (40.0)	6 (30.0)	8 (32.0)
Hearing about experiences of those already in receipt of a training award	0	3 (15.0)	3 (12.0)
Advert for research bursary, internship or fellowship from university	0	1 (5.0)	1 (4.0)
Advert for research bursary, internship or fellowship from HEE or NIHR	0	1 (5.0)	1 (4.0)
Advert for research bursary, internship or fellowship from charity	0	0	0
Other (please specify)	1 (20.0)	5 (25.0)	6 (24.0)

Table data information: including phase 2 respondents (n=25) to the survey. The 'other health professional groups' includes allied health professionals, healthcare scientists, pharmacists and the 'other' category. The participants were asked to select all options that applied.

7.19 Overall, interaction with people in research positions and attendance at a conference or continuing education event were the most commonly mentioned factors (both 40%). Involvement in audit, service evaluation or service delivery (36%), attendance at lectures/seminars during undergraduate or postgraduate diploma/degree (32%) or issue encountered in practice or service delivery (32%) were all commonly indicated factors.

7.20 Hearing about experiences of those already in receipt of a training award was not specified by any of the nurse, midwife and health visitor cohort, but by 15% of the 'other health professional groups'. Overall, this was identified by only 3 respondents (12%).

7.21 Advert for research bursary, internship or fellowship from HEE or NIHR, University or Charity was mentioned by none of the nurse, midwife and health visitor cohort, but by 10% of the 'other health professional groups' cohort (8% overall).

7.22 When considering responses by fellowship type, interaction with people in research positions and issues encountered in practice or service delivery were the most common

factors that sparked an interest in research for both groups. Involvement in audit, service evaluation or quality improvement projects was indicated by a higher proportion of the doctoral applicants (37.3%) than the post-doctoral applicants (21.9%)

Stage of career when first became interested in a career involving research

7.23 All respondents were asked at which stage in their career they first became interested in a career involving research. The highest proportion of respondents indicated this was whilst working in a clinical role (28%) or during initial training that led to registration as a health professional (28%).

Gaining first research experience

7.24 Overall, the majority of respondents gained their first research experience during their BSc undergraduate project (48%) or an MSc project (32%) (Figure 7.8). The first experience of research was not commonly gained through support from a research bursary, internship or fellowship (4%) and no-one indicated that it was through informal time with a research group or working as clinical research staff.

Figure 7.8: Responses by Professional group on first research experience

How did you gain your first research experience?	Nurse, midwife, health visitor n=5 (%)	Other professional groups n=20 (%)	Overall n=25 (%)
BSc undergraduate project	2 (40.0)	10 (50.0)	12 (48.0)
MSc project	3 (60.0)	5 (25.0)	8 (32.0)
Experience gained through involvement with a research project(s)	0	4 (20.0)	4 (16.0)
Experience supported via research bursary, internship or fellowship	0	1 (5.0)	1 (4.0)
Experience gained through working as clinical research staff	0	0	0
Informal time spent with a research group	0	0	0

Table data information: including phase 2 respondents (n=25) to the survey. The respondents specified one option only. The 'other health professional groups' includes allied health professionals, healthcare scientists, pharmacists and the 'other' category.

Routes into an academic career: Undergraduate and higher research degrees

Undertaking a higher degree

7.25 All the survey respondents had completed or were undertaking a PhD. There were 8 doctoral respondents still undertaking their PhD. Of the remaining, only 1 participant had completed their PhD before the year 2000. Sixteen of the 17 participants (94.1%) had completed their PhD in the year 2000 or after.

Funding for higher degree

7.26 The majority were currently, or had been funded, by a charity (60%); the remaining were funded by a range of different funding bodies (Figure 7.9).

Figure 7.9: Responses by Professional group about funding for higher degree

How funded?	Professional group		
	Nurse, midwife, health visitor n=5 (%)	Other health professional groups n=20 (%)	Overall n=25 (%)
Charity	2 (40.0)	13 (65.0)	15 (60.0)
Self-funded	1 (20.0)	2 (10.0)	3 (12.0)
NIHR and/or HEE	0	2 (10.0)	2 (8.0)
Research council e.g. MRC, ESRC	0	2 (10.0)	2 (8.0)
Department/supervisor funds	0	1 (5.0)	1 (4.0)
Professional association	0	0	0
Other (please specify)	3 (60.0)	0	3 (12.0)

Table data information: including all respondents (n=25). The respondents could specify all options that applied. The 'other health professional groups' includes allied health professionals, healthcare scientists, pharmacists and the 'other' category.

Motivation for undertaking higher degree

7.27 Overall, the main motivation for undertaking a higher degree was to support a longer term career ambition of becoming a senior academic (Figure 7.10) – just under a third of respondents indicated this was their main motivation (32%). The respondents also commonly cited 'to investigate a particular research question relating to clinical care provision' (n=7, 28%).

Figure 7.10: Responses by Professional group about motivation to undertake a higher degree

Main motivation for decision to undertake higher degree	Nurse, midwife, health visitor n=5 (%)	Other health professional groups n=20 (%)	Overall n=25 (%)
To support your longer term career ambition of becoming a senior academic	2 (40.0)	6 (30.0)	8 (32.0)
To investigate a particular research question relating to clinical care provision	1 (20.0)	6 (30.0)	7 (28.0)
To support your clinical career by gaining access to wider opportunities, consultant practitioner level post etc.	0	2 (10.0)	2 (8.0)
Personal motivation	2 (40.0)	0	2 (8.0)
To aid the translation of a particular therapeutic or diagnostic tool or intervention into everyday clinical use	0	2 (10.0)	2 (8.0)
To investigate a particular basic/discovery science research question of interest	0	2 (10.0)	2 (8.0)
To investigate a particular research question relating to health professional education	0	0	0
Other (please specify)	0	2 (10.0)	2 (8.0)

Table data information: including only respondents that had undertaken or were undertaking a higher degree (n=25). The respondents could specify one option only. The 'other health professional groups' includes allied health professionals, healthcare scientists, pharmacists and the 'other' category.

Career path and drivers for career decisions

Positions and transitions through roles

7.28 This section does not include participants who were still undertaking their fellowship/funded programme of study (n=10), so the total number of respondents is only 15. The majority of both doctoral and post-doctoral respondents had transitioned to one role following their fellowship. One of the doctoral respondents had transitioned 4 times following their

fellowship. One of the post-doctoral respondents was in their 2nd role after fellowship and 2 had transitioned to a 3rd role. Due to the low numbers, no further analysis of career transition was undertaken.

Enablers and barriers to pursuing a research related academic career

Clinical career path

7.29 All phase 2 participants were asked to indicate how easy or difficult it was to pursue the clinical career path/job role they wanted. Four respondents had chosen not to pursue this career path and were not included in the analysis.

7.30 Of the remaining 21 participants, a higher proportion indicated it was difficult (or very difficult) to pursue a clinical career path (n=13, 61.9%) compared to those who found it easy (or very easy) (n=5, 23.8%).

7.31 Only 2 of the 5 nurse, midwife and health visitor respondents had chosen to pursue a clinical career, compared with 19 out of 20 'other healthcare professional groups'.

Research career path

7.32 All of the respondents to the survey had chosen to pursue a research career path/job role. Overall, 60% found this pursuit difficult (or very difficult) and only 16% had found it easy (or very easy).

Integrated clinical academic career path/job role

7.33 The 15 participants currently pursuing an integrated clinical academic career path/job role were asked to indicate how easy or difficult it was. This included 7 doctoral level and 8 post-doctoral level respondents (Figure 7.11). None of the phase 2 respondents pursing this career path indicated it was easy or very easy. Overall, nearly three quarters of respondents found it difficult (or very difficult) to pursue an integrated clinical academic career path.

Figure 7.11: Responses about ease or difficulty of pursuing an integrated clinical academic career

Ease of pursuing an integrated clinical academic career path/job role?	**Fellowship type**		
	Doctoral n=7 (%)	**Post-doctoral n=8 (%)**	**Overall n=15 (%)**
Very easy	0	0	0
Easy	0	0	0
Neither easy or difficult	2 (28.6)	1 (12.5)	3 (20.0)
Difficult	2 (28.6)	3 (37.5)	5 (33.3)
Very difficult	3 (42.9)	3 (37.5)	6 (40.0)
Missing	0	1 (12.5)	1 (6.7)

Table data information: The table includes only those who had chosen to pursue an integrated clinical academic career (n=15) showing ease of pursuing an integrated clinical academic career path/job role.

Enablers to career progression

Opportunities and advice/future enablers

7.34 When asked about the importance of various factors in progressing their research-related career, overall, the 'research active' respondents (n=14 – 7 doctoral and 7 post-doctoral respondents) found the following to be very important (level 5): experience and skills gained through training or research (78.6%), success in securing funding (71.4%), advice, support and guidance (57.1%), support from employer and support from manager (both 50%). Only 1 participant (7.1%) considered placements abroad, collaborative visits and placement in other sectors as very important.

7.35 When considering fellowship type, the highest proportion of doctoral respondents (71.4%) indicated experience and skills gained through training or research to be very important and 57.1% found advice, support and guidance to be very important. All of the post-doctoral respondents indicated that success in securing funding was very important and nearly all (n=6, 85.7%) found experience and skills gained through training or research very important.

Those pursuing an integrated clinical academic career

7.36 Those pursuing a clinical academic career (n=15) were asked about the factors that might have made it easier to pursue this career path. The broad range of factors that might have made it easier and the **main factor** can be found in Figure 7.12.

Figure 7.12: Responses regarding what might have made it easier to pursue a clinical academic career in those pursuing an integrated clinical academic career pathway and the main factor.

Which might have made it easier to pursue a clinical academic career?	All Factors (select all that apply)			MAIN Factor (one option only)		
	Doctoral n=7 (%)	Post-doc n=8 (%)	Overall n=15 (%)	Doctoral n=7 (%)	Post-doc n=8 (%)	Overall n=15 (%)
Clearer career paths for clinical academics	7 (100.0)	4 (50.0)	11 (73.3)	2 (28.6)	1 (12.5)	3 (20.0)
Larger number of clinical academic training positions (e.g. Clinical lectureships)	5 (71.4)	5 (62.5)	10 (66.7)	1 (14.3)	2 (25.0)	3 (20.0)
More grant/fellowship funding opportunities	5 (71.4)	5 (62.5)	10 (66.7)	0	2 (25.0)	2 (13.3)
Greater integration across clinical and academic departments to support clinical academic roles	4 (57.1)	6 (75.0)	10 (66.7)	0	2 (25.0)	2 (13.3)
Greater visibility/number of senior clinical academic role models	6 (85.7)	4 (50.0)	10 (66.7)	1 (14.3)	0	1 (6.7)
Less intense working hours	5 (71.4)	4 (50.0)	9 (60.0)	1 (14.3)	0	1 (6.7)
Greater job security within academic roles	3 (42.9)	3 (37.5)	6 (40.0)	0	1 (12.5)	1 (6.7)
More variation in clinical and/or academic roles available	3 (42.9)	3 (37.5)	6 (40.0)	1 (14.3)	0	1 (6.7)
More opportunities to work part-time	3 (42.9)	1 (12.5)	4 (26.7)	1 (14.3)	0	1 (6.7)
Greater alignment of NHS and university employment (pay, terms and conditions, pensions, maternity benefits etc.)	4 (57.1)	5 (62.5)	9 (60.0)	0	0	0
More guidance and/or support in making career choices	3 (42.9)	1 (12.5)	4 (26.7)	0	0	0
Better support from host employer	2 (28.6)	2 (25.0)	4 (26.7)	0	0	0
Greater financial support (to meet costs of student debts, counter impact of delaying application for promotion	1 (14.3)	1 (12.5)	2 (13.3)	0	0	0
Greater support for career breaks and flexible working (including maternity leave	1 (14.3)	0	1 (6.7)	0	0	0

Table data information: The respondents that indicated they were pursuing a clinical academic career (n=15) were asked to specify from a list of options what might have made it easier to pursue a clinical academic career. The respondents could tick all the options that apply for all the factors. They were then asked to select the main factor (one option only). The data shown is number of respondents and percentage of each cohort.

All factors

7.37 Figure 7.12: When considering all factors, all post-doctoral and 50% of doctoral respondents indicated that 'clearer career paths for clinical academics' would help their pursuit of a clinical academic career. Overall, two thirds considered that greater visibility/number of senior clinical academic role models, greater integration across clinical and academic departments to support clinical academic roles, more grant/fellowship funding opportunities and larger number of clinical academic training positions would make to easier to pursue this career path.

7.38 For both cohorts, greater support for career breaks and flexible working and greater financial support were not commonly indicated factors.

Main factor

7.39 Figure 7.12: The respondents indicated a broad variation in the MAIN factor that would make it easier to pursue this career path. Overall, the highest proportion specified that 'clearer career paths for clinical academics' and 'larger number of clinical academic training positions' would make it easier (both 20%).

Careers advice, support and guidance

7.40 The participants were asked about the importance of the advice, support and guidance they received in their decision to take the career path they had chosen. All participants had received some sort of advice, support and guidance. Advice, support and guidance was considered very important by 28% of respondents; this was consistent across the fellowship levels (doctoral: 28.6% and post-doctoral: 27.3%). When considering professional groups, 35% of the 'other health professional groups' had found it very important, but this was the case for none of the 'nurse, midwife and health visitor' respondents (Figure 7.13).

Figure 7.13: Responses about the importance of the advice, support and guidance they had received

How important was the advice, support and guidance you received so far (on a scale of 1 to 5)	**Nurse, midwife, health visitor n=5 (%)**	**Other professional groups n=20 (%)**	**Overall n=25 (%)**
1	0	1 (5.0)	1 (4.0)
2	1 (20.0)	2 (10.0)	3 (12.0)
3	1 (20.0)	2 (10.0)	3 (12.0)
4	3 (60.0)	7 (35.0)	10 (40.0)
5	0	7 (35.0)	7 (28.0)
Not received advice, support and guidance	0	0	0
Missing	0	1 (5.0)	1 (4.0)

Table data information: The table includes phase 2 respondents to the survey (n=25). They were asked to indicate on a scale of 1 to 5 (where 1=not important at all and 5=very important) how important the advice, support and guidance they had received had been in their career path to date. The respondents could indicate only one option on the scale or tick that they had not received advice, support and guidance.

Barriers to career progression

On completion of higher degree

7.41 The participants were asked about the challenges they faced on completion of their higher degree. Eight of the doctoral level respondents were still undertaking a higher degree and were not included in the analysis – all of these respondents were in the 'other health professional groups'.

7.42 Figure 7.14: When considering the challenges faced on completion of a higher degree, the highest proportion of respondents (almost half) found 'securing a post that reflected knowledge and skills acquired during the research training fellowship' and 'securing a research-related post that reflected chosen area of focus' to be 'a lot' of a challenge – rated the highest level of challenge (both 47.1%). Securing a post where they could sustain some research activity was ascribed the highest level of challenge by 41.1% of the respondents.

7.43 Family/personal challenges and retaining links with a HEI was a challenge for the lowest proportion of respondents; nearly half (41.1%) considered this to be 'not much' of a challenge.

Figure 7.14: Responses regarding the challenges faced by respondents on completion of their higher degree

Type of challenge	**How much of a challenge ranging from 1 (not a lot) to 5 (a lot)**					
	1	**2**	**3**	**4**	**5**	**N/A**
Regaining clinical competency and confidence	4 (23.5)	1 (5.9)	0	3 (17.6)	3 (17.6)	6 (35.3)
Securing a post where I could sustain some research activity	1 (5.9)	2 (11.8)	4 (23.5)	3 (17.6)	7 (41.2)	0
Securing a post that reflected knowledge and skills acquired during RTF	1 (5.9)	4 (23.5)	1 (5.9)	3 (17.6)	8 (47.1)	0
Securing a post at an appropriate clinical level	1 (5.9)	1 (5.9)	1 (5.9)	4 (23.5)	6 (35.3)	4 (23.5)
Securing a research-related post that reflected chosen area of focus	0	4 (23.5)	2 (11.8)	3 (17.6)	8 (47.1)	0
Returning to post and adjusting role to reflect knowledge and skills required	0	1 (5.9)	4 (23.5)	4 (23.5)	5 (29.4)	3 (17.6)
Family/personal challenges	7 (41.2)	5	1 (5.9)	1 (5.9)	1 (5.9)	2 (11.8)
Retaining links with a Higher Education Institution	7 (41.2)	4 (23.5)	3 (17.6)	1 (5.9)	1 (5.9)	1 (5.9)

Table data information: The table includes responses from participants that had completed a higher degree (excluding those still undertaking or who had not completed a higher degree). The total number of respondents included = 17. The respondents were asked to rate the level of challenge posed by each of the factors from 1 (not a lot) to 5 (a lot) or indicate if not applicable. The respondents specified 1 option only.

Across career transitions

7.44 Barriers encountered during the transition from fellowship to first role were considered. The barriers were divided into those relating to research roles, organisational support and personal support.

7.45 Figure 7.15 shows the barriers encountered during the transition from fellowship to first role (excluding those still undertaking a fellowship/funded programme of study). During this initial transition, 60% of the phase 2 respondents had encountered a barrier of some sort. The most commonly cited barriers related to research roles; a third of the participants found research funding to be a barrier and maintaining research activity and availability of positions was a barrier for 26.7% and 20% of participants respectively. Issues related to organisational support were not as commonly specified.

Figure 7.15: Responses about the barriers encountered during the transition from fellowship to first position.

Area	The barriers encountered during transition from research training fellowship to first position?	Fellowship type		
		Doctoral awarded n=7 (%)	Post-doctoral awarded n=8 (%)	Overall awarded n= 15 (%)
Research roles	Availability of funding	2 (28.6)	3 (37.5)	5 (33.3)
	Maintaining research activity	0	4 (50.0)	4 (26.7)
	Availability of positions	2 (28.6)	1 (12.5)	3 (20.0)
Organisational support	Inadequate support from employing institution	0	2 (25.0)	2 (13.3)
	Changing employers – contract issues	0	1 (12.5)	1 (6.7)
	Changing employers – pension issues	0	0	0
	Changing employers – maternity rights	0	0	0
	Changing employers – other issues	0	0	0
Personal support	(Re) location	0	0	0
	Family commitments	0	0	0
	Did not encounter barriers	3 (42.9)	3 (37.5)	6 (40.0)
	Other (please specify)	1 (14.3)	1 (12.5)	2 (13.3)

Table data information: The table shows the barriers encountered by respondents that had completed their fellowship (not still undertaking the fellowship) during the transition to first role. The respondents were given a list of options and indicated all that applied. The table includes 15 respondents.

Personal support

7.46 There were no participants who indicated issues around personal support – relocation or family commitments – had been a barrier.

7.47 The personal support issues surrounding financial impacts were considered in more detail in the 15 respondents pursuing a clinical academic career. They were asked to indicate which financial penalties (if any) they had experienced as a result of pursuing a career as a clinical academic (Figure 7.16).

7.48 Exactly 20% of respondents pursuing a clinical academic career indicated that this career path had not caused them any financial impact. Three quarters of those effected specified that they had experienced slower progression through the salary bands and half felt they had a lower current salary than would have had otherwise.

Figure 7.16: Responses regarding the financial penalties encountered by those pursuing a clinical academic career – excluding those that had experienced no financial impact.

Financial penalties	Doctoral n=5 (%)	Post-doctoral n=7 (%)	Overall n=12 (%)
Slower progression through salary bands	2 (40.0)	7 (100.0)	9 (75.0)
Lower current salary	4 (80.0)	2 (28.6)	6 (50.0)
Increased size or duration of student loan	0	0	0
Taken out another loan	0	0	0
Other (please specify)	1 (20.0)	0	1 (8.3)

Table data information: The participants that were pursuing a clinical academic career (n=15) were asked about the financial impact of pursuing a clinical academic career. The participants could select all the options that applied. They could indicate that there was no financial impact and these are excluded from the table – the table only refers to the financial impacts indicated (n=12).

Clarity on aspirations and routes

Higher degree

7.49 Participants were asked about how clear they were at the time of undertaking their higher degree about their research-related career aspirations, their clinical career aspirations, routes to further clinical training and development and routes to further research-related positions (Figure 7.17).

Figure 7.17: Responses showing clarity on aspirations and routes at the time of undertaking their higher degree in all respondents

Aspirations and routes	**1**	**2**	**3**	**4**	**5**	N/A
Your research related career aspirations	1 (4.0)	4 (16.0)	8 (32.0)	5 (20.0)	7 (28.0)	0
Your clinical career aspirations	2 (8.0)	2 (8.0)	8 (32.0)	8 (32.0)	3 (12.0)	2 (8.0)
Routes to further clinical training and development	3 (12.0)	6 (24.0)	6 (24.0)	8 (32.0)	1 (4.0)	1 (4.0)
Routes to further research related positions	3 (12.0)	2 (8.0)	9 (36.0)	10 (40.0)	1 (4.0)	0

Table data information: The participants (n=25) were asked to rate their clarity on aspirations and routes at the time of undertaking their higher degree on a scale of 1 to 5, where 1 is not clear at all and 5 is very clear. They could also indicate if not applicable.

7.50 Nearly half (n=12, 48%) of respondents were clear (rated 4 or 5 – see Figure 7.17) on their research-related career aspirations and 44% were clear (rated 4 or 5) about clinical career aspirations.

7.51 Just one participant was very clear regarding routes to further research or clinical training and development, although the highest proportion gave these a level 4 on clarity.

Post-doctoral training

7.52 Figure 7.18: Nearly two thirds (63.6%) of post-doctoral respondents were very clear on their research related career aspirations, but only 36.4% were very clear about clinical career aspirations.

Figure 7.18: Responses showing clarity on aspirations and routes in awarded post-doctoral research training fellowship applicants at the time of undertaking their fellowship

Aspirations and routes	**1**	**2**	**3**	**4**	**5**	N/A
Your research related career aspirations	1 (9.1)	0	1 (9.1)	2 (18.2)	7 (63.6)	0
Your clinical career aspirations	1 (9.1)	1 (9.1)	2 (18.2)	1 (9.1)	4 (36.4)	2 (18.2)
Routes to further clinical training and development	1 (9.1)	2 (18.2)	2 (18.2)	3 (27.3)	2 (18.2)	1 (9.1)
Routes to further research related positions	1 (9.1)	2 (18.2)	2 (18.2)	4 (36.4)	2 (18.2)	0

Table data information: The post-doctoral participants (n=11) were asked to rate their clarity on aspirations and routes at the time of their post-doctoral fellowship on a scale of 1 to 5, where 1 is not clear at all and 5 is very clear. They could also indicate if not applicable.

Advice, support and guidance

Sources of advice, support and guidance

7.53 All, but one of the respondents, had used or received advice, support and guidance about pursuing a research-related career since they had first become interested in research (Figure 7.19).

Figure 7.19: Responses showing the sources of advice, support and guidance received about pursuing a research-related career in all respondents by fellowship type

Who did you receive advice, support and guidance from?	Doctoral n=14 (%)	Post-doctoral n=11 (%)	Overall n=25 (%)
Senior clinical academic	10 (71.4)	6 (54.5)	16 (64.0)
Senior non-clinical academic	6 (42.9)	8 (72.2)	14 (56.0)
Fellowship award holders (current or previous)	7 (50.0)	4 (36.4)	11 (44.0)
Peers	6 (42.9)	5 (45.5)	11 (44.0)
Mentor(s)	6 (42.9)	4 (36.4)	10 (40.0)
Research funders	6 (42.9)	2 (18.2)	8 (32.0)
Clinical colleague	5 (35.7)	3 (27.3)	8 (32.0)
Online sources of advice and guidance	4 (28.6)	3 (27.3)	7 (28.0)
University careers advice	1 (7.1)	0	1 (4.0)
Other formal careers advice	0	0	0
Research training programme director	0	0	0
Other (please specify)	1 (7.1)	0	1 (4.0)
Have not used/received any advice, support or guidance	0	1 (9.1)	1 (4.0)

Table data information: The table includes all respondents to the survey (n=25). The participants selected all the options that applied or specified in 'other'.

7.54 Overall, the most commonly accessed source was a senior clinical academic (n=16, 64%) or a senior non-clinical academic (n=14, 56%). Current or previous fellowship award holders, peers were specified by 44% and mentors by 40%. A higher proportion of respondents indicated these sources compared to online sources of advice and guidance (28%).

Availability of the advice, support and guidance received

7.55 Participants were asked how satisfied they were with the availability of advice, support and guidance (Figure 7.20). Only one respondent described themselves as very satisfied with the advice, support and guidance received, but only one was very dissatisfied.

Figure 7.20: Responses showing level of satisfaction with the availability of the advice, support and guidance received about pursuing a research-related career.

Level of satisfaction with advice, support and guidance	Doctoral n=14 (%)	Post-doctoral n=11 (%)	Overall n=25 (%)
Very satisfied	0	1 (9.1)	1 (4.0)
Fairly satisfied	5 (35.7)	4 (36.4)	9 (36.0)
Neither satisfied nor dissatisfied	5 (35.7)	3 (27.3)	8 (32.0)
Fairly dissatisfied	4 (28.6)	2 (18.2)	6 (24.0)
Very dissatisfied	0	1 (9.1)	1 (4.0)
Not applicable	0	0	0

Table data information: The table includes all phase 2 respondents to the survey (n=25). The participants selected one option or indicated if not applicable.

Clinical academic career: Factors related to advice, support and guidance that would have helped in the pursuit of a clinical academic career

7.56 Respondents currently pursuing a clinical academic career (n=15) were asked to indicate the factors that might make it easier to pursue this pathway. Several of these factors related to advice, support and guidance. Just over a quarter (26.7%) would like more guidance and support in making career choices and the same proportion indicated that better support from host employer would make it easier.

Qualitative responses: What could have improved the advice, support and guidance on offer/that you received to make pursuing a research-related career easier?

7.57 Over half (n=13, 52%) indicated that the advice, support and guidance could have been improved and all 13 specified specifically what could be improved.

Chapter 8: Conclusions and Recommendations

8.1 This survey aimed to describe the routes by which healthcare professionals (excluding dentists and doctors) first develop an interest in academic careers, the career paths they pursue and the enablers and barriers encountered whilst pursuing a research-related academic career. The main conclusions and recommendations from each section of this report are summarised below.

Impact of an award

8.2 The positive impact of being awarded a fellowship on people's careers was clear for the majority of respondents. The award of a fellowship was linked to a greater likelihood of being research active; being more likely to direct and lead own research team, and for post-doctoral award holders, being more likely to commission and regulate research.

8.3 At the post-doctoral level, the awarded respondents were also more likely to have transitioned to a research leadership position (Reader/Professor) since their fellowship and a higher proportion had taken their first position because it fitted with their research career aspirations, demonstrating they had more control/choice over their career trajectory.

Overview of career choices

8.4 Interest in research was sparked in a range of different ways, through colleagues, clinical encounters and lectures/conferences, and could arise at any point of a career from pre to post-qualification training.

8.5 For more than half of the respondent's, interest in research was initiated whilst interacting with people in research positions. This shows the importance of contact with career researchers as role models, and the value of working or training within a research rich environment, especially for those at the early stages of their career (during initial training or early post qualifying). The impact of personal interactions with experienced researchers was obvious and has implications for new routes into training, such as apprenticeships and nursing associates, where contact with research-active staff could be limited.

8.6 Academic supervisors and other academics had an important role in helping individuals to consider the next stages of their career and informing them of the wide range of options available. Personal contact with academic staff was rated higher than adverts, circulars or internet searching for fellowship opportunities. However, only a minority first heard about awards through contact with those already in receipt of a training award. There is a need to showcase fellowship award holders locally as they have the capacity to inspire individuals to think it possible they too could pursue a research-related career. Some institutions have systems in place, such as websites, where people can hear about the work of award holders and systems for identifying people with an interest in a research-related career but this could be developed further.

First research experience

8.7 A greater proportion of nurses, midwives and health visitors held 'clinical research staff' positions compared to other professional groups, and they often cited gaining their first research experience whilst working in this position, demonstrating the influence of working in a research delivery environment on developing career aspirations.

8.8 A higher proportion of the 'other health care professional group' had their first research experience during their BSc undergraduate project compared to the nurse, midwife and health visitor cohort. This may reflect differences in undergraduate training programmes with exposure and opportunity to undertake empirical research differing by profession. There has been a trend in some nursing programmes to limit dissertations to literature reviews and this could be confining students' experiences of research and represent a missed opportunity to not only develop skills in collating and using evidence but also exposure to the skills needed to develop the evidence base. This has implications for how we prepare future nurses. It is important undergraduates are exposed to the nature of work involved in being a researcher, and for those motivated and inspired by this type of career to be made aware of how they take the next step.

Career transitions

8.9 The transition to post-doctoral phase was accompanied by a range of difficulties and perceived as extremely challenging. The majority of awarded doctoral applicants who had reached the end of their fellowship had transitioned to either an academic position or a clinical post with no formal sessions for research. It was not always possible to determine the exact composition of posts in regard to academic and clinical work as there is no commonly used nomenclature to delineate an academic post with a clinical component. But, it was clear a significant number returned to, or continued in the role, they had pre fellowship as they considered this to be their only options. Whilst returning to a clinical post is a legitimate part of an integrated clinical academic career, the fact posts taken up post fellowship were often the same as those prior to the fellowship, is somewhat concerning. Those who had completed a fellowship reported somewhat limited opportunities for career progression. This reveals the need for more support as people come to the end of a fellowship whilst negotiating a position where they can apply the skills and knowledge obtained during the fellowship and, where desired, secure a clinical academic role so they can continue to develop as a clinical academic.

Ease of pursuing a clinical or research career

8.10 Overall, there was a clear desire to pursue a research career. Nearly 99% of respondents indicated they were currently pursuing this type of career path. The aspiration for a research career path appears strong and, in the most part, resolute in this group, even amongst the rejected respondents. But when considering numbers stating they were research active in current role was somewhat lower (70% for doctoral and 90% for post-doctoral respondents).

8.11 Nearly half of all respondents found the pursuit of a clinical career difficult or very difficult and 70% found the pursuit of a research career path/job role difficult or very difficult. A challenge for the awarded fellowship respondents related to their clinical career path, where more support and guidance may be needed to enable people to progress clinically, alongside their development as a researcher

Enablers and barriers

8.12 The most common enablers suggested by respondents as supporting development and progression in research were success in securing funding, experience and skills gained through training or research, and advice, support and guidance.

8.13 The most common challenge faced by participants, on completion of their higher degree, was securing a research-related post that reflected their chosen area of focus or a post that was at an appropriate clinical level, reflected knowledge and skills acquired and where they could sustain some research activity. Although the desire to pursue a research career is clear, respondents had difficulty in maintaining research activity and particularly research related to their field of focus for research.

8.14 Most of those awarded a doctoral fellowship encountered some sort of barrier during the transition to their first role; the barriers tended to relate to research roles, including funding, availability of positions and maintaining research activity.

8.15 Nearly half of the awarded doctoral respondents encountered inadequate support from their employing organisation as a barrier. This career transition point was acknowledged in the recent NIHR strategic review of training as a pinch point and deserving attention. Data confirm support to navigate into the immediate post-doctoral phase is lacking and is a very challenging phase in a clinical academic career.

Those pursuing an integrated clinical academic career

8.16 The majority of respondents pursuing a clinical academic career found this career pathway difficult. The most commonly suggested factors that would make it easier were 'clearer career paths for clinical academics' and 'greater integration across clinical and academic departments to support clinical academic roles'. Many are trying to get to where they want to be through their own individual efforts, rather than through support received from their employing organisation. This reinforces the need to establish the review group to develop and implement a clearly defined national pathway for non-medical clinical academics recently recommended by the NIHR[78], alongside the development of structures and processes to enable those in clinical academic roles to work more seamlessly across academic and clinical environments. Unlike for medical clinical academics, there is no model clinical academic contract or guidance on pay and conditions, and little clarity on the principles and expectations of different parties involved.

8.17 Around 60% of those pursuing a clinical academic career indicated they had been affected financially. This was most commonly identified as having resulted from slower progression through the salary bands. The nurse, midwife and health visitor group pursuing this career path more commonly indicated they suffered financially, compared to other professional groups.

Advice, support and guidance

8.18 Almost all respondents had received advice, support and guidance from some source. For the highest proportion this was from senior clinical academics. In the most part, advice, support and guidance came from personal contact at a local level whether from senior clinical academics, mentors, fellowship award holders or peers.

8.19 A higher proportion of awarded applicants found advice, support and guidance very important in their decision to pursue their chosen career path. This shows the important

[78] Cotterill, L Hanley, N Hewison, J Iredale, J Magee, C Mulvey, M Jones, D (2017) Ten years on: adapting and evolving to new challenges in developing tomorrow's health research leaders. NIHR trainees Co-ordinating Centre, Leeds.

role of 'others' and the guidance and support they provide to help people develop a research related career.

8.20 Less than half respondents were satisfied (either very or fairly) with the availability of the advice, support and guidance they had received, and this was the case for both the doctoral and post-doctoral applicants. There is scope to improve access to, and provision of, support and guidance throughout the career trajectory.

Recommendations

Building interest in research-related careers

8.21 Exposure to senior academics and opportunities to develop an understanding of what a research-related career involves are influential in sparking an interest in an academic career. Opportunities to learn about and engage with career researchers should be further developed. A programme similar to the 'Inspire'[79] programme for undergraduate medical and dental students should be considered in the context of the health professions. The content and focus of undergraduate curriculum in the different professions should be examined to ensure they don't result in unequal opportunities to learn about research, which can later impact on how people see the place of research in relation to their own careers.

Retain ICA programme funding, and review arrangements for funding in early post-doctoral career phase

8.22 Fellowships provide protected research time at critical career stages and the impact on those awarded one was obvious. Opportunities for fellowship funding amongst non-medical clinicians should not be diminished, and funders should urgently consider how to best support individuals in the period that immediately follows doctoral training. If this is not done there is a risk the benefits to patient care of investment in doctoral training will not be realised.

Address career pathways for academic non-medical clinicians

8.23 The absence of a clearly defined post graduate education and training pathway impacts on those wishing to pursue a clinical academic career. There continues to be a lack of clarity surrounding career routes, with no recognised speciality-specific training pathways, and whilst the competitive nature of a clinical academic career means all will not be suited, or able, to continue along such a pathway, there is a sense the absence of a clearly articulated career structure mitigates against career progression. There remains a need (acknowledged in the Shape of Caring Review *Raising the Bar*[80]), to introduce a career structure for nurses, midwives and the allied health professions, that includes clinical academic careers. This would inform the development of roles suited to the early, mid- and senior stages of a

[79] https://acmedsci.ac.uk/grants-and-schemes/mentoring-and-other-schemes/INSPIRE

[80] Raising the bar. Shape of caring: a review of the future of education and training of registered nurses and health care assistants. HEE, 2015

clinical academic career, enabling individuals to sustain research activity and put to good use newly acquired skills and knowledge.

Removal of unnecessary barriers to developing a clinical academic career

8.24 The lack of integration between university academic departments and the NHS presented a severe obstacle to individuals pursuing a clinical academic career and fail to support existing and emerging talent. Support from employing institutions to remain research active was also felt to be lacking. Pay and reward frameworks, need to be systematically examined to ensure they don't disadvantage those pursuing the clinical academic route.

8.25 Those involved in supporting clinical academics should work together to agree principles and guidance to support non-medical health professionals engaged in a clinical academic training pathway across the HEI/NHS interface. If this is not addressed recruitment to, and long-term sustainability of, the ICA pathway will be undermined.

8.26 The NIHR strategic review[81] recommended a cross funder review group led by HEE and NIHR be established to address career pathways for academic non-medical clinicians and how these pathways intersect with the NHS. The findings from this survey strongly reinforce the need for such a review.

Enhance mentorship and career support

8.27 Tailored careers advice and mentorship are essential, especially at early career stages. This is the responsibility of a range of stakeholders including faculties of health sciences, NHS employers, professional organisations, fellowship funders and senior academics. All play a role in ensuring nurses, midwives and allied health professionals pursuing a research-related career get access to the information, advice and support needed. A framework should be devised to illustrate career routes and opportunities for academic non-medical clinicians and used consistently across organisations, such as NHS Health Careers.

8.28 The Association of UK University Hospitals (AUKUH) Transforming Care Through Clinical Academic Roles Implementation Network now provides a forum for those leading the development of organisational strategies to support growth in the non-medical clinical academic workforce in the NHS to discuss and debate the most effective mechanisms of mentorship and support. The four HEE regional offices and local teams should consider how they might improve local advice, guidance, networking and support, thus providing a geographical focus for advocacy and support.

Review of long-term destinations and roles

8.29 The ICA programme is only 10 years old. Respondents to this survey were largely early on in their careers. As we do not have much information about long-term impact and how people progress post award, it is recommended a survey similar to this one be repeated 5 years from now.

[81] Ten years on: Adapting and evolving to new challenges in developing tomorrow's health research leaders. NIHR Trainees Coordinating Centre, July 2017: https://www.nihr.ac.uk/our-faculty/documents/TCC-NIHR-Strategic-Review-of-Training-2017.pdf

9. Appendix 1: Additional research funders involved in phase 2

9.1 The additional funder names and the contact at each funder involved in the survey can be found in table 9.1

Figure 9.1: Table showing the 7 additional funders involved in phase 2 of the survey along with information regarding the contact at each funder.

Funder	**Contact**	**Contact email address**
Alzheimer's Society	James Pickett	James.Pickett@alzheimers.org.uk
Arthritis Research UK	Caroline Aylott	c.aylott@arthritisresearchuk.org
Diabetes UK	Anna Morris Kamini Shah	Anna.Morris@diabetes.org.uk; Kamini.Shah@diabetes.org.uk
Higher Education Funding Council for England (HEFCE)	Stephanie Lynch	S.LYNCH@hefce.ac.uk
Kidney Research UK	Elaine Davies	elainedavies@kidneyresearchuk.org
Medical Research Council	Julia Dickinson	Julia.Dickinson@headoffice.mrc.ac.uk
Stroke Association	Kate Holmes	Kate.Holmes@stroke.org.uk;

10. Appendix 2: Recruitment Email

Email Header: Invitation to participate in a survey about enablers and barriers to pursuing a research-related academic career

Dear Colleague,

Survey of Healthcare Professionals (excluding doctors and dentists): Enablers and barriers to pursuing a research-related academic career.

Ethics ID: 25941

Our records show that you have, at some point in the past, made an application (whether successful or unsuccessful) to the National Institute for Health Research (NIHR) for a personal research training award, as part of either the NIHR Fellowships programme or the Health Education England (HEE)/NIHR Integrated Clinical Academic Programme) or its predecessors).

To date there has been no detailed assessment of the issues that non-medical health professionals encounter whilst combining research training with clinical practice. HEE and NIHR want to better understand the issues and challenges. In order to do this we would like to invite you to take part in a survey that has been designed to explore the routes by which clinically qualified non-medical health professionals first become interested in research, the career path they follow, and provide an understanding of the nature of enablers and barriers to pursuing a research-related academic career (clinical academic or otherwise).

We have worked with a team of researchers at the University of Southampton to design and conduct the survey and it is funded by Health Education England.

The purpose of the survey and more detail about the study can be found in the attached Participant Information Sheet. Please read this before deciding whether you would like to participate.

If, after reading the Participant Information Sheet, you are willing to complete the survey, then please access the survey via this personalised web link https://www.isurvey.soton.ac.uk/22722. It would be very helpful if you could complete the survey within three weeks of receiving this email.

We would like to thank you for taking the time to read this email and hope you will consider completing the survey. Your participation will help us develop our understanding of this important topic and inform the actions needed to remove unnecessary barriers.

Yours sincerely

Lisa Cotterill, Director of Trainees Coordinating Centre, National Institute for Health Research

Nicki Latham, Director of Performance & Development, Health Education England

11. Appendix 3: Online survey (phase 1)

Survey of healthcare professionals (excluding doctors and dentists): enablers and barriers to pursuing a research-related academic career

Prototype questionnaire

THE SURVEY

Thank you for taking the time to complete this online survey about nurses, midwives and allied health professionals who have applied for either a Doctoral Research Training Fellowship or some type of Post-Doctoral Research Training Fellowship in the last ten years.

For the purposes of this survey we define the fellowships as follows:

Doctoral Research Training Fellowships: Awards made by NIHR for the purposes of undertaking fully funded clinical research and research training that leads to a PhD and professional development. This includes HEE/NIHR Clinical Doctoral Research Fellowships (CAT and ICA), HEE/NIHR Healthcare Science Doctoral Research Fellowships and NIHR Doctoral Research Fellowships.

Post-Doctoral Research Training Fellowships: Awards made by NIHR for the purposes of enabling individuals (early and more experienced post-doctoral researchers) committed to a research career to work towards becoming an accomplished independent investigator and combine independent research with academic and professional development. This includes HEE/NIHR Clinical Lectureship (CAT and ICA), NIHR Healthcare Science Post-Doctoral Research Fellowship, NIHR Post-Doctoral Research Fellowship, HEE/NIHR Senior Clinical Lectureship (CAT, Healthcare Science and ICA), NIHR Career Development Fellowship and NIHR Senior Research Fellowship.

Please be assured that your responses are completely anonymous.

Before completing the survey, you will be asked to tick the box to indicate that you consent to taking part in this survey.

You can then proceed through the survey, using the 'save and continue' button at the end of each page. The 'save and quit' button will ensure your responses are saved and you can continue completing the survey at another time by following the instructions given. When you have finished the survey, please click the 'save and finish' button at the end of the survey.

SURVEY CONSENT STATEMENT
Please tick this box to indicate that you have read and understood the Participant Information Sheet and consent to take part in this survey: ☐

A. Initial interest and experience in research

Ask all
This first section seeks to understand a bit more about your early clinical career and how you first came to be interested in pursuing a research career.

LOGIC – Ask all, specific logic added for 'other please specify.'

A1. At what stage of your career did you first become interested in a career involving research?

If the terms below do not correspond to your career please choose the nearest equivalent or specify in 'other'.

Please select one option only

During initial training that lead to registration as a health professional
Whilst undertaking an undergraduate degree, that also led to registration as health professional
Whilst undertaking an undergraduate degree, that followed registration as a health professional
Whilst undertaking a Master's degree, that also led to registration as a health professional
Whilst undertaking a Master's degree, that followed registration as a health professional
Whilst undertaking some other form of post registration education and training
Whilst working in a clinical role
Other (please specify)

LOGIC – Ask all, specific logic added for 'other please specify.'

A2. Which of the following sparked your interest in research?

Please select all that apply

Attendance at lecture(s)/seminars during undergraduate or postgraduate diploma/degree
Attendance at a conference or continuing education event
Interaction with people in research positions
Hearing about experiences of those already in receipt of a training award
Advert for research bursary, internship or fellowship from university
Advert for research bursary, internship or fellowship from charity
Advert for research bursary, internship or fellowship from Health Education England or NIHR
Involvement in audit, service evaluation or quality improvement projects
Issue encountered in practice or service delivery
Other (please specify)

LOGIC – Ask all, specific logic added for 'other please specify.'

A3. How did you gain your first research experience?

Please select one option only

BSc undergraduate project
MSc project
Experience supported via research bursary, internship or fellowship
Experience gained through involvement with a research project(s)
Experience gained through working as clinical research staff
Informal time spent with a research group
Other (please specify)

B. Pursuing a higher research degree

The next section concentrates on your pursuit of a higher degree

Ask all

B1. **Have you undertaken (or are you undertaking) a higher degree?**

Yes PhD
Yes Other
No

Ask if completed higher degree
LOGIC: if 'no' to B1 then do not ask this question
B2. In what year were you awarded your higher degree?

Please select year
Currently undertaking higher degree
Display years from 1960 to 2016

Ask if completed a higher degree
LOGIC: if 'currently undertaking higher degree' in B2 then do not ask this question
SPECIFIC LOGIC added for 'other please specify.'
B3. On completion of your higher degree, how much of a challenge, on a scale of 1 to 5, were the following factors?
Please select one option for each statement or indicate if not applicable (N/A)

Regaining clinical competency and confidence
Securing a post where I could sustain some research activity
Securing a post that reflected knowledge and skills acquired during research training fellowship
Securing a post at an appropriate clinical level
Securing a research-related post that reflected chosen area of focus
Returning to post and adjusting role to reflect knowledge and skills acquired
Family/personal challenges
Retaining links with a Higher Education Institution

Ask if completed/undertaking higher degree
LOGIC: if 'no' to B1 then do not ask this question
SPECIFIC LOGIC added for 'other please specify.'
B4. What was the main motivation for your decision to undertake a higher degree?

Please select one only
To support your longer term career ambition of becoming a senior academic
To investigate a particular basic/discovery science research question of interest (e.g. to understand the mechanism or prevalence of a disease or development of a new therapeutic intervention or tool)
To aid the translation of a particular therapeutic or diagnostic tool or intervention into everyday clinical use
To investigate a particular research question relating to clinical care provision
To investigate a particular research question relating to health professional education
To support your clinical career by gaining access to wider opportunities, consultant practitioner level post etc.
Personal motivation
Other (please specify)

Ask if completed/undertaking a higher degree
LOGIC: if 'no' to B1 then do not ask question.
B5. How was/is this being funded?
Please select all that apply

National Institute for Health Research
Health Education England

Self-funded Department/supervisor funds Research Council e.g. MRC, ESRC Charity Professional association Other (please specify) – *logic added for please specify*
Ask if undertaking/completed a higher degree LOGIC: if 'no' to B1 then do not ask this question. **B6. At the time of undertaking your higher degree how clear were you, on a scale of 1 to 5, on the following factors?** Please rate clarity for each statement or indicate if not applicable (N/A) Not clear at all + 1 to very clear + 5 Your research-related career aspirations Your clinical career aspirations Routes to further clinical training and development Routes to further research-related positions
ASK ALL – no logic applied (this question asked to direct participants through the other questions using logic **B7. What type of research fellowship award have you most recently applied for?** Doctoral research training fellowship Post-doctoral research training fellowship
Ask all DRFs LOGIC from B7, if DRTF then ask this question **B8. How did you first hear about the most recent doctoral research training fellowship you applied for?** *Please select one option only* From an academic supervisor From an existing HEE/NIHR fellowship award holder Other academic Advert/circular about training opportunities Careers workshop Advice from funders Web search for funding/careers options From a mentor From a clinical colleague Other (please specify) – *logic added for please specify*
Ask all DRFs LOGIC: from B7, if DRTF then ask this question **B9. Have you made any other applications to any kind of doctoral research training fellowship scheme?** **Yes** **No**
LOGIC – if yes to B9, then ask this question **B10. How many applications did you make in total?**

Please write in total number of applications made across all funders
Write in number

Ask all DRTFs
LOGIC – ask if DRTF from B7
B11. Were any of these applications successful?
Yes
No

Ask all PDs
LOGIC - ask if PD from B7
B12. How did you first hear about the most recent post-doctoral research training fellowship you applied for?
Please select one option only

From an academic supervisor
From an existing HEE/NIHR award holder
Other academic
Advert/circular about training opportunities
Careers workshop
Advice from funders
Web search for funding/careers options
From a mentor
From a clinical colleague
Other (please specify) – *logic added for please specify*

Ask all PDs – LOGIC from B7
B13. Was your most recent application successful?
Yes
No

Ask all PDs applicants who answered Yes to B13
LOGIC if yes to B13 then ask this question
B14. At the time of undertaking your post-doctoral research training fellowship how clear were you, on a scale of 1 to 5, on the following factors?
Please rate clarity for each statement or indicate if not applicable (N/A)
Not clear at all + 1 to very clear + 5

Your research-related career aspirations
Your clinical career aspirations
Routes to further clinical training and development
Routes to further research-related positions

C. Career since applying for a fellowship

Ask all
In this section we would like to find out what you have been doing since applying for a doctoral research training fellowship or post-doctoral research training fellowship. This is so we can better understand the variety of career paths pursued.

We're interested in the different types of positions you have held. You do not need to provide information about every attachment or department in which you have worked.
First Loop – ASK ALL
C1. Which of the following did you do first after completing (or applying in those not successful) your MOST RECENT Doctoral Research training Fellowship or Post-doctoral Research training Fellowship?

Please note: You will have an opportunity to provide details about each major career change as you go through this section of questions

All following loops **Which of the following did you do next? –** LOGIC to ask if 'no' to C6
If the terms below do not correspond exactly to your positions please choose the nearest equivalent or specify 'other'.

Still undertaking fellowship
Academic Lecturer - with no sessions funded for clinical work
Academic Senior Lecturer or Associate Professor - with no sessions funded for clinical work
Research Fellow – University employee
Research Fellow – NHS employee
Clinical post - with no sessions funded for research
Clinical post – with some sessions funded for research
A post that combines clinical and research duties
Clinical Research staff e.g. research nurse or health professional
Academic Clinical Lecturer
Academic Senior Clinical lecturer
Clinical Professor
Holder of clinical research training fellowship of some type from an external funder
Holder of senior clinical research training fellowship of some type from an external funder (e.g. NIHR senior clinical lectureship or similar)
Followed a non-research based career path outside of health profession
Followed a research based career outside of health profession
Career break
Other (please specify) – *logic added for please specify*

All following loops
Which of the following did you do next? - LOGIC to ask if 'no' to C6
Still undertaking fellowship removed from list in following loops

Ask all except those still undertaking fellowship
LOGIC for the following loops only – ask if 'no' to C6
LOGIC – if still undertaking in C1 then don't ask this question
C2. What was your primary reason for taking this position or career break?

Please select one option only

To return to the post I held pre-fellowship
Fitted with my clinical career aspirations
Fitted with my research career aspirations
I was awarded funding
It was an obvious next step
It was the only option

Personal reasons- location
Personal reasons – family commitments
Other personal reasons
Other (please specify) – *logic added for please specify*

Ask all except those still completing their fellowships
LOGIC for the following loops only – ask if 'no' to C6
LOGIC – if still undertaking, then do not ask this question
C3. What barriers, if any, did you encounter during this transition from your research training fellowship?

All following loops **What barriers if any did you encounter during the transition from your previous position or career break to this one?**

Please select all that apply

I was not successful with my fellowship application
Family commitments
Availability of positions
(Re)Location
Availability of funding
Changing employers- contract issues
Changing employers – maternity rights
Changing employers – pension issues
Changing employers – other issues (please specify) – *logic added for please specify*
Maintaining research activity
Inadequate support from employing institution
Other (please specify) – *logic added for please specify*
Did not encounter barriers

Ask all except those still completing fellowship
Do not ask declined applicants
LOGIC – if 'still undertaking' in B1 then don't ask this question
LOGIC – if 'I was not successful with application' in C4 do not ask
LOGIC for the following loops only – ask if 'no' to C6

C4. Overall, how easy did you find this transition?
Please select one option only

Very easy
Easy
Neither easy or difficult
Difficult
Very Difficult

Ask all except those still completing their fellowship or on career break (had to add career break as response option).
LOGIC – if 'still undertaking' in B1, then do not ask this question.
C5. In this role approximately what proportion of time was spent on:

Please enter approximate % dividing your time between the three categories.

If you have not spent any time on this activity within this role then please enter 0% next to the activity
Clinical activity %
Research activity %
Other activity %
Don't know
Career break

Ask all except those still completing their fellowship
LOGIC – if still undertaking in B1, then don't ask this question
C6. Is this the role that you are currently doing
Yes
No
If no return to start of loop

Ask section to all except those still completing their research degree or fellowship or on a career break at most recent iteration
SECTION LOGIC ADDED – if 'still undertaking fellowship' in B1 then participants are not asked this whole section
D Current position

D1. In the last section you told us about the post you are currently in. Which of the following best describes your current employing institution?
If your role means that you are working across a number of institutions, please tell us about the institution you consider to be your primary employer. Please tick if you are currently on a career break.

Please select one option only

University
NHS Organisation
Other research institute
Third sector organisation (Voluntary, Community Organisation, Social enterprise
Private sector organisation
Other public sector organisation
Career break
Other (please specify) – *logic added for please specify*

This question has been added for LOGIC purposes only
D2a: In your current role, do you spend any time on research activity?
Yes
No

Ask only research active
LOGIC – from D2a, ask if 'yes' research active
D2b. In which research areas are you currently active?
Please select all that apply

Laboratory based biomedical research
Biotechnology/medical device development
Public health research

Clinical trials of drugs and/or devices
Clinical trials of health technologies
Clinical research, other than trials
Health services and delivery research
Education and training
Other (please specify) – *logic added for please specify*

Ask only if research active
LOGIC – from D2a, ask if 'yes' research active
D3. Within your research time, which of the following do you do?

Please select all that apply
Research activities
Directing/leading your own research programme(s) and team
Contributing to research led by others (e.g. by providing clinical/health material, subject or technical expertise, and/or data
Other research activity
Research administrative activities
Commissioning research and/or shaping institutional research strategies and/or major funding decisions
Regulating research e.g. as member of an ethics committee, regulatory agency
Other administrative activity
Teaching activities
Supervising undergraduate student projects
Supervising postgraduate student projects
Lecturing
Clinical teaching
Other teaching activity

Ask if research active
LOGIC – from D2a, ask if 'yes' research active
D4. On a scale of 1 to 5, where 1 is not important at all and 5 is very important, how important were the following to progressing your research related career to date?

Please select one option for each statement

Experience and skills gained through training or research
Advice, support, guidance
Support from employer
Support from manager
Placement abroad (travelling fellowships, collaborative visits etc.)
Collaborative visits etc. to other UK institutions
Placement in other sectors (e.g. industry, charity, government)
Success in securing funding
Support from a mentor
Not applicable, as not pursuing a clinical academic career

Ask if not research active
LOGIC – from D2a, ask if 'no' not research active
D5. What are the main reasons you are not research active?
Please select all that apply

Lack of clinical academic post in local area
Lack of academic post
Lack of funding
Lack of (quality) careers advice
Lack of job security in research positions
Better pay/promotion opportunities etc. available in non-research roles
Did not enjoy research experience
Lack of research outputs limited the number of roles/funding routes open to me to progress
Longer working hours needed to meet both clinical and research commitments
Experienced difficulties in balancing personal/family commitments with work commitments
You realised your career aspirations were not realistic
Not aware of anyone with a similar background to you having a successful career in research
Lack of support from host institution
Other (please specify) – *logic added for please specify*

Ask if not research active
LOGIC – from D2a, ask if 'no' not research active
D6. Would you have preferred to have a research active role?
Yes
No
Don't know

E Reflections on career to date
Ask all

Thank you for telling us about what you are currently doing. These next sections will ask you to reflect on your career to date

Ask all
E1. How easy or difficult have you found it to pursue the CLINICAL career path/job role you wanted?
Please select one option only

Not applicable as chose not to pursue clinical career path
Very easy
Easy
Neither easy or difficult
Difficult
Very difficult

Ask all
E2. How easy or difficult have you found it to pursue the RESEARCH career path/job role you wanted?
Please select one option only

Not applicable as chose not to pursue research career path
Very easy
Easy
Neither easy or difficult
Difficult

Very difficult

E3a. Are you currently pursuing an integrated clinical academic career path/job role?
Yes
No

Ask THOSE THAT SAY YES TO E3a
LOGIC – if 'yes' to E3a then ask question

E3b. How easy or difficult have you found it to pursue an integrated clinical academic career path/job role?
Please select one option only

Very easy
Easy
Neither easy or difficult
Difficult
Very difficult

Ask if pursuing an integrated clinical academic career path/job role
LOGIC – If pursuing a clinical academic career from E3a then ask this question

E4 Which of the following financial penalties, if any, have you experienced as a result of pursuing a career as a clinical academic?
Tick all that apply

Lower current salary
Slower progression through salary bands
Increased size or duration of student loan
Taken out another loan
Other (please specify) – *logic added for please specify*
No financial impact

Ask all that are pursuing a CAC
LOGIC – If pursuing a clinical academic career from E3a then ask this question

E5. Which of the following, if any, might have made it easier for you to pursue a clinical academic career?
Please select all that apply

Clearer career paths for clinical academics
Greater visibility/number of senior clinical academic role models
More guidance and/or support in making career choices
More grant/fellowship funding opportunities
Greater financial support (to meet costs of student debts, counter impact of delaying application for promotion)
Greater support for career breaks and flexible working (including maternity leave)
Greater job security within academic roles
Greater integration across clinical and academic departments to support clinical academic roles
Greater alignment of NHS and university employment (pay, terms and conditions, pensions, maternity benefits etc.)

Larger number of clinical academic training positions (e.g. clinical lectureships)
Better support from host employer
Less intense working hours
More opportunities to work part-time
More variation in clinical and/or academic roles available

LOGIC – If pursuing a clinical academic career from E3a then ask this question
E6. Which is the MAIN factor that would have made it easier for you to pursue a clinical academic career?
Please select one option only

Clearer career paths for clinical academics
Greater visibility/number of senior clinical academic role models
More guidance and/or support in making career choices
More grant/fellowship funding opportunities
Greater financial support (to meet costs of student debts, counter impact of delaying application for promotion)
Greater support for career breaks and flexible working (including maternity leave)
Greater job security within academic roles
Greater integration across clinical and academic departments to support clinical academic roles
Greater alignment of NHS and university employment (pay, terms and conditions, pensions, maternity benefits etc.)
Larger number of clinical academic training positions (e.g. clinical lectureships)
Better support from host employer
Less intense working hours
More opportunities to work part-time
More variation in clinical and/or academic roles available

F. Reflections: careers advice, support and guidance

Ask all
We'd now like to understand a bit more about any careers advice, support or guidance you might have received about pursuing a research-related career. In answering this section, please consider the period from when you first became interested in research to date

ASK ALL
F1. Who did you receive advice, support, and guidance from?
Please select all that apply

University careers advice
Other formal careers advice
Senior clinical academic
Senior non-clinical academic
Fellowship award holders (current or previous)
Peers
Research training programme director
Research funders (e.g. NIHR, charities, MRC)
Mentor(s)
Clinical colleague
Online sources of advice and guidance
Other (please specify) – *logic added for please specify*
Have not used/received any advice, guidance or support

LOGIC – If not used or received any advice etc from F1 then don't ask this question

Ask if used any careers advice, support and guidance
F2. Overall on a scale of 1 to 5, how important was the careers advice, support and guidance you received in your decision to take the career path you have?
Please select one option only

Not important at all 1 2 3 4 5 Very important

Ask all – no LOGIC
F3 Overall, how satisfied have you been with the availability of advice, support and guidance about research-related careers?
Please select one option only

Very satisfied
Fairly satisfied
Neither satisfied nor dissatisfied
Fairly dissatisfied
Very dissatisfied
Not applicable

Ask all – NO LOGIC
F4. What, if anything, could have improved the advice, support and guidance on offer/that you received to make pursuing a clinical academic career easier?

There is something (please specify) – *logic added for please specify*
Nothing

Ask all – NO LOGIC
F5. What is your long term career aspiration?
Please provide details

F6. Do you have anything else you would like to say about clinical academic careers?
Please add comments below

G. Demographics
Ask all
Health Education England and NIHR have a strong commitment to actively promoting equality and diversity across all policy and practice areas. Therefore we would like to ask a few questions about yourself which will be used for classification purposes only.

G1. Are you male or female?
Please select one option only

Female
Male
Other gender identity
Prefer not to say

G2. Which of the following age brackets do you currently fall into?

Please select one option only

21-24
25-29
30-34
35 -39
40 – 44
45 – 49
50 – 54
55-59
60+
Prefer not to say

G3. How would you describe your ethnic group?
White – British
White – English
White – Welsh
White – Scottish
White – Northern Irish
White – Irish
White – Gypsy or Irish Traveller
White – Other
White and Black Caribbean
White and Black African
White and Asian
Any other mixed/Multiple ethnic background
Bangladeshi
Chinese
Indian
Pakistani
Any other Asian background
African
Caribbean
Any other Black/African/Caribbean background
Other – Arab
Other – Any other ethnic group
Prefer not to say

G4. How would you describe your nationality?
UK National
From within the EU (non-UK National)
From outside of the EU
Don't know
Prefer not to say

G5. In what year did you first register as a health professional?
Drop down menu of year – 1940 – 2016
Prefer not to say

G6. And finally, what professional group are you from?

Please select one option only Allied health professional Healthcare scientist Nurse, midwife, health visitor Pharmacist Other (please specify) – *logic added for please specify*
The survey is now complete. Thank you very much for the time you have taken to complete it. Your responses have been submitted and you can now close the window. A summary of the survey findings will, in time, be available on Heath Education England and NIHR websites.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