

# A Cross-Funder Review of Early-Career Clinical Academics: Enablers and Barriers to Progression



A Review led by the Medical Research Council in collaboration with the Academy of Medical Sciences, British Heart Foundation, Cancer Research UK, National Institute for Health Research and Wellcome Trust



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# 1 Executive summary

- 1.1 Clinical academics maintain their clinical practice whilst also carrying out research, placing them in a unique position to make connections between clinical research and practice, and to pose new research questions arising from their clinical observations and experience<sup>1</sup>.
- 1.2 Integrated academic training paths, recommended as part of Modernising Medical Careers (MMC)<sup>2</sup>, have been introduced across the UK since 2006 to combine clinical training with research experience; however, aspiring clinical academics still face a range of challenges in balancing the clinical and research aspects of their careers<sup>3</sup>. The more recent Shape of Training report has recommended reforms to the structure of postgraduate medical education and training across the UK<sup>4</sup>.
- 1.3 Each of the research funders engaged in this review<sup>5</sup> has an important role in supporting researchers across the health and biomedical research landscape, and the development of clinical academics is of strategic importance to each. The funders provide a range of mechanisms to support those training and working as clinical academics, including comparable Research Training Fellowship and Clinician Scientist Fellowship schemes<sup>6</sup>. Past applicants to these schemes across the UK were surveyed for this research.
- 1.4 The research was undertaken to understand:
  - The routes by which medical students and clinical trainees first develop an interest in academic careers and gain their first research experience
  - The career pathways they pursue
  - The nature of any enablers and barriers to pursuing a clinical academic career and how individuals can be appropriately supported at critical stages and through the most difficult transitions

## Key findings

### Routes into a clinical academic career

- 1.5 An interest in research is sparked at a range of career stages. 48% of the respondents first became interested in research at medical school and 45% at various stages during postgraduate training.
- 1.6 Interest in research is sparked by a variety of factors and first research experience gained through a number of different routes.

### Career pathways

- 1.7 Award of a fellowship has a strong positive correlation with progression to clinical academic leadership roles; of past Clinician Scientist Fellowship awardees surveyed, 43% are either clinical professors or senior clinical fellows, 95% currently direct and lead their own research, and 85% have secured significant further funding.

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1. The Role of the Clinical Academic, April 2014, British Medical Association, <http://bma.org.uk/developing-your-career/medical-student/role-of-the-clinical-academic>

2. Medically- and dentally-qualified academic staff: Recommendations for training the researchers and educators of the future; Report of the Academic Careers Sub-Committee of Modernising Medical Careers and the UK Clinical Research Collaboration, 2005, [http://www.ukcrc.org/wp-content/uploads/2014/03/Medically\\_and\\_Dentally-qualified\\_Academic\\_Staff\\_Report.pdf](http://www.ukcrc.org/wp-content/uploads/2014/03/Medically_and_Dentally-qualified_Academic_Staff_Report.pdf)

3. National differences were not explored in this work and participants were not asked about the location of their training. Given the sample base it is likely the vast majority of participants undertook their training in England, though the findings are still expected to be widely applicable.

4. Shape of Training Final Report, October 2013, [http://www.shapeoftraining.co.uk/static/documents/content/Shape\\_of\\_training\\_FINAL\\_Report.pdf\\_53977887.pdf](http://www.shapeoftraining.co.uk/static/documents/content/Shape_of_training_FINAL_Report.pdf_53977887.pdf)

5. See Appendix 1 for further details of the funders.

6. For clarity, given variation in the terms used by each research funder, for the purposes of the survey and report: The term 'Research Training Fellowship' includes Clinical Research Training Fellowships, Doctoral Research Fellowships, Researcher Development Awards, and Clinical PhD Programmes, in which holders obtain a higher research degree, typically a PhD. Awards are typically for 3 years; The term 'Clinician Scientist Fellowship' includes Intermediate Clinical Fellowships and Clinician Scientist Awards, designed to provide post-doctoral experience and awards are typically for 4-5 years.

- 1.8 A majority of rejected fellowship applicants continue to be engaged in research. Some find alternative routes to research leadership roles, and many have active roles supporting research more generally.
- 1.9 Many are unclear about their career aspirations and routes to progression as a clinical academic. There is a clear need for better support and guidance about career options, with only around half of participants being satisfied with the accessibility and quality of advice available.
- 1.10 Difficulties with both clinical and academic progression were reported. Even amongst those who had obtained a fellowship, although many have progressed to become research leaders, only 10% considered it had been easy to progress as a clinical academic.

### Enablers and barriers to pursuing a clinical academic career

- 1.11 The majority of participants considered that the experience and skills gained early in their career, their success in securing funding, and mentoring were important enablers in pursuing a clinical academic career.
- 1.12 The major barriers encountered related to:
- Organisational support (including lack of alignment between needs and structures in academic and clinical departments, longer working hours, lack of support from host institution/supervisor)
  - Research roles and support, (including maintaining research activity, the balance of clinical and research activity within roles, availability of funding, the availability of roles)
  - Personal issues (including family commitments, financial implications of pursuing a clinical academic career, inability to re-locate)
- 1.13 The most common enablers suggested to facilitate future clinical academic careers were:
- Increasing opportunities (more grant/fellowship funding)
  - Improving career structures (greater job security within academic roles, greater integration across clinical and academic departments to support research roles, clearer career paths for clinical academics, greater flexibility in the clinical training model)
  - Improving support (better availability and quality of guidance in making career choices, improved access to formal mentorships and personalised advice, more consistency/connectivity between the careers advice offered across academic and clinical settings)

### Enablers

#### Encountered

- Securing funding
- Mentoring
- Experience and skills gained through research

#### Desired

- Increased/more funding
- Greater job security
- Clearer career paths
- Greater flexibility in the clinical training model
- Better careers advice/guidance
- Greater availability of formal mentorships
- Greater integration and better support across clinical and academic departments/supervisors
- Larger number/variation in clinical and academic job roles and training positions



### Barriers

- Maintaining research activity
- Difficulties surrounding funding
- Financial implications of pursuing a clinical academic career
- Lack of clarity on aspirations and routes
- Work/life balance
- Family commitments
- Availability of positions
- (Re) location
- Lack of support by host institutions/supervisors
- Contractual issues
- Gender issues



## 2 Introduction and background

- 2.1 This document reports the findings from research undertaken to explore the experiences and career paths of early-career clinical academics. Past applicants to fellowship schemes administered by the Academy of Medical Sciences, British Heart Foundation, Cancer Research UK, Medical Research Council, National Institute for Health Research, and Wellcome Trust were surveyed for this research. Details of each of the research funders are in Appendix 1.

### Background

- 2.2 Clinical academics maintain their clinical practice whilst also carrying out research and teaching, placing them in a unique position to make connections between clinical research and practice, and to pose new research questions arising from their clinical observations and experience.
- 2.3 The final report of the inquiry into Modernising Medical Careers (MMC)<sup>7</sup> recognised the value of academic clinicians and recommended:  
**“Integrated clinical academic training pathways in all specialties including General Practice should be flexibly interpreted and transfer to and from conventional clinical training pathways facilitated”**
- 2.4 This led to the establishment of Integrated Academic Training pathways by NIHR<sup>8</sup> in England in 2006 with equivalent positions offered by the devolved authorities<sup>9</sup>.
- 2.5 Positions created as part of the NIHR Integrated Academic Training pathways include Academic Clinical Fellowships (ACFs) and Clinical Lectureships (CLs), which allow holders to progress their clinical training while protecting part of their time for research activities (25% and 50%, respectively).
- 2.6 Clinical training generally comprises an undergraduate degree at medical school, followed by foundation training, then core and specialty training<sup>10</sup>. Trainees interested in academic careers may apply for integrated clinical and academic training positions during their foundation, core, or specialty training and/or research fellowships provided by a range of funders across the UK.
- 2.7 Fellowships are offered by each of the funders engaged in this review and by a range of other organisations. Fellowship awards support the fellow’s salary and research costs, effectively ‘buying-out’ the fellow’s time from other commitments to undertake a consolidated period of research<sup>11</sup>.

7. Tooke J. Aspiring to excellence: final report of the independent inquiry into Modernising Medical Careers. London: MMC Inquiry, 2008, <http://www.medschools.ac.uk/Publications/Pages/Aspiring-to-Excellence.aspx>

8. NIHR Integrated Academic Training Programme for Doctors and Dentists: <http://www.nihr.ac.uk/funding/integrated-academic-training-programme.htm>

9. Welsh Clinical Academic Track (WCAT) Fellowships: <http://www.walesdeanery.org/index.php/en/wcat.html>; The Scottish Clinical Research Excellence Development Scheme (SCREDS): <http://www.scotmt.scot.nhs.uk/specialty/scottish-academic-training-%28screds%29.aspx>; Northern Ireland Medical and Dental Training Agency: Academic Training: <http://www.nimda.gov.uk/specialty-training/information-for-specialty-trainees/spec-academic/>. National differences were not explored in this work and participants were not asked about the location of their training. Given the sample base it is likely the vast majority of participants undertook their training in England, though the findings are still expected to be widely applicable.

10. The annexes and appendices to the Shape of Training Report offer a more detailed overview of training and a glossary of common terms <http://www.shapeoftraining.co.uk/reviewsofar/1788.asp>

11. For an overview of clinical academic training pathways, see: Medically- and dentally-qualified academic staff: Recommendations for training the researchers and educators of the future; Report of the Academic Careers Sub-Committee of Modernising Medical Careers and the UK Clinical Research Collaboration, 2005, [http://www.ukcrc.org/wp-content/uploads/2014/03/Medically\\_and\\_Dentally-qualified\\_Academic\\_Staff\\_Report.pdf](http://www.ukcrc.org/wp-content/uploads/2014/03/Medically_and_Dentally-qualified_Academic_Staff_Report.pdf)

- 2.8 Research Training Fellowships (RTFs) support clinically active individuals to undertake a PhD (or equivalent), usually during their specialty training. Awards are typically for 3 years' support. Clinician Scientist Fellowships (CSFs) support clinically active individuals who have already obtained a PhD to develop as independent research leaders. Awards typically offer 4-5 years' support, and are usually held towards the end of or shortly after completing specialty training<sup>12</sup>. Past applicants (awarded and rejected) to these schemes were surveyed for this research.
- 2.9 The Shape of Training review<sup>13</sup> has recommended reforms to the structure of postgraduate medical education and training across the UK, including a call for more flexibility to support clinical academic training.
- 2.10 There have been a number of reviews over the years which have considered various aspects of career support for biomedical and discovery science<sup>14</sup>. Reviews by individual research funders have previously reported clinical fellowship awardees' career progress<sup>15</sup>.
- 2.11 This research adds to previous work by providing an up to date cross-funder overview, exploring in-depth 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 in a clinical academic career, and to inform initiatives and interventions to ensure clinical academic careers remain visible, attractive and accessible.

## Research objectives

- 2.12 The research aimed to understand:
- The routes by which medical students and clinical trainees first develop an interest in academic careers and gain their first research experience
  - The career paths they pursue
  - The nature of any enablers and barriers to pursuing a clinical academic career and how individuals can be appropriately supported at critical stages and through the most difficult transitions
- 2.13 The three cohorts of fellowship applicants (including rejected and awarded) were interviewed as part of the quantitative online survey. The cohorts comprised applicants to any of the research funders listed in Appendix 1 for the following schemes<sup>12</sup> in the time ranges indicated:
- Clinician Scientist Fellowships in 2006-2009 – referred to as CSF 2006-09 throughout the report
  - Research Training Fellowships in 2006-2009 – referred to as RTF 2006-09 throughout the report
  - Research Training Fellowships in 2012-2014 – referred to as RTF 2012-14 throughout the report
- 2.14 The CSF and RTF 2006-09 cohorts represent the earliest cohorts of fellowship applicants to have undertaken at least the later stages of their specialty training within the post-MMC training environment, and to have potentially held an integrated academic clinical training position, developed from 2006 onwards<sup>16</sup>, and therefore offer the greatest amount of data on experiences and career pathways pursued within the current training system<sup>17</sup>.

12. For clarity, given variation in the terms used by each research funder, for the purposes of the survey and report: The term 'Clinician Scientist Fellowship' includes Intermediate Clinical Fellowships and Clinician Scientist Awards; The term 'Research Training Fellowship' includes Clinical Research Training Fellowships, Doctoral Research Fellowships, Researcher Development Awards, and Clinical PhD Programmes.

13. Shape of Training Final Report, October 2013, [http://www.shapeoftraining.co.uk/static/documents/content/Shape\\_of\\_training\\_FINAL\\_Report.pdf\\_53977887.pdf](http://www.shapeoftraining.co.uk/static/documents/content/Shape_of_training_FINAL_Report.pdf_53977887.pdf)

14. Reaping the Rewards of Biomedical Science, Academy of Medical Sciences, 2010 <http://www.acmedsci.ac.uk/viewFile/51b9ca237ecdf.pdf>; The Freedom to succeed, Academy of Medical Sciences 2005 <http://www.acmedsci.ac.uk/policy/policy/the-freedom-to-succeed/>; An MRC Review of Next Destinations <http://www.mrc.ac.uk/publications/browse/mrc-review-of-next-destinations/>

15. What happens to clinical training fellows? A retrospective study of the 20 years outcome of a Medical Research Council UK cohort BMJ Open, 2012, 10, <http://bmjopen.bmj.com/content/2/4/e001792.full>; Wellcome Trust Clinical Career Tracker reposts and data: <http://www.wellcome.ac.uk/Funding/Biomedical-science/Career-tracker/Clinical-tracker/index.htm>; Cancer Research UK Clinical Fellows: [http://www.cancerresearchuk.org/prod\\_consump/groups/cr\\_common/@fre/@gen/documents/generalcontent/cr\\_087095.pdf](http://www.cancerresearchuk.org/prod_consump/groups/cr_common/@fre/@gen/documents/generalcontent/cr_087095.pdf); Clinician Scientist Fellows Scheme Evaluation, January 2013: <https://www.acmedsci.ac.uk/viewFile/publicationDownloads/CSFSchem.pdf>

16. Medically- and dentally-qualified academic staff: Recommendations for training the researchers and educators of the future; Report of the Academic Careers Sub-Committee of Modernising Medical Careers and the UK Clinical Research Collaboration, 2005, [http://www.ukcrc.org/wp-content/uploads/2014/03/Medically\\_and\\_Dentally-qualified\\_Academic\\_Staff\\_Report.pdf](http://www.ukcrc.org/wp-content/uploads/2014/03/Medically_and_Dentally-qualified_Academic_Staff_Report.pdf)

17. Given the time ranges and fellowship types considered, a very small number of applicants (if any) would belong to more than one cohort. Should this have arisen, the most recent fellowship application determined to which cohort they were assigned.



- 2.15 The RTF 2012-14 cohort was selected to provide data on the experiences of current clinical trainees, allowing the routes by which an interest in research was first developed and by which initial research experience was gained to be compared with the other cohorts. A number of this cohort are still undertaking their fellowship (as expected) and therefore provide limited information on subsequent career pathways.
- 2.16 Throughout the report:
- **Awarded** applicants refers to all participants who ultimately obtained a RTF or CSF (depending on cohort), either from one of the research funders in Appendix 1 or a comparable fellowship from another body, either within the timeframe of the cohort or since<sup>18</sup>.
  - **Rejected** applicants are those participants who at the time of interviewing had been unsuccessful in all applications for a RTF or CSF (depending on cohort).
- 2.17 Given the differing career stages of the three cohorts in some sections of the report their responses are discussed on a cohort by cohort basis, while in others it is appropriate to consider the overall responses. Throughout the report it is indicated which cohorts are relevant to each section.
- 2.18 Not every survey question was presented to every participant. Some sections of the question set were tailored based on the cohort and earlier survey responses. The participant base for each section is indicated throughout the report.
- 2.19 Further details on the research approach can be found in Appendix 2.

### A note on this report

- 2.20 The majority of the findings detailed in this report derive from the quantitative online survey unless otherwise stated. Some of the findings are from more qualitative in-depth telephone interviews: the source of these findings are clearly identified when used.
- 2.21 Unless stated otherwise, quoted differences between types of participant in the quantitative online survey findings are statistically significant at the conventional 5% level; this means that if the true difference is zero, the chance of an observed difference of at least the size shown is at most 5%.
- 2.22 Percentages reported throughout have been rounded to the nearest whole percentage.

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<sup>18</sup> As examples, a rejected CSF applicant who had previously been awarded a RTF but had not obtained a CSF from any source would be referred to as rejected since they were unsuccessful within the cohort of interest. Equally, an RTF applicant rejected by any of the research funders in the period of the cohort but being awarded a RTF by another body or through a successful resubmission after the time period of the cohort stated is referred to as awarded.



## Method

- 2.23 The six research funders (the Academy of Medical Sciences, British Heart Foundation, Cancer Research UK, Medical Research Council, National Institute for Health Research and Wellcome Trust) provided IFF Research with contact details for the cohorts identified above.
- 2.24 The research funders attempted to locate contact details for all relevant applicants, both awarded and rejected, with the exception of the Academy of Medical Sciences and the Wellcome Trust, which only considered awarded applicants for all cohorts, as did Cancer Research UK for both RTF cohorts. All applicants for whom up to date contact details were located were invited to participate in the survey<sup>19</sup>.
- 2.25 A total of 1217 email invitations to the online survey were successfully delivered and 437 individuals went on to complete the questionnaire representing a response rate of 36%<sup>20</sup>. The online survey questionnaire is included in Appendix 3.
- 2.26 A total of 24 follow-up qualitative interviews were conducted, focused on participants whose survey responses described a large number of career transitions, who detailed difficulties and barriers in pursuing a clinical academic career, became interested in research through an unusual route and/or reported dissatisfaction with careers advice and support received. The topic guide used for the qualitative interviews is included in Appendix 4.
- 2.27 This research does not provide information on the experiences of any clinicians who considered applying for a fellowship but were dissuaded from doing so, nor those who only applied to other research funders and none of the six in Appendix 1, so may not give a full representation of the barriers encountered by early-career clinical academics<sup>21</sup>.

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<sup>19</sup>. A total of 1848 applications across the funders met these criteria (244 CSF 2006-09, 880 RTF 2006-09, and 724 RTF 2012-14). This total includes duplicated contacts due to multiple applications from an individual contact across the research funders. Information on individuals for whom current contact details could not be located or who requested their details not be used for the purposes of the survey were excluded and their data was not made available to IFF. IFF then removed duplicate contacts in the data received from all funders prior to the survey invitations, resulting in 1217 unique invitations. Overall, contact details were located for a greater proportion of awarded applicants compared to rejected applicants, and of those contacted, awarded applicants were more likely to complete the online interview (and also therefore be eligible for the qualitative in-depth interview). This is reflected in the survey response: 72% of participants across the cohorts had been awarded a fellowship, while success rates for such fellowship schemes are typically 20-25% (see, for example, <http://www.mrc.ac.uk/research/funded-research/success-rates/#fellowship>). The career paths and experiences of awarded and rejected applicants may not represent the extent of differentiation within the total pool as rejected applicants who are research active are potentially more likely to have been contacted about the survey and to have responded.

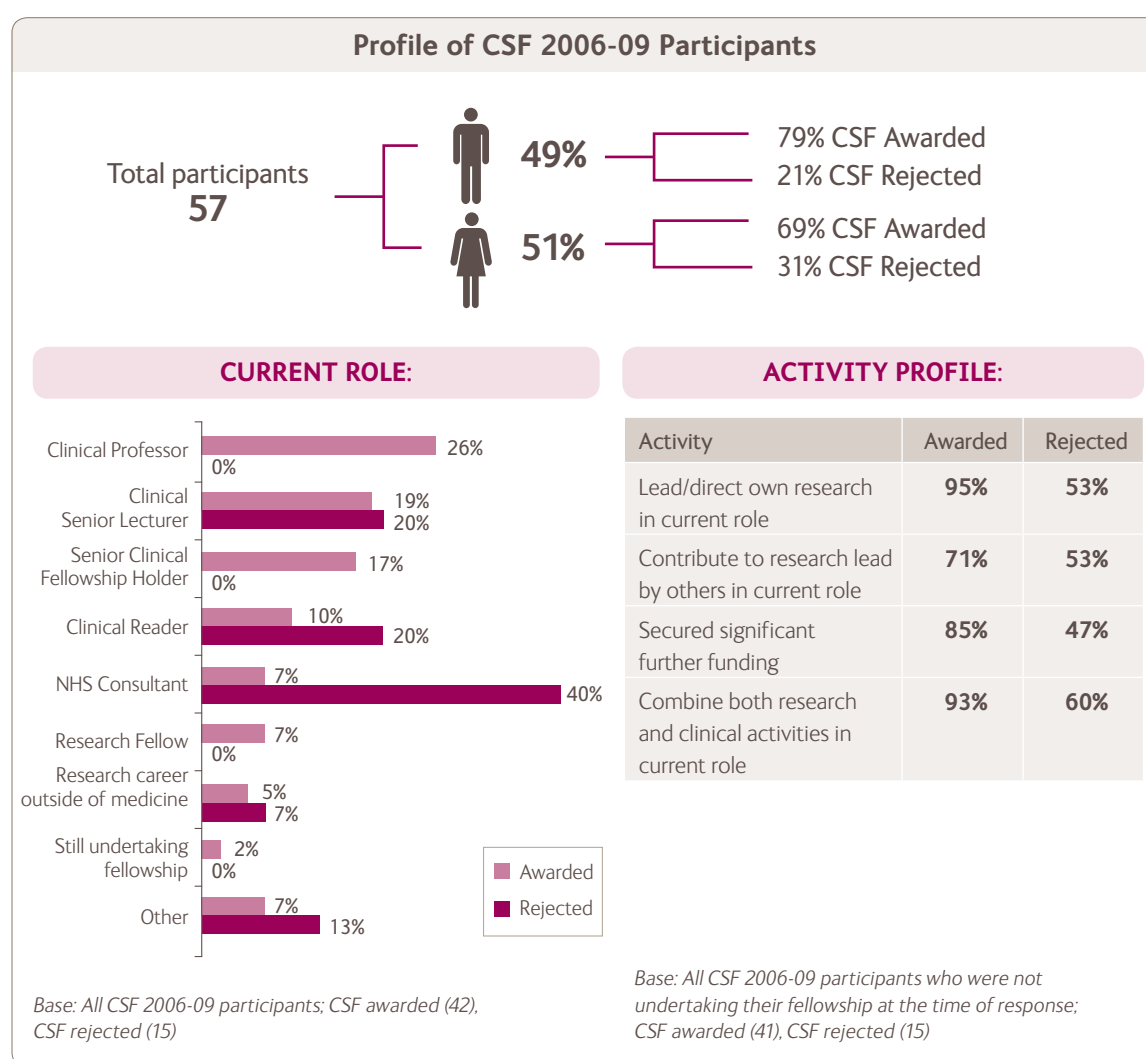
<sup>20</sup>. Calculated as completed interviews as a proportion of all invite emails successfully delivered.

<sup>21</sup>. Work by other organisations such as the development of the UKMED database led by the Medical Schools Council will facilitate future research into wider undergraduate and postgraduate progression: <http://www.medschools.ac.uk/Publications/Pages/2014-Annual-Review.aspx>

## 3 Profile of participants: current roles

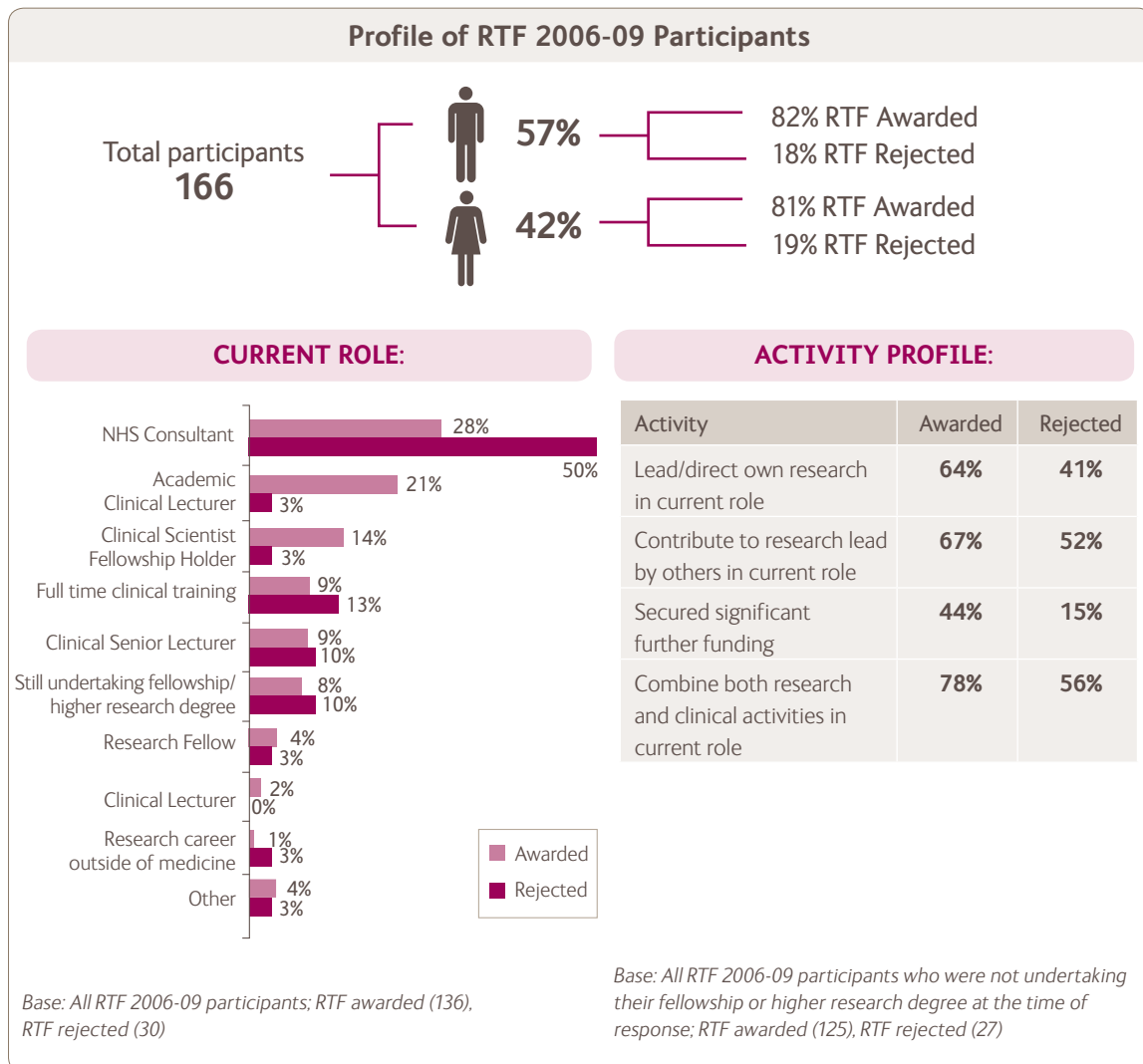
- 3.1 This section provides an overview of participants' current roles.
- 3.2 A total of 437 online interviews were conducted. This included 57 interviews with the CSF 2006-09 cohort, 166 with RTF 2006-09 and 214 with RTF 2012-14.
- 3.3 Figure 3.1, Figure 3.2 and Figure 3.3 display the profile information of the three cohorts, including the proportion of awarded and rejected participants, the proportion of male and female participants, and an overview of participants' current roles<sup>22</sup>. Section 4 provides further detail on the overview of career choices and the current outcomes of participants.
- 3.4 Many of the RTF 2012-14 cohort and some of 2006-09 are still in training; current pre-CCT posts cannot be assumed to be indicative of final career choice.

Figure 3.1: Profile of participants from the CSF 2006-09 cohort<sup>23</sup>

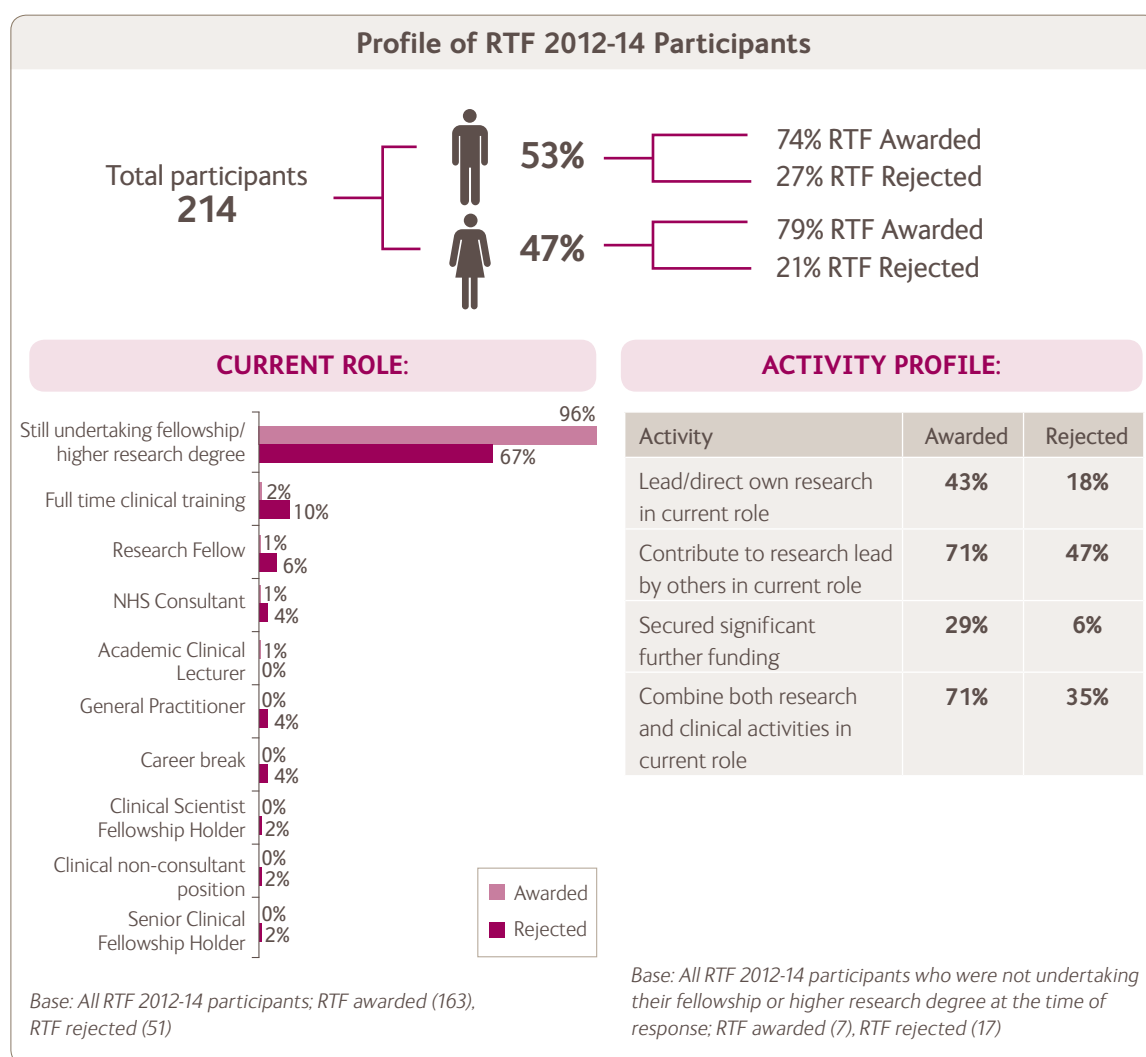


<sup>22</sup> Participants were only able to select a single option that best described their current role.

<sup>23</sup> Significant further funding refers to participants who had secured one or more of the following: a research grant (of any duration), senior clinical fellowship, or centre grant.

Figure 3.2: Profile of participants from the RTF 2006-09 cohort<sup>24</sup>

<sup>24</sup> Significant further funding refers to participants who had secured one or more of the following: a research grant (of any duration), clinician scientist fellowship, senior clinical fellowship, or centre grant.

Figure 3.3: Profile of participants from the RTF 2012-14 cohort<sup>25</sup>

- 3.5 The majority of participants from both the CSF and RTF applicant cohorts had been awarded<sup>26</sup> a fellowship. Overall, 74% of the CSF 2006-09 participants had been awarded a CSF, and 82% of the RTF 2006-09 and 76% of RTF 2012-14 participants had been awarded a RTF.
- 3.6 At an overall level, four-fifths (78%) of participants spend time on research activity in their current role and the vast majority (95%) spend time on clinical activity in their current role. While 22% of participants were not research active in their current role, 29% reported they dedicated more than 50% of their time to research activities<sup>27</sup>.
- Of participants who are research active in their current role, 83% contribute to research led by others, 80% direct or lead their own research programme(s), 76% supervise students, 68% undertake clinical teaching and 63% lecture.
  - Of participants who are research active in their current role, awarded applicants were more likely than rejected applicants to direct or lead their own research programme(s) and team (84% compared to 65%) or to be involved in lecturing (68% compared to 41%), demonstrating the importance of fellowship holders in both advancing biomedical research and shaping medical education.

<sup>25</sup> Significant further funding refers to participants who had secured one or more of the following: project/research grant, clinician scientist fellowship, senior clinical fellowship, or centre grant.

<sup>26</sup> As defined in section 2.16

<sup>27</sup> This is based on the proportion of participants who were not undertaking their fellowship or higher research degree at the time of response.

- 3.7 Half (50%) of participants reported that their primary employer was a university, a quarter reported being employed by a teaching hospital (25%) and a fifth by the NHS (20%)<sup>28</sup>.
- Awarded applicants were more likely to currently be employed by a university than rejected applicants (59% compared to 22%), and were less likely than rejected applicants to currently be employed by NHS (14% compared to 36%), a private sector company (1% compared to 10%) or a public/voluntary body (none compared to 5%).
- 3.8 Participants who are research active in their current role were also asked which research areas they were currently active in. The most common responses given were laboratory based biomedical research (52%), clinical research other than trials (52%), clinical trials (51%), population health research (22%) and health services/applied research (18%). These findings were broadly consistent across the cohorts<sup>28</sup>.
- Male participants were more likely than female participants to be research active in laboratory based biomedical research (63% compared to 37%), whilst female participants were more likely than male participants to be research active in population health research (29% compared to 16%).
- 3.9 A range of over 50 specialties were represented across the participants. CSF 2006-09 participants trained/ were training in 24 specialties, RTF 2006-09 participants in 46 specialties, and RTF 2012-14 participants in 44 specialties.

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<sup>28</sup> This is based on the proportion of participants who were not undertaking their fellowship or higher research degree at the time of response. Participants were only able to select one response to best describe their primary employer.

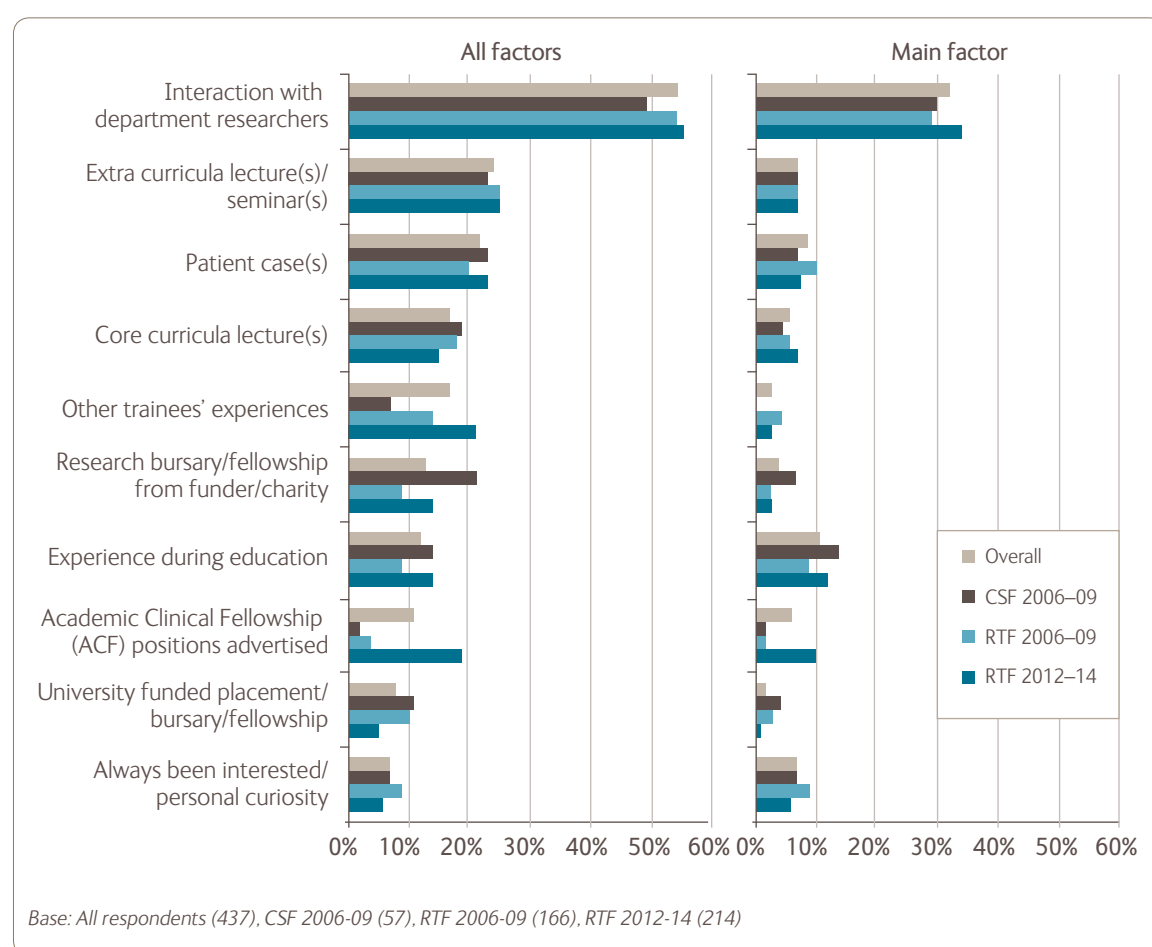
## 4 Overview of career choices

4.1 This section provides an overview of the career choices of those who took part in the online survey. It presents a summary of the routes into a clinical academic career, discusses participants' career paths and the drivers for career decisions.

### Routes into a clinical academic career: developing an interest in research

4.2 All participants in the online survey were asked what had sparked their interest in research. As displayed in Figure 4.1, a wide range of factors were identified.

Figure 4.1: Responses by cohort on which factors first sparked their interest in research



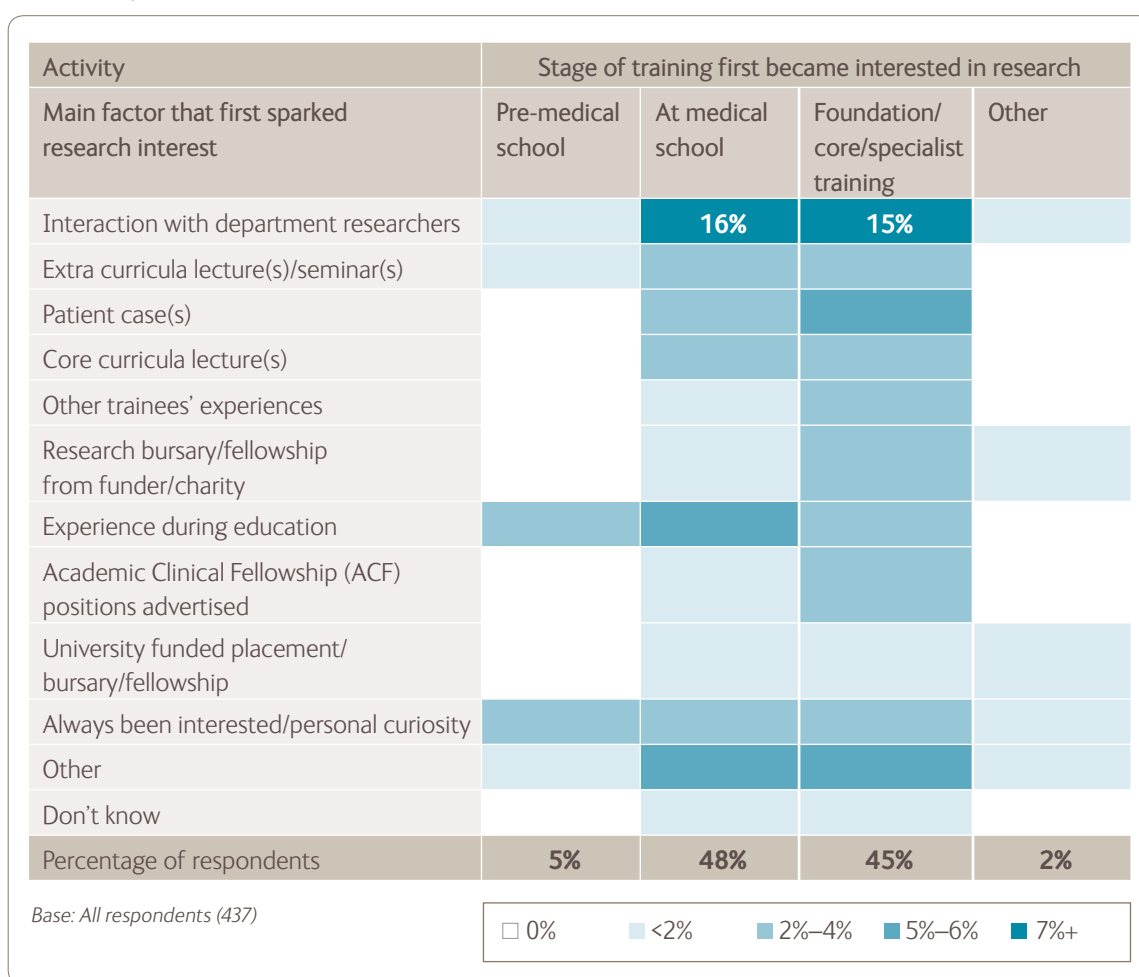
4.3 Those who reported that more than one factor had sparked their interest in research were asked which was the main factor<sup>29</sup>. Overall, participants were most likely to have become interested in a research career through interaction with department researchers.

- Interaction with department researchers was mentioned by over half (54%) of participants as sparking an interest in research and was the main factor to spark their interest for a third (32%) of participants.
- Other common factors were extra curricula lectures or seminars, patient cases, core curricula lectures and other trainees' experiences.
- Almost a fifth (19%) of the RTF 2012-14 cohort cited Academic Clinical Fellowship (ACF) positions as one of the factors which first sparked their interest in research, with 10% citing it as the main factor. Introduced by NIHR in England in 2006, the responses demonstrate that ACFs have become an important factor in piquing trainees' interest in research.

29. For participants who gave a single response as to what had sparked their interest in research this factor was taken to be the main factor.

- 4.4 When asked at what stage of their training they had first become interested in a clinical academic career, around half (48%) of participants first became interested whilst at medical school, and this was broadly consistent across cohorts.
- 45% became interested after medical school, during foundation, core or specialist training. When participants first became interested in a research career was broadly consistent across the cohorts<sup>30</sup>.
- 4.5 Figure 4.2 displays the main factor to first spark each participant's interest in research by the stage at which they first became interested in research, highlighting the range of factors that first prompted an interest in research across the stages of clinical education and training.

Figure 4.2: Responses on the main factor that first sparked interest in research by the stage of training at which respondents first became interested in research.



<sup>30</sup>. Changes to medical training mean that Pre-registration House Officers (PHRO) and Senior House Officer (SHO) positions are now obsolete, having been replaced with Foundation Years, Core Training/Specialist Training 1-3 and Specialist Training 4-6. As the cohorts interviewed spanned these changes in medical training all these options were included within the online survey. See questionnaire in Appendix 3.



- 4.6 The qualitative follow-up interviews explored in more detail what specifically appealed to participants about a clinical academic career. Many of the participants decided to pursue research because the autonomous nature of research work appealed, and many found it intellectually rewarding and stimulating, more so than clinical medicine.

“I liked the fact that you can actually think because a lot of clinical medicine is the same. I think it’s a lot more varied in a research environment.”

RTF 2006-2009, Awarded, Female

“I very much like being in charge of your own work and being in charge of your own time, the autonomy that you get as an academic and being an expert in your area.”

RTF 2012-2014, Awarded, Female

“That aspect [research] counter-balances very nicely against the rigidity and conformity of medicine...in a lab you get that freedom; you get the freedom to get things wrong, to mess things up but also to try things that you think might work.”

RTF 2006-2009, Awarded, Male

- 4.7 The ability for research to enhance clinical practice and to better understand the decisions they make as clinicians also appealed to some.

“It was really interesting that there were lots of questions that we didn’t really know the answer to and [I thought] it would be great to do some work that would inform our practice and care for our patients.”

CSF 2006-2009, Awarded, Female

- 4.8 Participants who reported that their interest began pre-medical school tended to refer to a family member being involved in the profession or simply having the disposition from a young age to ask questions and seek answers.

“I’ve been interested since I was a child, even at school I always asked lots of questions. At secondary school I had inspirational teachers and they encouraged the questioning approach.”

CSF 2006-2009, Awarded, Female

- 4.9 Those whose interest was sparked at a later stage in their training often explained how increased exposure to and enjoyment of research led them to pursue a clinical academic career.

“I hadn’t planned to continue research by any means and then when I was a junior doctor I was working with consultants who have PhD’s and had periods of time out of clinical medicine. Then I realised that was possible and it was interesting, and that it gave you greater breadth.”

RTF 2006-2009, Awarded, Female

“Unlike before, when we were just reading text books and being told things, we were going to papers and looking at what papers were saying and analysing the data. It really got me interested in contributing to that literature. I think [undertaking a research career] sort of happened almost by accident, and I got more and more involved with it and then it became what I was doing... I enjoyed the research and I wanted the research to carry on.”

CSF 2006-2009, Awarded, Male

- 4.10 The routes by which participants had gained their first research experience were broadly consistent across the three cohorts. The majority of participants (68%) gained their first research experience during an intercalated degree or undergraduate project, 11% through informal time in a research group, 6% through a Research Training Fellowship and 5% through an Academic Clinical Fellowship.

### Routes into a clinical academic career: undergraduate and higher research degrees

- 4.11 Three-fifths (58%) of participants had intercalated their medical degree. Younger participants were more likely to have intercalated their medical degree (68% of 25-34 year olds compared to 55% of 35-44 year olds and 45% of 45 year olds and older).
- 4.12 The qualitative follow-up interviews highlighted the important role an intercalated degree had in exposing the majority of participants to research during their medical degree, and indicated that for many it was this experience which sparked their interest and inspired them to pursue a clinical academic career.

“At medical school I did an intercalated degree [which introduced me to] science and lab research. That was a really good experience that I enjoyed a lot. Then I took every opportunity to do bits of research when I was a medical student.”

CSF 2006-2009, Awarded, Female

- 4.13 The vast majority (94%) of all participants had undertaken/were undertaking a higher research degree, most commonly this was a PhD<sup>31</sup> (86% of all participants).
- Awarded RTF applicants<sup>32</sup> were more likely than rejected RTF applicants to have undertaken/be undertaking a PhD (97% compared to 52%)<sup>33</sup>, and less likely to have undertaken/be undertaking an MD (2% compared to 22%) or not to have undertaken a higher research degree at all (1% compared to 25%).
  - Of rejected RTF applicants who subsequently undertook a higher research degree, 69% were funded by departmental/supervisor funds, 26% self-funded and 3% were funded via the private sector.
  - Eight in ten (82%) awarded RTF applicants received funding for their higher research degree from one of the 6 research funders listed in Appendix 1. 10% were awarded a fellowship by a charity (other than those included in Appendix 1), and 8% were awarded support from other organisations.
- 4.14 Male participants were more likely than female participants to have undertaken/be undertaking a higher research degree (98% compared to 90%).
- The award rates of male and female participants were similar (78% and 79%, respectively), so do not explain this difference.
  - Rejected female applicants were less likely to have undertaken/be undertaking a higher research degree than their male counterparts (61% compared to 91%), indicating males were more likely than females to find other routes to undertake a higher research degree if their fellowship application was rejected.

31. The figures for PhD include those responding they had undertaken or were undertaking either a PhD or DPhil.

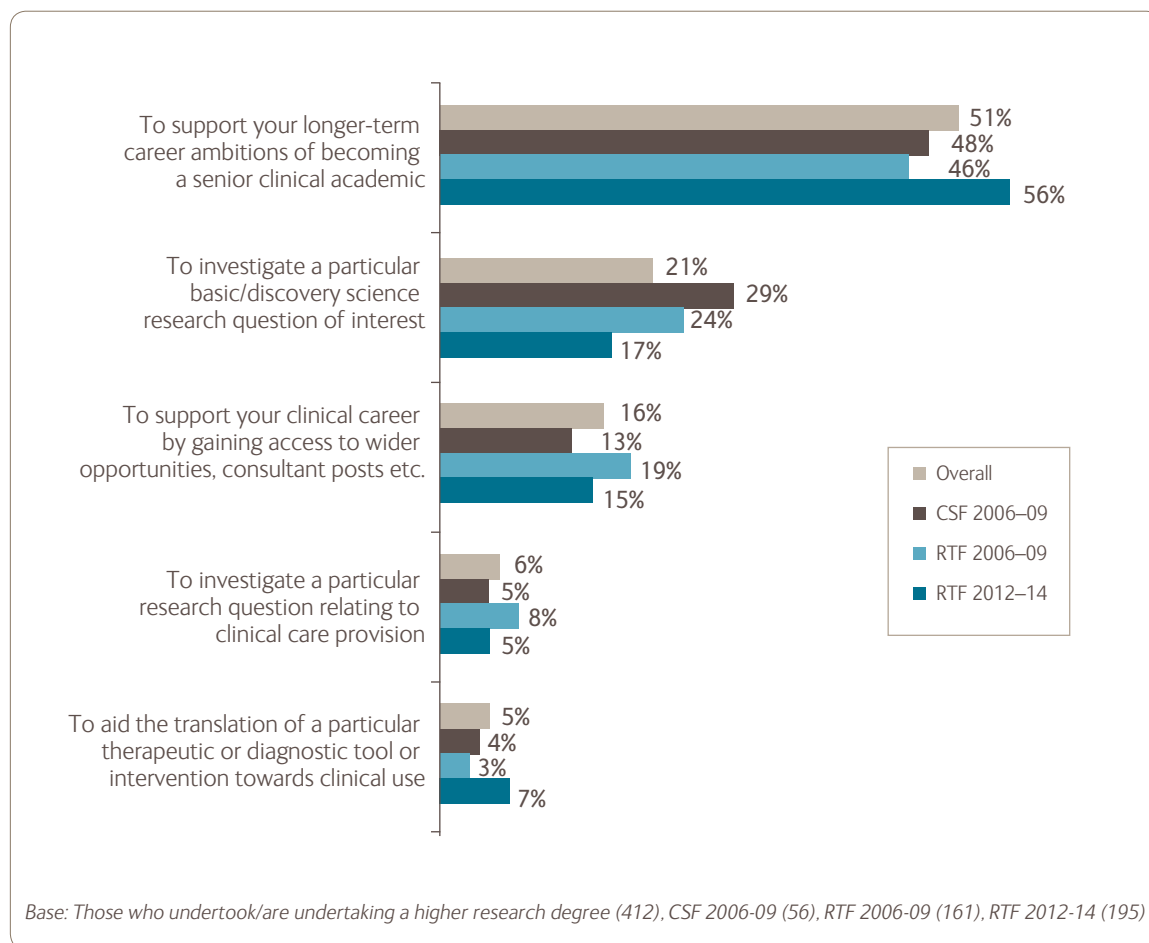
32. Considering the combined responses of the RTF 2006-09 and RTF 2012-14 cohorts.

33. Percentages based on only those participants who had undertaken/were undertaking a higher research degree.

4.15 Across all cohorts the main motivation for undertaking a higher research degree was to support longer-term career ambitions of becoming a senior clinical academic, which was mentioned by around half (51%)<sup>33</sup>. Figure 4.3 displays the most common reasons given for undertaking a higher research degree at an overall level and by cohort.

- Despite a majority of participants embarking on a higher research degree to support longer-term ambitions to pursue a clinical academic career, upon completing a higher research degree there is a lack of clarity on how to progress as a clinical academic. This is explored in more detail in Section 5 on enablers and barriers to pursuing a clinical academic career.

Figure 4.3: Main motivation for undertaking a higher research degree (PhD, DPhil, MD, or MPhil)



### Career path and decision drivers

4.16 At the time of interviewing, around half of participants were still undertaking a PhD<sup>34</sup> or fellowship. The other participants had progressed to a range of positions, for the most part making one or two transitions since applying for a fellowship, with only a small minority having held three or more positions.

4.17 Figure 4.4 and Figure 4.5 show the career paths for the CSF 2006-09 cohort. Overall, of the CSF 2006-09 cohort (awarded and rejected) around half (47%) had held one position since applying for their CSF, 33% had held two positions and 18% three or more positions. 2% were still undertaking their fellowship.

<sup>34</sup> The figures for 'PhD' include those responding they were still undertaking a higher research degree (PhD, DPhil, MD or MPhil).

Figure 4.4: Career paths of Awarded CSF 2006-09 cohort

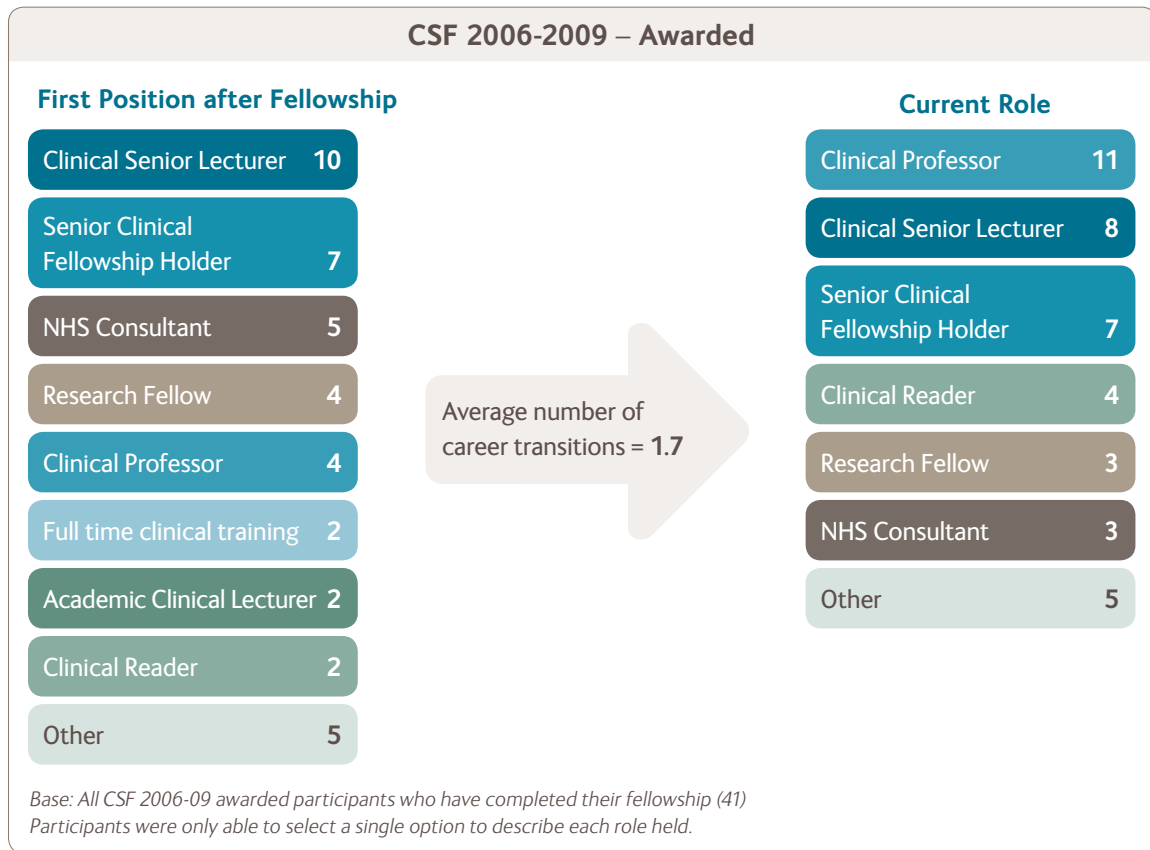
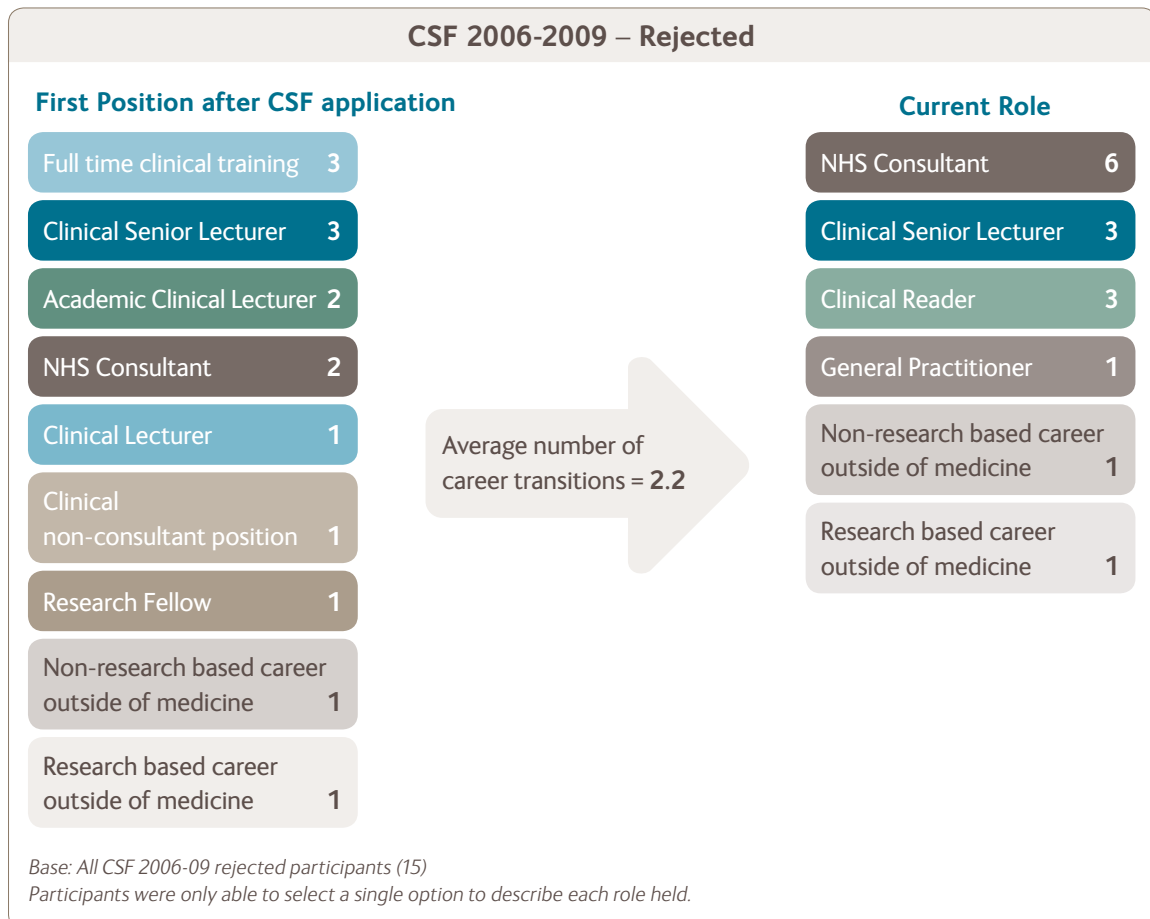


Figure 4.5: Career paths of Rejected CSF 2006-09 cohort



- 4.18 Figure 4.6 and Figure 4.7 display the career paths for the RTF 2006-09 cohort. Overall, of the RTF 2006-09 cohort (awarded and rejected) around a third (33%) had held one position since applying for their RTF, 39% had held two positions and 19% three or more positions. 8% were still undertaking a higher research degree or fellowship.
- 4.19 For the RTF 2012-14 cohort the vast majority (94%) were still undertaking a higher research degree or fellowship (as shown in Figure 3.3) so their career paths have not been plotted.

Figure 4.6: Career paths of Awarded RTF 2006-09 cohort

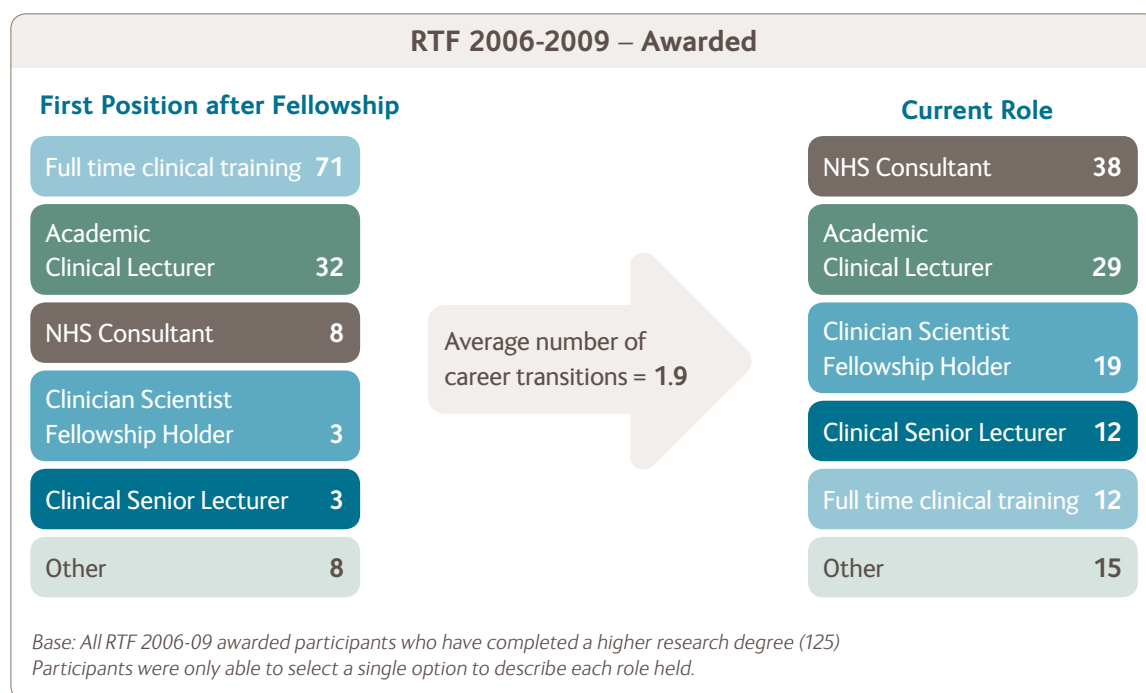
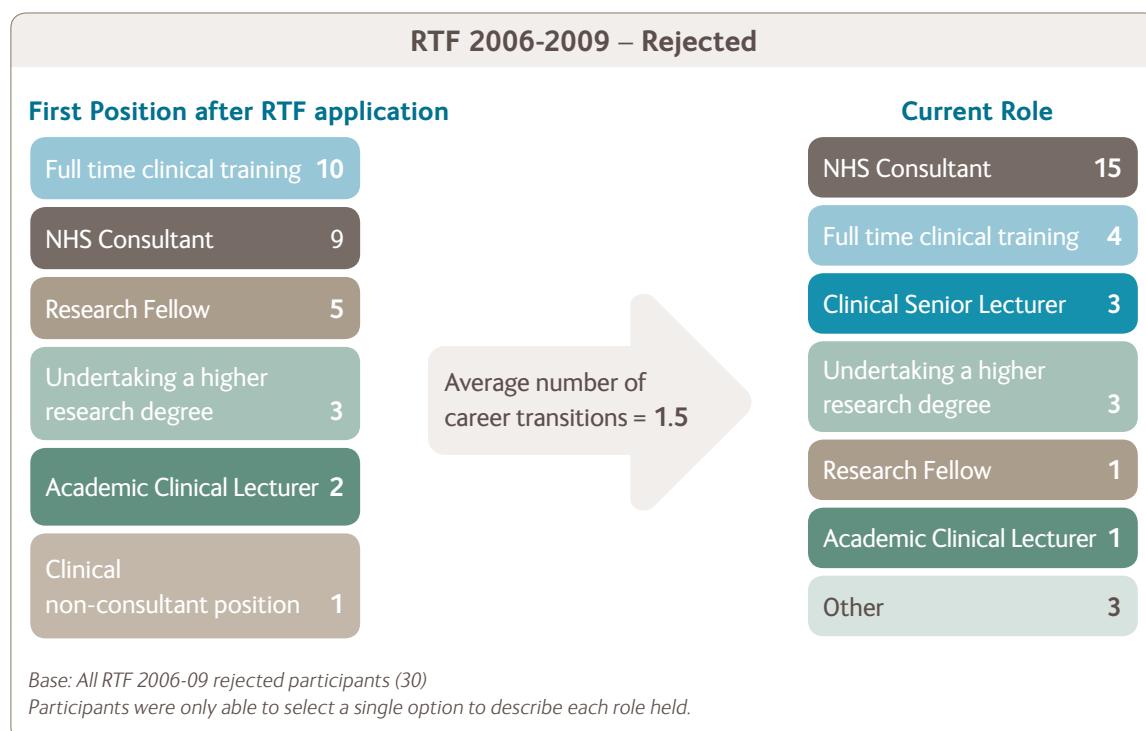


Figure 4.7: Career paths of Rejected RTF 2006-09 cohort



- 4.20 Participants were asked the primary reason for taking each position they had held since applying for their fellowship. The most common driver behind the choice of roles taken was that they fitted in with their **research** career aspirations (34%)<sup>35</sup>. Within the qualitative follow-up interviews, one participant described the factors she had to consider in the decision to take a position to support her research aspirations.

“At that point I made the choice to be [a] Clinical Lecturer, with the lack of security, and turned away from a regular dermatology consultant job. I [became]... a clinical senior lecturer because I had the fellowship and I wanted to do research.”

CSF 2006-2009, Awarded, Female

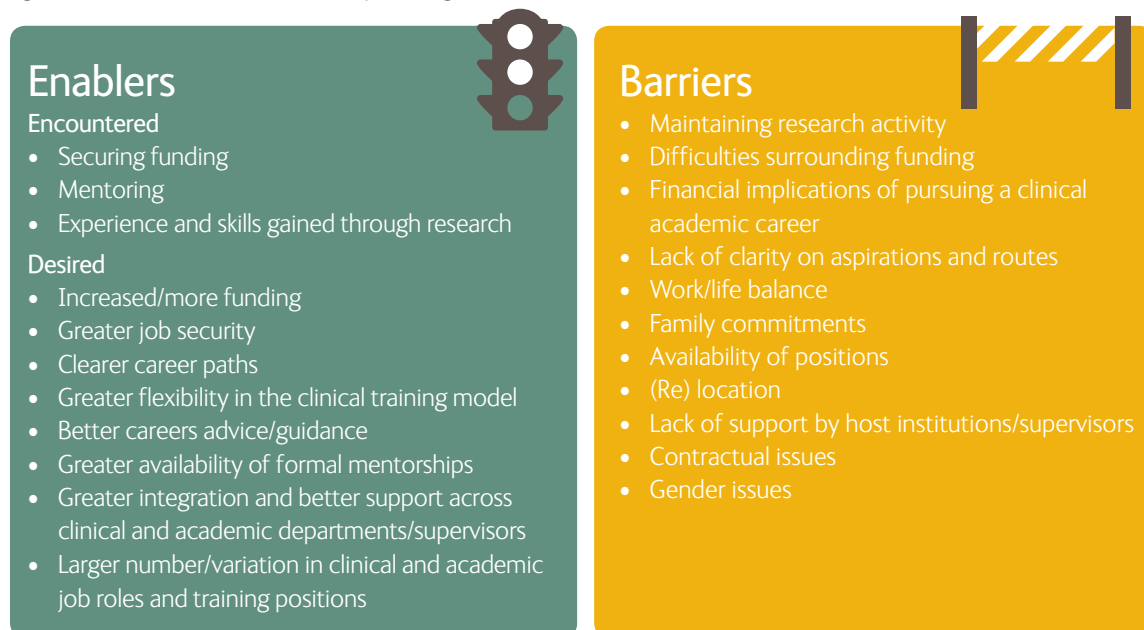
- 4.21 The other reasons most commonly given for taking each position included to support **clinical** career aspirations (19%) and to meet clinical training requirements (14%).
- Some participants reported that they had little or no choice when reflecting on their role transitions, responding that it was an obvious next step (12%) or it was the only option (11%). Some of the follow-up interviews expanded on this, with participants referring to various restrictions which often interplayed, such as availability of funding, a lack of desirable and relevant positions, issues related to location, and family commitments.
  - In some of the follow-up interviews, decisions were said to be driven by opportunities to work within departments or with individuals with specific understanding and expertise in the participant's specialty.
  - Reasons as to why full clinical roles (usually NHS consultant positions) were taken up were also explored. Some participants commented that the decision was driven by restrictions, such as lack of available positions, while for others their decision was driven by greater job security, more desirable pay and/or work-life balance.
- 4.22 These restrictions will be explored in further depth in Section 5 which discusses enablers and barriers to pursuing a clinical academic career.
- 4.23 Just over half all participants said careers advice had been important in determining the career pathway they had decided to follow. Participants' experiences and views on careers advice, support and guidance are explored in more detail in Section 6.

<sup>35</sup> This is based on the proportion of participants who were not undertaking their fellowship or PhD at the time of response.

## 5 Enablers and barriers

- 5.1 This section explores participants' views on the overall ease of pursuing their chosen career pathway and the enablers and barriers experienced in pursuing a clinical academic career.
- 5.2 Figure 5.1 displays the most commonly cited enablers and barriers to pursuing a clinical academic career.

Figure 5.1: Enablers and barriers to pursuing a clinical academic career<sup>36</sup>



### Ease of pursuing a clinical academic career

- 5.3 Participants were asked how easy they had found it to pursue the research career path/roles and clinical career path/roles they wanted. The responses indicated that a majority of participants had found it difficult to pursue a clinical academic career.
- 5.4 Seven in ten (68%) reported they had found it difficult to pursue the **research** career path/roles they wanted (including 63% of awarded participants and 85% of rejected participants).
- Only 10% of awarded applicants reported it was easy to pursue the research career path they wanted, though they were still more likely than rejected applicants to report it was easy (10% compared to 3%).
  - Of the awarded CSF applicants (those with the most experience and those most likely to have obtained a senior research position, as discussed in Sections 3 and 4) just 14% have found it easy to pursue a research career path and 69% have found it difficult.
- 5.5 One in three (29%) had found it difficult to pursue the **clinical** career path they wanted (including 31% of awarded participants and 23% of rejected participants).
- 5.6 The fact that nearly two-thirds of awarded participants found it difficult to pursue the research career path they wanted, and nearly a third found it difficult to pursue the clinical path they wanted, indicates how difficult it is to embark on and manage a successful clinical academic career.

<sup>36</sup> The summary of these enablers/barriers was drawn from a combination of the quantitative and qualitative evidence.



## Enablers to pursuing a clinical academic career

### Enablers: the impact of a fellowship

- 5.7 Being awarded a fellowship has a strong correlation to positive outcomes. Awarded applicants were more likely than rejected applicants to:
- Be research active in current roles (84% compared to 60%)<sup>37</sup>
  - Direct and lead their own research (84% compared to 65%)<sup>38</sup>
  - Have applied for other funding in addition their fellowship application (61% compared to 49%)<sup>39</sup> and been successful in obtaining further funding (86% compared to 70%)<sup>40</sup>
  - Have successfully obtained significant further funding (53% compared to 20%)<sup>41</sup>
- 5.8 During the qualitative follow-up interviews, awarded applicants gave unanimously positive feedback in regards to how the fellowship impacted their careers. The funding allowed them to immerse themselves in research, work autonomously and develop their skills. Overall, the experience encouraged most of them to pursue further positions in clinical academia.
- 5.9 Many of the participants also spoke of the indirect benefits being a fellowship holder had on their career in terms of how they were perceived by their colleagues. The fellowship raised their status which increased the number of opportunities available to them.

“Once you’ve got money, you can pay for things and people take you seriously. I found that very much so. I was suddenly invited to come along to various meetings and important discussion groups.”

CSF 2006-2009, Awarded, Male

- 5.10 Rejected applicants discussed the impact on their careers of not having obtained a fellowship, especially in relation to pursuing further fellowships and grants.

“I’m doing a PhD now but doing it by [other] means I’m not terribly satisfied by...[in terms of] further funding it will have an effect, as [having] previous grants increases your chances of getting them in the future. By not having [an RTF]... it puts you on a back foot.”

RTF 2012-2014, Rejected, Male

“I think I would have been in a better position to apply for intermediate level fellowships, had I got a clinical training fellowship. I would have had an easier time setting up a laboratory if I had money behind me. Also, presumably, [I] wouldn’t have lost as much of my personal savings.”

RTF 2006-2009, Rejected, Male

<sup>37</sup> This is based on the proportion of participants who were not undertaking their fellowship or higher research degree at the time of response.

<sup>38</sup> This is based on the proportion of participants who were not undertaking their fellowship or higher research degree at the time of response and are research active in their current role.

<sup>39</sup> This is based on all participants.

<sup>40</sup> This is based on the proportion of participants who had applied for any other funding in addition to the fellowship application that made them eligible for this survey.

<sup>41</sup> This is based on the proportion of participants who were not undertaking their fellowship or higher research degree at the time of response. Significant further funding refers to securing a research grant, clinician scientist fellowship (for RTF cohorts), senior clinical fellowship and/or a research centre grant.

### Enablers: opportunities and advice

- 5.11 The vast majority of participants felt that their early-career research experience and training had been an important enabler to progress their clinical academic career, with 93% saying their experience had been important and 89% saying the skills they had gained as a result had been key in enabling their progression<sup>42</sup>.
- 5.12 The majority also considered success in securing funding to be an important enabler (83%). This was not explored further within the survey, and may reflect the impact of the fellowship award and/or further funding obtained.
- 5.13 Opportunities to widen experience were also reported to be enablers to a clinical academic career, with placements abroad considered important by 40% of participants, collaborative visits to other UK institutions by 29%, and 7% of participants cited placements in other sectors as having been important to their progress.
- 5.14 Advice support and guidance were considered important by 48% and unimportant by only 9%. When asked specifically about mentoring, 57% reported that this had been an important enabler in supporting their clinical academic careers. Section 6 explores in more detail participants' experiences and views on the value and quality of the advice, support and guidance they have received.

### Barriers to pursuing a clinical academic career

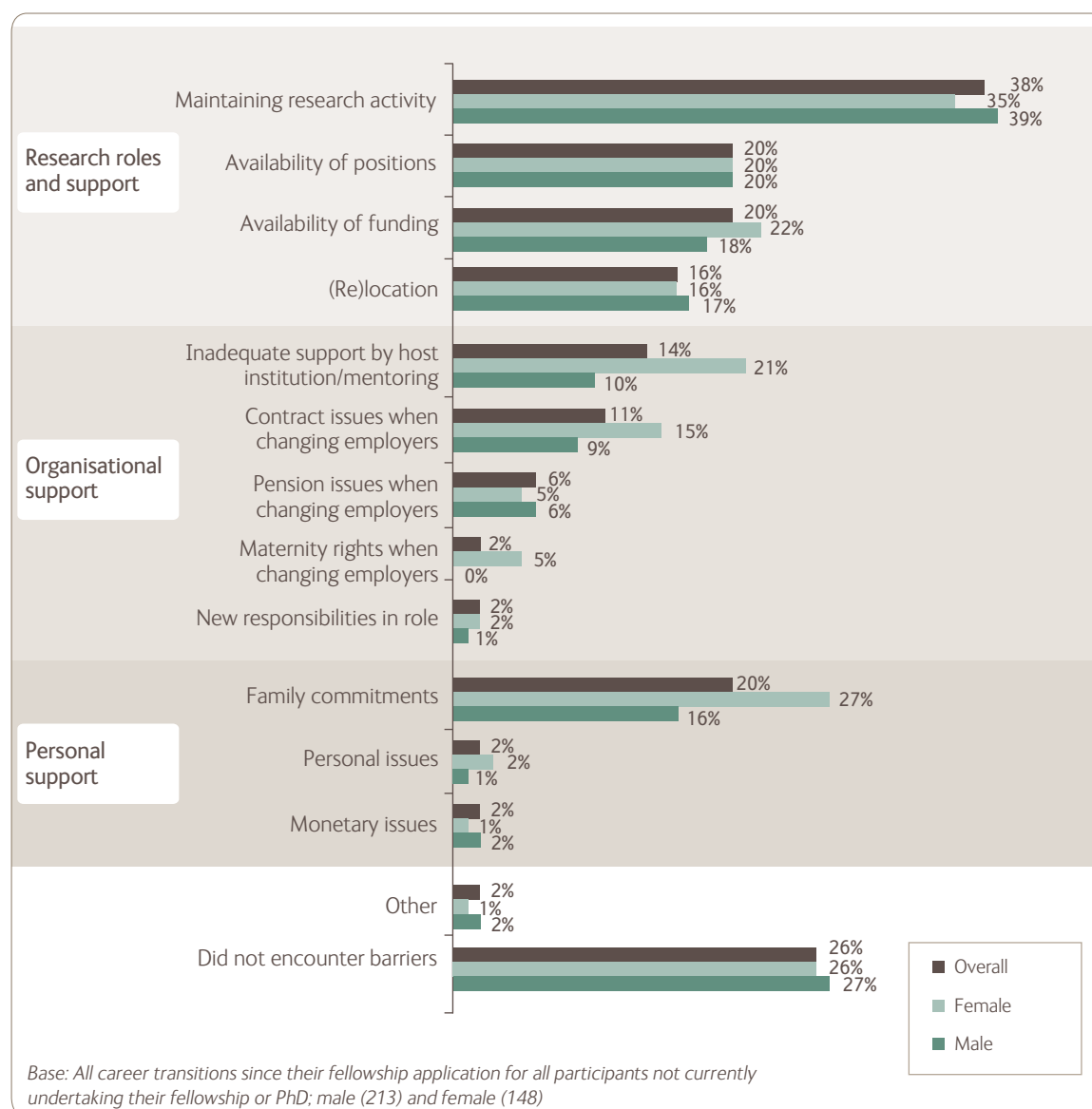
- 5.15 At the point of completing their PhD 57% of participants<sup>43</sup> reported the single biggest challenge they faced was maintaining research activity, with 14% reporting it was completing specialty training, 11% regaining clinical competency and confidence, and 9% family or personal challenges.
- Male participants were more likely than female participants to have cited 'maintaining research activity' as a barrier (65% compared to 46%)
  - Female participants were more likely than their male counterparts to cite 'regaining clinical competency and confidence' (16% compared to 7%)
- 5.16 Participants were asked to report the barriers they had encountered in each of their career transitions since their fellowship application. A summary of the barriers reported across all job transitions made is shown in Figure 5.2.
- 26% of participants<sup>44</sup> reported that had not encountered any barriers. While encouraging, it is worth noting the relatively early career stage of the majority of participants, and that as described earlier in Section 5, 68% of participants reported that they had found it difficult to pursue the research career path and role they wanted.

<sup>42</sup> Those who were not completing their fellowship or higher research degree at the time of response and were research active in their current role were asked the importance of a number of factors in enabling them to progress their clinical academic career to date.

<sup>43</sup> This is based on the proportion of participants who had completed a PhD (or other higher research degree: DPhil, MD or MPhil).

<sup>44</sup> This is based on the proportion of participants not currently undertaking their fellowship or PhD (or other higher research degree) at the time of response.

Figure 5.2: Barriers encountered across career transitions



### Barriers: research roles and support

5.17 A number of the barriers to pursuing a clinical academic career identified relate to research roles and support.

5.18 Maintaining research activity was the most frequently cited barrier encountered throughout career transitions, cited in 38% of all career transitions reported.

5.19 Difficulties securing funding (cited as a barrier in 20% of all career transitions), availability of positions (20% of all career transitions) and (re)location (16% of all career transitions) were also commonly encountered barriers.

- 30% of CSF 2006-09 applicants reported the availability of funding had been a barrier, compared to 16% of RTF 2006-09 applicants, potentially reflecting the more advanced career stage of the CSF 2006-09 cohort.

5.20 Although two-fifths cite maintaining research activity as the main barrier they encountered throughout their career transitions, two thirds (66%) of participants have managed to be research active in some form in all roles held since applying for a fellowship.

- 5.21 The qualitative interviews suggested that a common reason for experiencing difficulty in pursuing a clinical academic career was balancing both aspects (i.e. clinical and research) of their career. Many expressed that the demands and expectations from each element of their role often led to them working far beyond their designated hours, and there is a struggle to maintain a “decent work-life balance”.

“You’re essentially trying to fit in 2 full-time jobs in the hours you have during the day.”  
CSF 2006-2009, Awarded, Female, Clinical Senior Lecturer

“I was working absolutely insanely; it was too much. I was working every day, every weekend, all the time and it was just too much.”  
RTF 2012-2014, Awarded, Female, Clinical Senior Lecturer

- 5.22 Participants in the qualitative follow-up interviews were asked how they felt about the ratio of time spent on research activity versus clinical activity within their current role.

- 5.23 Many would have preferred to be able to spend more time on research activity in their current role. Those who experienced difficulties balancing research and clinical activities sometimes pursued research activity outside their working hours, and some expressed frustration that clinical workload demands restricted their ability to prioritise research. In more extreme cases, participants felt forced to reduce or abandon their research career due to the impracticalities.

“I ended up dropping it [research] because I wasn’t getting very far with it, I just couldn’t dedicate the time and the effort to it that it needed. And also I felt guilty for letting my colleagues down because the clinical workload was enormous.”  
CSF 2006-2009, Rejected, Female, NHS Consultant

- 5.24 Participants often explained they found it hard to immerse themselves in research given the amount of time they have available for research activity in their current role.

“You are not just doing research but also writing papers, writing grant applications and a bit of student supervision, all of which you are trying to squeeze into, in theory, twenty hours a week, which I would argue is essentially impossible.”  
RTF 2006-2009, Awarded, Male, Academic Clinical Lecturer

“I think if you are doing less than 50% research for any length of time you can’t keep up with your research.”  
CSF 2006-2009, Awarded, Female, Clinical Senior Lecturer

- 5.25 Those working in surgical specialties highlighted some of the challenges of trying to maintain a clinical and academic split.

“As a surgeon I have to keep my clinical skills... so I have had to do far more clinical work than you would expect of most academics... I’m trying to get research done while at the same time being hammered by the clinical workload; I’m always behind in where I need to be.”  
CSF 2006-2009, Awarded, Male

“When you are in surgery in the middle of an operation you don’t really want to be questioning established dogma at that point ... I think flitting from one to the other and doing a day here and there doesn’t really help. Sometimes periods of full time immersion in one or the other are really what you need to do.”

CSF 2006-2009, Awarded, Male

- 5.26 In the qualitative follow-up interviews, those who expressed greater ease with balancing clinical and research activity were often fulfilling honorary clinical roles, where their research time was protected.

“Balancing NHS and research [activity] was not a problem for me because I was primarily research and anything I did clinically was supernumerary because of my honorary post – there was no contractual commitment.”

CSF 2006-2009, Awarded, Male

“The great thing about a fellowship is that you continue your clinical work on an honorary basis, and that is perfect because you can then control it so you don’t have those clinical demands taking over your time.”

CSF 2006-2009, Awarded, Female

- 5.27 The quotes above demonstrate the value of a fellowship award in enabling holders to control their clinical commitments and as a result more effectively manage their research commitments.
- 5.28 31 participants were in Academic Clinical Lecturer roles, in which typically 50% of time should be dedicated to clinical commitments with 50% protected for research. Of these, nine (29%) reported they spent less than 50% of time on research (with three participants spending less than 25% of time on research). The underlying reasons for this were not explored as part of the survey.
- 5.29 Barriers related to funding were also explored in the qualitative follow-up interviews. Some felt the availability of funding restricted and, to a certain extent, dictated the roles they had taken, while others mentioned difficulties in the process of applying for funding.

“Opportunities were few and far between for secure funding. Opportunities were available for [the] short term...which is what I ended up doing but didn’t interest me as much, because [the work] didn’t actually produce any final outcome.”

CSF 2006-2009, Awarded, Male

“A lot of the funding bodies had a time restriction on when you could apply. I think that’s quite a barrier, as the way clinical training works these days is it’s become not necessarily more protracted, but to get the same amount of training in a time period is much more difficult.”

RTF 2014-2014, Rejected, Male

- 5.30 In some cases, a lack of available funding was identified as the reason for moving out of clinical academia and back into a purely clinical post.

“If you are not getting money, however inspired you are, you are not going to do it. There is no way you can do it...your [superiors] say, “If you don’t bring money in, you need to go back and do what you are trained to do in a clinical post.”

CSF 2006-2009, Declined, Male

- 5.31 Participants who were not research active in their current role were asked why they were not currently research active. A lack of funding was cited as one of the main reasons mentioned by 43% of those who were not research active in their current role.
- 5.32 Along with a lack of funding, other commonly given reasons for not currently being research active were: longer working hours needed to meet both clinical and academic commitments (42%), lack of clinical academic posts in local area/unable to re-locate to posts available (23%) and lack of support from host institution(s)/supervisor(s) (23%).
- 5.33 Of those who were not currently research active, 72% would have preferred to hold a research active role, 9% responded they would not, and 19% responded 'don't know'.

### Barriers: organisational support

- 5.34 Barriers relating to organisational support were commonly cited during job transitions.
- Male and female participants cited the majority of barriers with similar frequencies. However, female participants were more likely to have encountered inadequate support from host institution/mentoring (21% of female participants compared to 10% of male participants) and, as would be expected, female participants were also more likely to have encountered maternity rights issues due to changing employers (5% compared to 0% of male participants).
- 5.35 During the qualitative follow-up interviews barriers related to contractual issues and some of the basic difficulties faced as a result of a dual-role were discussed.

“Just having two job contracts and trying to get them on the right tax code, and being in two different places logistically representing two different institutions – that can be quite cumbersome.”  
RTF 2006-2009, Awarded, Female

- 5.36 The qualitative follow-up interviews explored how valued participants felt by their peers, both academic and clinical. Participants often felt less valued by clinical colleagues, who they felt viewed time spent in research as “time off”, and did not appreciate the time pressures that a dual academic and clinical role entails. Participants felt that this attitude stemmed from a lack of appreciation of the longer-term benefits of research, contrasted to the immediate and visible impact of them undertaking less clinical work.

“There isn’t always much of an appreciation of how what you’re doing is directly going to help on a day-to-day basis. The NHS itself, barring a few very select places, doesn’t really see research as anything massively relevant to a hospital.”  
RTF 2006-2009, Awarded, Male

“It has varied, but I think sometimes they think you only come here a day a week – what are you doing? A bit of work and then go away; [there is] a perception you don’t pull your weight.”  
CSF 2006-2009, Awarded, Female

- 5.37 Participants who felt valued mentioned colleagues who considered being associated with research as advantageous for the clinical department. Many also mentioned that their skills and specialist knowledge were well appreciated.

“I think they like to have research happening associated with a clinical department. They also hope that more of us will stay and become senior clinical academics within the department and that will be good for the future of the department.”  
RTF 2006-2009, Awarded, Male

- 5.38 Although participants overall felt better valued in an academic setting, some thought their value was conditional, determined by their publication record and the amount of income they brought into the department, and some highlighted the lack of academic roles available.

“I’ve been told they’re not interested in me at all because I’m not producing Nature papers; my work is very different to that sort of high-impact journal publication science. I’m more interested in getting impact into patient care. That has not been well-supported.”

CSF 2006-2009, Awarded, Male

“If you don’t make any income for the university, they will show you the door.”

CSF 2006-2009, Rejected, Male

“Even though I was a Clinical Lecturer, I went into an NHS Consultant post because there was a job and there was no clear academic post to go into.”

CSF 2006-2009, Awarded, Male

### Barriers: personal support

- 5.39 A number of the barriers cited during individual job transitions related to personal support. These included: family commitments (20% of all career transitions), personal issues (2% of all career transitions) and monetary issues (2% of all career transitions).

- Female participants were more likely than male participants to have encountered barriers related to family commitments (27% of female participants compared to 16% of male participants).

- 5.40 Two-fifths (38%) of those who were not currently research active stated that the reason for this was due to difficulties balancing personal/family commitments and work.

- 5.41 During the qualitative follow-up interviews some female participants alluded to gender issues within the profession.

“I think it’s much harder as a woman to succeed in research. I just felt that it was all about old boys’ networks and who you knew and whether you’d been to the same prep school and that sort of thing.”

CSF 2006-2009, Rejected, Female

“People do have power issues and I guess that’s where the gender issues come into, in my opinion. Women respond to stress and competition in different ways to men. It’s a very difficult working environment. If you’re in competition with men then that’s a challenge but if [you] succeed against a man, like I have, then that’s another challenge in itself.”

CSF 2006-2009, Awarded, Female

- 5.42 In some cases participants described the limited availability of desired posts within their field, and mentioned that family commitments prevent them from moving to locations where more suitable or desirable posts were available.

“There was an awful lot going on at home and something had to give...geographically I couldn’t move at that point, at that critical point, were I would have needed to move to another centre to have expanded my career.”

RTF 2006-2009, Awarded, Male



“It’s considered advantageous to have worked in different places for example as part of your academic career ... before I did any of my research I was married with one kid ... moving for a year here or there is clearly much more of a consideration and difficult”

RTF 2006-2009, Awarded, Male

5.43 Indeed, those who were able to be more flexible acknowledged this advantage.

“I had to go to the States because I was advised I had to go abroad. I know for a lot of people that wouldn’t have been feasible.”

CSF 2006-2009, Awarded, Female

5.44 Although monetary issues were cited for only 2% of career transitions, the vast majority of respondents (81%)<sup>45</sup> reported that there had been a financial impact in pursuing a career as a clinical academic. The most commonly mentioned financial implications were:

- A lower current salary (63%)
- Slower progression through salary bands (40%)
- Having to take out another loan (6%)
- Increased size/duration of student loan (5%)

5.45 Around half of the CSF 2006-09 applicants (48%) and RTF 2006-09 applicants (50%) reported they were on a lower current salary than they would have been had they not pursued a clinical academic career, demonstrating they had still not ‘caught up’ with non-academic clinical colleagues.

5.46 Many participants in the qualitative follow-up interviews also reflected on the slower progression through salary bands and the negative financial implications of pursuing a research career, often comparing their progression to previous clinical peers.

“The bottom line is I would earn more money if I wasn’t a clinical academic.”

CSF 2006-2009, Awarded, Female

“For some that may not matter at all but for me I have a family to support and there are significant financial implications ... in terms of when you move up to the consultant pay scale so a loss of earnings across those five years.”

RTF 2006-2009, Awarded, Male

### Barriers: clarity on aspirations and routes

5.47 Participants were asked how clear they were at the point they completed their PhD<sup>46</sup> on their clinical career aspirations, routes to completing clinical training, their research career aspirations, and routes to further research positions.

- The majority were clear on both their clinical aspirations and routes to completing clinical training (81% and 75%, respectively).
- 69% were clear on their research aspirations and less than half were clear on the routes to further research positions (44%).

5.48 Participants who had been awarded a Clinician Scientist Fellowship were asked how clear they were on these factors at the point of completing their Clinician Scientist Fellowship.

- 86% were clear on their research aspirations, however only 67% were clear on routes to further research positions indicating that even at this relatively advanced and successful career stage, a significant minority were still not clear on routes to further research positions.

<sup>45</sup> This is based on the proportion of participants who had undertaken/were undertaking a PhD or other higher research degree (DPhil, MD or MPhil)

<sup>46</sup> This is based on the proportion of participants who had completed a PhD or other higher research degree (DPhil, MD or MPhil).

### Enabling future clinical academic careers

5.49 Increased availability of funding was something it was felt would have made it easier to pursue a research career; 64% of all participants mentioned 'more grant/fellowships funding opportunities' would have made it easier, and this was the main factor for 25% of participants.

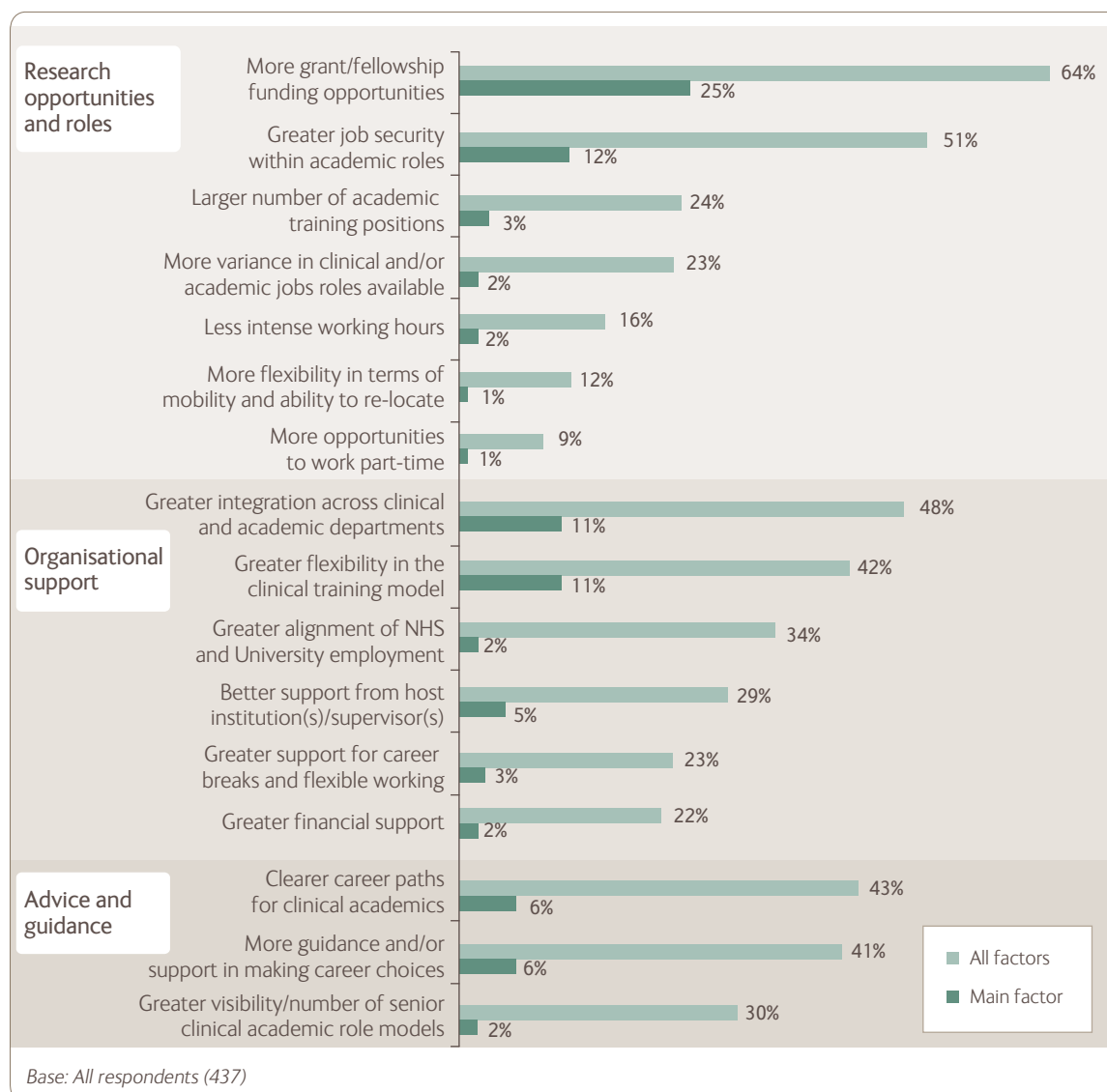
- Over two-thirds (37%) of the CSF 2006-09 cohort cited more grant/fellowship funding as the main factor that would have made it easier to pursue a clinical academic career, compared to 24% of the RTF cohorts. This potentially reflects the more advanced career stage of the CSF 2006-09 cohort, and the increased pressures clinical academics face relating to funding as they progress.

5.50 Figure 5.3 displays the range of responses given when participants were asked what might have made it easier to pursue a career in research. Following more grant/fellowship funding opportunities, the most commonly mentioned factors were: greater job security within academic roles (51%), greater integration across clinical and academic departments to support research roles (48%), clearer career paths for clinical academics (43%), greater flexibility in the clinical training model (42%) and more guidance and/or support in making career choices (41%).

- Male participants were more likely than female participants to select more grant/fellowship funding opportunities (69% compared to 59%), female participants were more likely than male participants to select more greater alignment between NHS and University employment (41% compared to 28%), and greater support for career breaks and flexible working (32% compared to 16%).

5.51 Participants' experiences and satisfaction with the advice, support and guidance they have received are explored further in Section 6.

Figure 5.3: Factors that would have made it easier to pursue a research career



## 6 Experiences of careers advice, support and guidance

- 6.1 This section discusses participants' experiences of careers advice, support and guidance. It explores their satisfaction with the availability and quality of careers advice, the sources of advice used and its importance in career decisions, and what could be improved about the careers advice, support and guidance available.

### Satisfaction with availability and quality of careers advice, support and guidance

- 6.2 The vast majority (97%) of participants had received careers advice, support and guidance. However, only half (48%) were satisfied with the availability of advice and just over half<sup>47</sup> (55%) were satisfied with the quality of advice received.
- Rejected applicants were just as likely as awarded applicants to have received careers advice (96% compared to 97%), however, they were less likely to be satisfied with the availability of advice (31% compared to 53%) or the quality of advice received (40% compared to 59%).
  - 48%<sup>48</sup> considered advice, guidance and support had been an important factor in enabling them to progress a clinical academic career, and when asked about mentoring specifically 57% reported that this had been an important enabler in supporting their career progression (as described in Section 5). The low level of satisfaction with the availability and quality of appropriate support is therefore a concern, and represents a wide potential barrier to progression.
  - Indeed, 14% of all participants identified the main factor that would have made it easier to pursue a research career related to the advice and guidance available (i.e. clearer career paths, more guidance/support for career choices and greater visibility/number of role models), as was shown in Figure 5.3.
- 6.3 The qualitative follow-up interviews revealed that dissatisfaction with advice and support was often driven by a feeling that there is a lack of accessible, relevant (i.e. specific to their specialty) and formal advice throughout their career.

"I think there's not a lot of advice. The tendency... [is that] they seem to tell you what they did. I am the first in my field who has received the senior fellowship. No-one has done that before. People were telling me to do it like them and I didn't want to do it like them."

CSF 2006-2009, Awarded, Female

"It's almost getting into a vicious cycle where you don't know who to go to... because there are less and less academic surgeons. Even the people who are in it, you feel that they have come from a different era and, often by their own admission, they struggle to advise you what to do next."

RTF 2006-2009, Awarded, Male

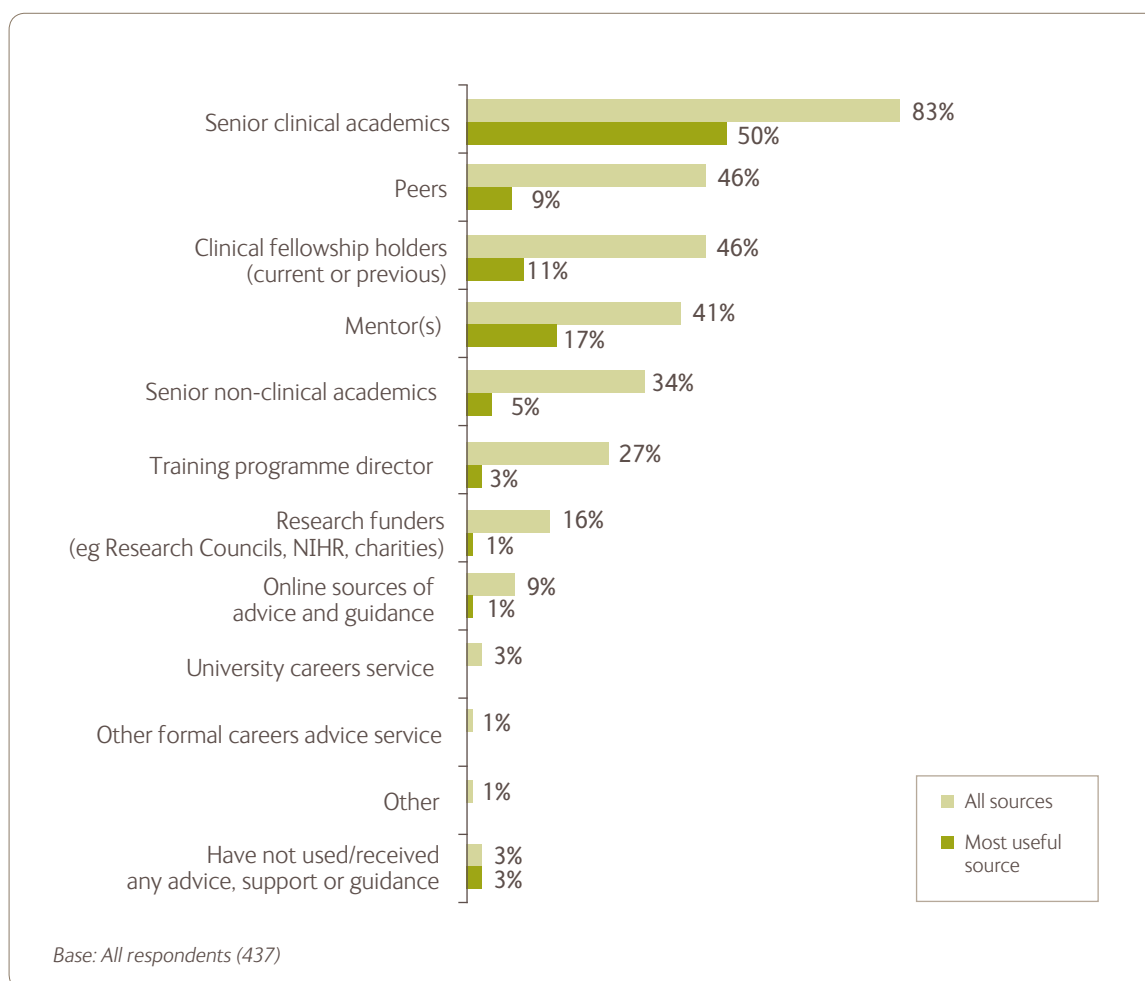
- 6.4 A wide variety of sources were accessed to receive careers advice, support or guidance. Figure 6.1 shows all the sources used by participants along with the source they considered most useful of those used.
- The most commonly used sources of careers advice, support or guidance were senior clinical academics (83%), peers (46%), clinical fellowship holders (46%) and mentor(s) (41%).
  - When asked about the single most useful source of careers advice, support or guidance, the most frequently cited sources were senior clinical academics (50%), mentors (17%) and clinical fellowship holders (11%)<sup>49</sup>.

<sup>47</sup> This is based on the proportion of participants who had received careers advice, support or guidance.

<sup>48</sup> This is based on participants who were not completing their fellowship or PhD (or other higher research degree) at the time of response and were research active in their current role.

<sup>49</sup> Participants who had received careers advice, support or training from more than one source were asked which they had found most useful. For those who had only received careers advice, support or guidance from a single source this was taken as the most useful.

Figure 6.1: All sources of careers advice, support or guidance used by participants and the single most useful source of those used



- 6.5 Those who were satisfied with the quality of careers advice received were more likely than those who were dissatisfied to have received careers advice from senior clinical academics (94% compared to 65%), clinical fellowship holders (54% compared to 34%) and mentors (48% compared to 33%).
- 6.6 The sources of careers advice differed for awarded applicants and rejected applicants, with those awarded their fellowship more likely to have received advice, support or guidance from clinical fellowship holders (49% compared to 32%), mentor(s) (45% compared to 27%) and research funders (18% compared to 8%).
- 6.7 Two-fifths (41%) of all participants have received support from a mentor, with 17% considering this the most useful source of support. In Section 5 a subset of participants later in their careers<sup>50</sup> were asked about the factors which had enabled their clinical academic career progression; 57% of those participants said mentoring had been an important factor. Given the full participant base includes many participants still undertaking their PhD<sup>51</sup>, this indicates that widening early-career access to mentorship schemes could be of great value to supporting the progression of the next generation of clinical academics.
- 6.8 This is further supported by the higher proportion of those who direct/lead their own research who have received careers advice from mentors (52%, compared to 35% of those who do not currently direct/lead their own research).

<sup>50.</sup> Those who were not completing their fellowship or PhD (or other higher research degree) at the time of response at the time of response and were research active in their current role were asked the importance of a number of factors in enabling them to progress their clinical academic career to date.

<sup>51.</sup> The figures for 'PhD' include those responding they were still undertaking a higher research degree (PhD, DPhil, MD or MPhil).

- 6.9 The importance of support from senior clinical academics, mentors and clinical fellowship holders was due to their first-hand experience and understanding of the challenges and processes. Mentors were seen as valuable for giving advice on making applications for fellowships and funding.

“Clinical academics have been through it themselves...have held the same positions that I have held – PhD fellowships, intermediate and senior fellowships... So they have seen it all and know what you should be doing. A lot of them also sit on Wellcome and MRC panels, so they are aware of the calibre of people that come through, the sorts of projects, the problems that you face when you are applying for these things... [due to] the amount of experience, they are providing valuable advice.”  
CSF 2006-2009, Awarded, Female

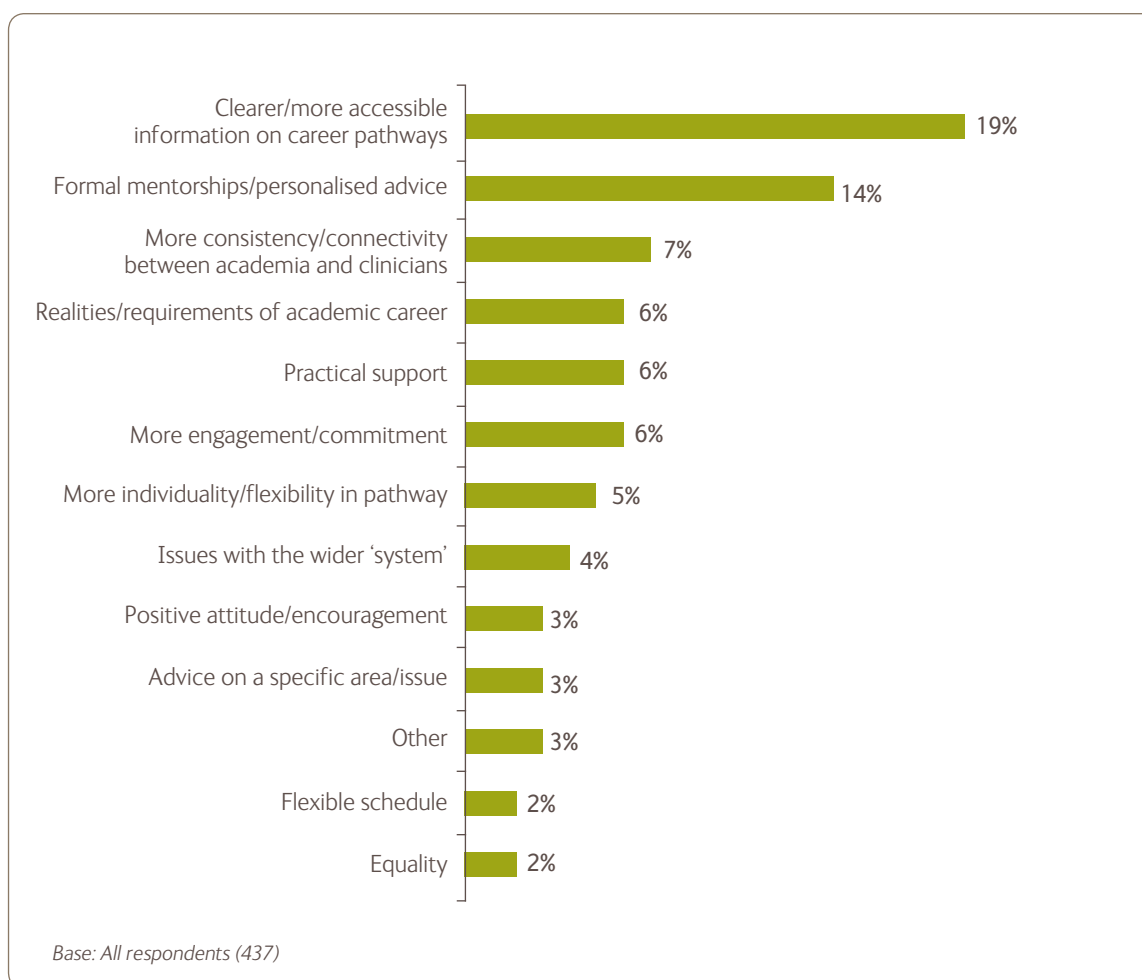
“I had someone who took an interest in me and mentored me, and his advice was pretty good. My mentor talked to me about trying to secure soft funding and was encouraging.”  
RTF 2006-2009, Rejected, Male

### Recommendations for improvements to careers advice, support and guidance

- 6.10 With only half (48%) of participants satisfied with the availability of advice and just over half<sup>52</sup> (55%) satisfied with the quality of advice received, there is a clear need to improve access to reliable and effective sources of advice, support and guidance.
- 6.11 Participants were asked an open text question on what could have been improved about the careers advice, support or guidance on offer that would have made pursuing a clinical academic career easier. The categorised responses, shown in Figure 6.2, demonstrate a demand improved access to information on career pathways (19%), formal mentorships and personalised advice (14%) and greater ‘connectivity’ between academic and clinical advice and support (7%).

<sup>52</sup> This is based on the proportion of participants who had received careers advice, support or guidance.

Figure 6.2: Categorised open-text suggestions for improvements to careers advice, support and guidance



- 6.12 In the qualitative follow-up interviews, the desire for clearer and more accessible information on career pathways was often mentioned in relation to starting out in their career. Many felt this form of advice is required most during early career stages.

"I would have benefitted most from advice as an early career trainee. [I] was interested in research but didn't really have any idea what to do."

RTF 2006-2009, Rejected, Male

- 6.13 As previously mentioned (5.14 and 6.7), those who received advice from a mentor felt that their input was valuable and it was felt that further implementation and development in this area would be highly beneficial.

"I have formed informal mentorships with a scientist out in the States and one or two people here... [but it would] be helpful if that was a bit more formalized through the research training programme... A senior clinical academic mentor might be helpful [for further careers advice]."

RTF 2012-2014, Awarded, Male

"I think a mentorship scheme would still help me now. I would value that and I don't have it."

RTF 2006-2009, Awarded, Female

- 6.14 Some participants expressed a desire for more formalised networking opportunities, to meet and gain advice from other clinical academics and previous fellowship holders.
- 6.15 A need was identified for impartial advice on areas such as application writing and the practicalities of becoming an independent researcher.

“Also I feel some generalised advice about how to become an independent researcher would be very handy – advice on grant application, grant management, running laboratories, research staff.”  
RTF 2006-2009, Rejected, Male

“I think impartial advice from the [research funders] would be helpful. Training on applications: what sort of things [they] are looking for.”  
CSF 2006-2009, Awarded, Male



## 7 Conclusions and recommendations

- 7.1 This study was designed to explore the routes by which clinically qualified academics first become interested in research, the career pathways they follow, and to provide an understanding of the nature of any enablers and barriers to pursuing a clinical academic career and how individuals can be appropriately supported at critical stages and through the most difficult transitions.

### Embarking on and pursuing a clinical academic career

- 7.2 Interest in academic clinical careers is first sparked in a wide variety of ways at a range of career stages, with first research experience gained through a number of routes.
- 7.3 A very small minority found it easy to pursue a clinical academic career. Many participants have successfully progressed to become research leaders, though even among this group a majority considered it had been difficult to pursue their chosen career pathway. Many barriers relate to progressing as an academic, but many also encounter difficulties progressing their clinical training and careers.
- 7.4 Nearly three-quarters of rejected RTF applicants undertook a PhD or MD, finding alternatives to fellowship funding, demonstrating the appetite of clinical trainees to engage with research and the unmet need in their support. Amongst rejected applicants, men were more likely than women to undertake a PhD or MD.
- 7.5 The introduction of training pathways across the UK to integrate both clinical and academic training has resulted in major improvements to clinical academic training, but many barriers to those following these pathways remain.

### Enablers

- 7.6 The award of a fellowship has a strong positive correlation with progression to clinical academic leadership roles. Overall, those who had completed a fellowship were more likely to have progressed to lead and direct their own research, hold senior academic positions and to have secured significant further funding.
- 7.7 Securing funding, mentorship, and early-career research experience and training are important enablers in progressing a clinical academic career.
- 7.8 The most common enablers suggested by participants to facilitate pursuing an academic career were increasing opportunities (more grant/fellowship funding), improving career structures (greater job security within academic roles, greater integration across clinical and academic departments to support research roles, clearer career paths for clinical academics, greater flexibility in the clinical training model) and improving support (better availability and quality of guidance and/or support in making career choices).

### Difficulties maintaining research activity reported as the biggest barrier

- 7.9 Difficulty in obtaining support to remain research active was identified as the most common barrier to progressing a clinical academic career.
- 7.10 Difficulties related particularly to the availability of funding and positions, difficulties balancing clinical and academic commitments, and a lack of integration between academic and clinical departments.
- 7.11 There is a need for an increased number of roles with clear protected time for research, as without this there is limited opportunity to develop and progress as an academic. Fellowships are particularly valuable in this respect.
- 7.12 Of the participants not currently research active, the majority would have preferred to still be research active. The most common reasons for not being research active were a lack of funding and/or suitable clinical academic posts, difficulties balancing academic, clinical and personal commitments, and a lack of support from host institutions and supervisors.

## Other barriers

- 7.13 There is a lack of clarity surrounding clinical academic career routes and aspirations, contrasting with much greater clarity about clinical career aspirations and routes.
- 7.14 A range of other issues were commonly cited, including lack of job security in clinical academia, the personal financial impact of pursuing a clinical academic career, and difficulty in managing clinical, academic and personal commitments. Interviewees commonly mentioned feeling undervalued, with limited understanding among both clinical and academic colleagues of the value of their roles.
- 7.15 There are financial implications in pursuing a clinical academic career, with the vast majority of those surveyed reporting that they had endured slower progression through salary scales than clinically-focused colleagues and had remained on lower salaries for many years.

## The value of careers advice and mentorship

- 7.16 Senior clinical academics, mentors and past clinical fellowship holders are regarded as the most useful sources of guidance.
- 7.17 There is a clear appetite for better careers advice, support and guidance, with only around half of participants being satisfied with the availability of advice and just over half who had received advice satisfied with the quality of advice received. There is a clear desire for coherent and accessible information on career pathways, improved access to formal mentorships and personalised advice, and increased connectivity between academia and clinicians.

## Next steps

### Removal of unnecessary barriers in current training pathways

- 7.18 The existing pathways to integrate both clinical and academic training should be further developed in order to:
- More clearly signpost routes to clinical academic progression
  - Provide greater flexibility in access to posts at different career stages
  - Support the balancing of research and training needs
- 7.19 The Shape of Training review<sup>53</sup> has recommended reforms to the structure of postgraduate medical education and training across the UK and implementation of the review's recommendations provides an opportunity to achieve seamless training that effectively combines academic and clinical strands of training.

### Retain funding and review flexibility of fellowship support

- 7.20 Fellowships provide protected research time at critical career stages. Opportunities for fellowship funding should not be diminished and funders should keep under review the flexibility of approaches to ensure opportunities for clinical academic training are taken up.

### Enhance mentorship and career support

- 7.21 Tailored careers advice and mentorship is essential, especially at early career stages. This is the responsibility of a range of partners including funders, with medical schools and postgraduate deans playing a key role in ensuring a range of routes for clinicians to gain research experience.
- 7.22 A framework should be developed to illustrate career routes and opportunities for clinical researchers at all levels.

### Principles and guidance for the career development of clinical academics.

- 7.23 Those involved in supporting clinical academic research careers should work together to agree principles and guidance to support clinicians engaged in clinical academic pathway training.

53. Shape of Training Final Report, October 2013, [http://www.shapeoftraining.co.uk/static/documents/content/Shape\\_of\\_training\\_FINAL\\_Report.pdf\\_53977887.pdf](http://www.shapeoftraining.co.uk/static/documents/content/Shape_of_training_FINAL_Report.pdf_53977887.pdf)

### Acknowledgements

The Medical Research Council, Academy of Medical Sciences, British Heart Foundation, Cancer Research UK, National Institute for Health Research and Wellcome Trust are most grateful to the participants who completed this survey.

Thank you to all the staff and stakeholders who provided input, reviewed, or tested the survey in development.

## 8 Appendix 1: Research funders involved in this research

### 8.1 Medical Research Council

The MRC is a publicly-funded organisation which supports research across the spectrum of medical sciences in universities and hospitals and through its own units, centres and institutes. The MRC's mission is to improve human health through world class medical research. It works to achieve this through training and developing the next generation of biomedical research leaders by supporting outstanding individuals at crucial points in their research careers, aligned to national strategic skills objectives.

Medical Research Council (Swindon office),  
2nd Floor David Phillips Building, Polaris House, North Star Avenue, Swindon, SN2 1FL

Medical Research Council (London office),  
14th Floor, One Kemble Street, London, WC2B 4AN  
Phone (+44) (0)1793 416200  
[www.mrc.ac.uk](http://www.mrc.ac.uk)

### 8.2 Academy of Medical Sciences

The Academy of Medical Sciences is the independent body in the UK representing the diversity of medical science. Our mission is to promote medical science and its translation into benefits for society. The Academy's elected Fellows are the United Kingdom's leading medical scientists from hospitals, academia, industry and the public service. We work with them to promote excellence, influence policy to improve health and wealth, nurture the next generation of medical researchers, link academia, industry and the NHS, seize international opportunities and encourage dialogue about the medical sciences.

Academy of Medical Sciences, 41 Portland Pl, London W1B 1QH  
Phone: (+44) (0)20 7631 0200  
[www.acmedsci.ac.uk](http://www.acmedsci.ac.uk)

### 8.3 British Heart Foundation

The British Heart Foundation (BHF) is the single largest independent funder of cardiovascular research in the UK. Its vision is a world in which people do not die prematurely or suffer from cardiovascular disease. The BHF supports research into the causes, prevention, diagnosis and treatment of cardiovascular disease through a large portfolio of research grants and personal awards. It is committed to supporting researchers at all stages of their career and to developing the next generation of cardiovascular researchers by the provision of flexible training and fellowship schemes.

British Heart Foundation, Greater London House, 180 Hampstead Road, London NW1 7AW  
Phone (+44) (0)20 7554 0000  
[www.bhf.org.uk](http://www.bhf.org.uk)

## 8.4 Cancer Research UK

Cancer Research UK is the world's leading cancer charity dedicated to saving lives through research. Cancer Research UK's pioneering work into the prevention, diagnosis and treatment of cancer has helped save millions of lives. Cancer Research UK receives no government funding for its life-saving research. Every step it makes towards beating cancer relies on every pound donated. Cancer Research UK has been at the heart of the progress that has already seen survival in the UK double in the last forty years. Today, 2 in 4 people survive their cancer for at least 10 years. Cancer Research UK's ambition is to accelerate progress so that 3 in 4 people will survive their cancer for at least 10 years within the next 20 years. Cancer Research UK supports research into all aspects of cancer through the work of over 4,000 scientists, doctors and nurses. Together with its partners and supporters, Cancer Research UK's vision is to bring forward the day when all cancers are cured.

Cancer Research UK, Angel Building, 407 St John Street, London EC1V 4AD  
Phone:(+44) (0)20 7242 0200  
[www.cancerresearchuk.org/](http://www.cancerresearchuk.org/)

## 8.5 National Institute for Health Research

The National Institute for Health Research (NIHR) is funded by the Department of Health to improve the health and wealth of the nation through research. Since its establishment in April 2006, the NIHR has transformed research in the NHS. It has increased the volume of applied health research for the benefit of patients and the public, driven faster translation of basic science discoveries into tangible benefits for patients and the economy, and developed and supported the people who conduct and contribute to applied health research. The NIHR plays a key role in the Government's strategy for economic growth, attracting investment by the life-sciences industries through its world-class infrastructure for health research. Together, the NIHR people, programmes, centres of excellence and systems represent the most integrated health research system in the world.

National Institute for Health Research, Room 132, Richmond House, 79 Whitehall, London, SW1A 2NS  
[www.nihr.ac.uk](http://www.nihr.ac.uk)

## 8.6 Wellcome Trust

The Wellcome Trust is an independent global charitable foundation dedicated to improving human health that was established in 1936 under the will of Sir Henry Wellcome. Its interests range from science to the history of medicine to public engagement, and it has an annual expenditure on charitable activities of around £700 million per year. Its philosophy is that good health makes life better, and it is seeking to improve health for everyone by helping great ideas to thrive. It seeks to achieve this by supporting thousands of curious, passionate people all over the world to explore great ideas, at every step of the way from discovery to impact.

Wellcome Trust, Gibbs Building, 215 Euston Rd, London NW1 2BE  
Phone (+44) (0)20 7611 8888  
[www.wellcome.ac.uk](http://www.wellcome.ac.uk)

## 9 Appendix 2: Research approach

- 9.1 The research included both a quantitative online survey and qualitative in-depth telephone interviews.
- 9.2 The quantitative online survey was conducted first and comprised a sample of 437 interviews. The breakdown of the interviews achieved is shown in the tables below.

Table 11.1 Achieved survey interviews by cohort

Research cohorts	Achieved interviews
Applied for or were awarded a Clinician Scientist Fellowship in 2006-09 (CSF 2006-09)	57
Applied for or were awarded a Research Training Fellowship in 2006-2009 (RTF 2006-09)	166
Applied for or were awarded a Research Training Fellowship in 2012-14 (RTF 2012-14)	214
<b>Total</b>	<b>437</b>

Table 11.2 Survey participants by research funder<sup>54</sup>

Research funder applied to:	Total number of contacts identified	Number of participants (% of those provided)	CSF 2006-09	RTF 2006-09	RTF 2012-14
Academy of Medical Sciences	11	7 (64%)	7	0	0
British Heart Foundation	89	43 (48%)	3	19	21
Cancer Research UK	51	32 (63%)	5	10	17
Medical Research Council	798	273 (34%)	45	116	112
National Institute for Health Research	249	57 (25%)	4	7	46
Wellcome Trust	76	47 (62%)	1	19	27

- 9.3 The qualitative in-depth telephone interviews were conducted on the back of the quantitative online survey. During the quantitative online survey clinical academics were asked whether they would be willing to be re-contacted to take part in a telephone in-depth interview and asked to provide contact details. The qualitative stage looked to clinical academics' career paths in more detail and to uncover any barriers and/or motivations experienced during their different roles and transitions.

<sup>54</sup> The total number of contacts identified by each funder refers to the number of contacts each passed to IFF. See section 2.24 for details of the survey method.

- 9.4 A total of 24 qualitative in-depth interviews were conducted. The breakdown of the interviews achieved is shown in the table below. Some of the clinical academics interviewed had received more than one type of funding.

*Table 11.3 Achieved qualitative interviews by cohort*

Research cohorts	Whether successful or unsuccessful		Total
	Successful	Unsuccessful	
Clinician Scientist Fellowship in 2006-09 (CSF 2006-09)	7	2	9
Research Training Fellowship in 2006-2009 (RTF 2006-09)	7	3	10
Research Training Fellowship in 2012-14 (RTF 2012-14)	3	2	5
<b>Total</b>	<b>17</b>	<b>7</b>	<b>24</b>

# 10 Appendix 3:

## Quantitative online questionnaire

### Cross-Funder Clinical Destinations Survey

J5507    Date    Online

#### S Screener

Thank you for taking the time to complete this online survey about clinicians who have at some point applied for either a Research Training Fellowship or a Clinician Scientist Fellowship (or both).

This survey is being conducted on behalf of the Academy of Medical Sciences, British Heart Foundation, Cancer Research UK, Medical Research Council, National Institute for Health Research and the Wellcome Trust.

N.B. Given the variation in terms used by the funding bodies, for the purposes of this survey we define the fellowships as follows:

- The term 'Research Training Fellowship' includes Clinical Research Training Fellowships, Doctoral Research Fellowships, Researcher Development Awards, and Clinical PhD Programmes.
- The term 'Clinician Scientist Fellowship' includes Intermediate Clinical Fellowships and Clinician Scientist Awards.

Please be assured that we abide by the Market Research Society (MRS) Code of Conduct and that your responses are completely anonymous unless you state otherwise at the end of the survey.

When completing the survey, please only use the 'next' button on the page rather than the 'back' and 'forward' buttons in your browser. Note that this survey is best viewed in Microsoft Internet Explorer. If you are ready to begin please start by clicking 'Next' below.

#### IF ACCESSED ONLINE SURVEY THROUGH INDIVIDUALISED LINK

If you need to exit the survey, you can come back to it to continue your answers from where you left off at a later stage by clicking the original link we sent you. Please don't share this link with anyone else as it is your own unique survey invitation.

SAMPLE VARIABLES		
CRTF		
CSF		
CRTF 2006-09		
CRTF 2012-14		
CSF 2006-09		
APPLICATION STATUS		

#### IF ACCESSED ONLINE SURVEY THROUGH OPEN LINK

Before entering the main survey we'd like to understand a bit more about any applications, both successful and unsuccessful, you have made to Research Training Fellowship and Clinician Scientist Fellowship programmes throughout your career.

Please indicate below which schemes you applied to, in what year you applied to these schemes and whether your application was successful or not. If you applied to a scheme more than once please consider the most recent application.



	SUCCESSFUL	UNSUCCESSFUL	YEAR APPLIED (WRITE IN)
_1 British Heart Foundation Clinical Research Training Fellowship	1	1	
_2 Cancer Research UK Clinical Research Training Fellowship	2	2	
_3 Medical Research Council Clinical Research Training Fellowship	3	3	
_4 National Institute for Health Research Doctoral Research Fellowship	4	4	
_5 Wellcome Trust Research Training Fellowship	5	5	
_6 Wellcome Trust Clinical PhD Programme	6	6	
_7 Academy of Medical Sciences/The Health Foundation Clinician Scientist Fellowship	7	7	
_8 British Heart Foundation Intermediate Clinical Research Fellowship	8	8	
_9 Cancer Research UK Clinician Scientist Fellowship	9	9	
_10 Medical Research Council Clinician Scientist Fellowship	10	10	
_11 Wellcome Trust Intermediate Clinical Fellowship	11	11	
_12 National Institute for Health Research Clinician Scientist Award	12	12	

## 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.

### ASK ALL

A1 Firstly, please tell us whether you intercalated your medical degree

*BY 'INTERCALATED' WE MEAN OFFICIALLY TAKING A BREAK DURING YOUR MEDICAL DEGREE TO STUDY FOR ANOTHER DEGREE*

Yes	1	
No	2	
Not applicable	3	

### ASK IF INTERCALATED (A1=1)

A2 What type of degree did you undertake as part of your intercalation?

*PLEASE SELECT ONE OPTION ONLY.*

Bachelor's (e.g. BSc/BA)	1	
Master's (MPhil/MSc/MA)	2	
PhD or equivalent	3	
Other (please specify)	4	

## ASK ALL

A3 In which specialty did you decide to train?

IF MORE THAN ONE APPLIES PLEASE SELECT THE MAIN SPECIALITY IN WHICH YOU FIRST TRAINED.  
 DS: DISPLAY AS DROP DOWN OR AUTO COMPLETE (ALLOWING FOR OTHER OPTIONS TO BE WRITTEN IN).  
 PLEASE START TYPING AND SELECT AN ANSWER FROM THE LIST THAT APPEARS. IF YOU CANNOT SEE THE  
 CORRECT OPTION PLEASE TYPE IN YOUR ANSWER BELOW IN DETAIL

Acute Internal medicine	General Surgery	Paediatric Surgery
Allergy	Genito-Urinary Medicine	Paediatrics
Anaesthetics	Geriatric medicine	Palliative Medicine
Audio vestibular Medicine	Haematology	
Cardiology	Histopathology	Periodontics
Cardiothoracic Surgery	Infectious Diseases	Pharmaceutical Medicine
Chemical Pathology	Intensive Care Medicine	Plastic Surgery
Child and Adolescent Psychiatry	Medical Oncology	Prosthodontics
	Medical Microbiology	Medical Virology
Clinical Genetics	Medical Ophthalmology	Psychiatry of Learning Disability
Immunology	Medical Microbiology and Virology	Medical Psychotherapy
Clinical Neurophysiology	Neurology	Public Health Medicine
Clinical Oncology	Neurosurgery	
Clinical Pharmacology and Therapeutics	Obstetrics and Gynaecology	Rehabilitation Medicine
Clinical Radiology	Occupational Medicine	Renal Medicine
Community Sexual and Reproductive Health		
Dental and Maxillofacial Radiology	Old Age Psychiatry	Respiratory Medicine
Dental Public Health	Ophthalmology	Restorative Dentistry
Dermatology	Oral and Maxillofacial Pathology	Rheumatology
Diagnostic Neuropathology	Nuclear Medicine	
Emergency Medicine	Paediatric and Perinatal Pathology	
Endocrinology and Diabetes	Oral and Maxillofacial Surgery	Special Care Dentistry
Endodontics	Oral Medicine	Sport and Exercise Medicine
Forensic Histopathology	Paediatric Cardiology	Tropical Medicine
Forensic Psychiatry	Oral Microbiology	Trauma and Orthopaedic Surgery
Gastroenterology	Oral Surgery	Urology
General Psychiatry	Orthodontics	
General Internal Medicine	Otolaryngology	OTHER (SPECIFY)
General Practice	Paediatric Dentistry	NOT APPLICABLE
Vascular Surgery	Veterinary Medicine	

## ASK ALL

A5 Which of the following sparked your interest in research?

*PLEASE SELECT ALL THAT APPLY.*

## ASK IF MORE THAN ONE OPTION SELECTED AT A5

A6 Which was the main factor that sparked this interest?

*PLEASE SELECT ONE OPTION ONLY*

DP INSTRUCTION: IF ONLY ONE ANSWER CODED AT A5 THEN FORCE A6 ANSWER TO BE THE SAME AS A5

	A5	A6
Core curricula lecture(s)	1	1
Extra curricula lecture(s)/seminar(s)	2	2
Interaction with department researchers	3	3
Patient case(s)	4	4
Other trainees' experiences	5	5
Academic Foundation Year (AFY) positions advertised	6	6
Academic Clinical Fellowship (ACF) positions advertised	7	7
University funded placement/bursary/fellowship	8	8
Research bursary/fellowship from funder/charity	9	9
Other (WRITE IN)	10	10
Don't know [DP: ALLOW SINGLE CODE ONLY]	11	11

## ASK ALL

A4 At what stage of your training did you first become interested in a research career?

*IF THE TERMS BELOW DO NOT CORRESPOND TO YOUR TRAINING PLEASE CHOOSE THE NEAREST EQUIVALENT OR SPECIFY IN 'OTHER'.**PLEASE SELECT ONE OPTION ONLY.*

Whilst at medical school	1	
During foundation training	2	
Pre-registration House Officer (PRHO)	3	
Senior House Officer (SHO) positions	4	
Specialist/Core Training 1-3	5	
Higher Specialist Training 4-6	6	
Later	7	
Other (please specify)	8	

## ASK ALL

A7 How did you gain your first research experience?

PLEASE SELECT ONE OPTION ONLY

MSc/BSc Intercalation/Undergraduate project	1	
Academic foundation training	2	
Academic clinical fellowship	3	
University funded primer fellowship	4	
Position supported via a funder/charity research bursary	5	
Informal time in research group	6	
Research Training Fellowship	7	
Other (PLEASE SPECIFY)	8	

## ASK ALL CRTF 2012-14=1

A8 Which of the following positions did you hold before applying for a research training fellowship?

PLEASE SELECT ALL THAT APPLY.

Academic foundation programme position	1	
Foundation programme positions (non-academic)	2	
ACF core/specialty or GP training position	3	
Specialty/GP training position (non-academic)	4	
University funded placement/fellowship	5	
Research bursary from funder/charity	6	
Other (PLEASE WRITE IN)	7	

## ASK ALL CRTF =1

A9 At the time of applying for a research training fellowship, roughly how much research experience did you have?

PLEASE ANSWER IN TERMS OF THE APPROXIMATE NUMBER OF MONTHS YOU SPENT GAINING RESEARCH EXPERIENCE. IF YOU HAVE APPLIED FOR MORE THAN ONE RESEARCH TRAINING FELLOWSHIP, PLEASE ANSWER IN RELATION TO ANY RESEARCH EXPERIENCE UNDERTAKEN PRIOR TO YOUR MOST RECENT APPLICATION.

## B Pursuing a higher research degree

The next section concentrates on your pursuit of a higher research degree.

### ASK ALL

B1 Did you undertake (or are you undertaking) a higher research degree?

PLEASE SELECT ONE OPTION ONLY.

Yes – PhD	1	TEXT SUB FOR B2: PhD
Yes – DPhil	2	TEXT SUB FOR B2: DPhil
Yes – MD	3	TEXT SUB FOR B2: MD
Yes – Other (PLEASE WRITE IN)	4	USE WRITE IN AS TEXT SUB FOR B2
No	5	

### ASK IF COMPLETED A HIGHER DEGREE (B1=1-4)

B2 In what year were you awarded your [INSERT ANSWER FROM B1]?

PLEASE SELECT YEAR.

DS: ENSURE YEAR FORMAT AND ALLOW UP TO 2015

DISPLAY YEARS FROM 1995 TO 2015		
Currently undertaking [INSERT ANSWER FROM B1]	1	
Cannot remember	2	
Did not complete [INSERT ANSWER FROM B1]	3	

### ASK IF COMPLETED/UNDERTAKING A HIGHER DEGREE (B1=1-4)

B3 What was the main motivation for your decision to undertake a [INSERT ANSWER FROM B1]?

PLEASE SELECT ONE ONLY.

To support your longer-term career ambitions of becoming a senior clinical academic	1	
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 new therapeutic, intervention or diagnostic tool)	2	
To aid the translation of a particular therapeutic or diagnostic tool or intervention towards clinical use	3	
To investigate a particular research question relating to clinical care provision	4	
To investigate a particular research question relating to medical education	5	
To support your clinical career by gaining access to wider opportunities, consultant posts etc.	6	
Other (WRITE IN)	7	
Don't know	8	

## ASK IF COMPLETED/UNDERTAKING A HIGHER DEGREE (B1=1-4)

B4 How [IF B2 1: was] [IF B2=1: is] this [INSERT ANSWER FROM B1] [IF B2=1: being] funded?

PLEASE SELECT ALL THAT APPLY.

British Heart Foundation (BHF)	1	
Cancer Research UK (CRUK)	2	
Medical Research Council (MRC)	3	
National Institute for Health Research (NIHR)	4	
Wellcome Trust	5	
Self-funded	6	
Departmental/Supervisor funds	7	
Other PLEASE WRITE IN	8	

## ASK IF COMPLETED A HIGHER DEGREE (B2 1 OR 3)

B5 At the time of completing your [INSERT ANSWER FROM B1] how clear were you, on a scale of 1 to 5, on the following factors?

PLEASE RATE CLARITY FOR EACH STATEMENT.

	Not clear at all				Very clear	DK	NA
_1 Your research career aspirations	1	2	3	4	5	6	7
_2 Your clinical career aspirations	1	2	3	4	5	6	7
_3 Routes to completing clinical training	1	2	3	4	5	6	7
_4 Routes to further research positions	1	2	3	4	5	6	7

## ASK IF COMPLETED A HIGHER DEGREE (B2 1 OR 3)

B6 What was the biggest challenge you felt you faced following the completion of your [INSERT ANSWER FROM B1]?

PLEASE SELECT ONE OPTION ONLY.

Completing specialty training	1	
Maintaining research activity	2	
Regaining clinical competency and confidence	3	
Family/personal challenges	4	
Other (PLEASE WRITE IN)	5	
Don't know	6	
None of these	7	

## ASK ALL CRTF=1

B7 How did you first hear about research training fellowships?

*PLEASE SELECT ONE OPTION ONLY.*

From an academic supervisor	1	
From an existing clinical fellow	2	
Other academic	3	
Advert (PLEASE SPECIFY WHERE)	4	
Careers workshop/symposium	5	
Advice from funder(s)	6	
Web search for funding/careers options	7	
From a mentor	10	
Other (PLEASE SPECIFY)	8	
Can't remember	9	

## ASK ALL CRTF=1

B8 How many applications did you make in total to research training fellowship schemes?

*PLEASE WRITE IN THE TOTAL NUMBER OF APPLICATIONS MADE, ACROSS ALL FUNDERS APPLIED TO.  
THE TERM 'RESEARCH TRAINING FELLOWSHIP' INCLUDES CLINICAL RESEARCH TRAINING FELLOWSHIPS,  
DOCTORAL RESEARCH FELLOWSHIPS, RESEARCHER DEVELOPMENT AWARDS AND CLINICAL PHD PROGRAMMES.*

Don't know	1	

## ASK ALL CRTF=1 AND APPLICATION STATUS=0.

B9 Were any of these applications successful?

Yes	1	
No	2	

## ASK ALL CSF=1

B10 Thinking now about your Clinician Scientist Fellowship/Intermediate Clinical Research Fellowship application(s), how did you first find out about these fellowships?

PLEASE SELECT ONE OPTION ONLY. THE TERM 'CLINICIAN SCIENTIST FELLOWSHIP' INCLUDES INTERMEDIATE CLINICAL FELLOWSHIPS AND CLINICIAN SCIENTIST AWARDS.

From an academic supervisor	1	
From an existing clinical fellow	2	
Other academic	3	
Advert (PLEASE SPECIFY WHERE)	4	
Careers workshop/symposium	5	
Advice from funder(s)	6	
Web search for funding/careers options	7	
From a mentor	10	
Other (PLEASE SPECIFY)	8	
Can't remember	9	

## ASK ALL CSF=1

B11 How many applications did you make in total to Clinician Scientist Fellowship schemes?

PLEASE WRITE IN THE TOTAL NUMBER OF APPLICATIONS MADE, ACROSS ALL FUNDERS APPLIED TO

Don't know	1	

## ASK ALL CSF=1 AND APPLICATION STATUS=0.

B12 Were any of these applications successful?

Yes	1	
No	2	

## ASK ALL CSF APPLICANTS WHO WERE SUCCESSFUL (B12=1) OR (CSF=1 AND APPLICATION STATUS=1.

B13 At the time of completing your Clinician Scientist Fellowship how clear were you, on a scale of 1 to 5, on the following factors?

PLEASE RATE CLARITY FOR EACH STATEMENT.

	Not clear at all				Very clear	DK	NA
_1 Your research career aspirations	1	2	3	4	5	6	7
_2 Your clinical career aspirations	1	2	3	4	5	6	7
_3 Routes to completing clinical training/ further clinical positions	1	2	3	4	5	6	7
_4 Routes to further research positions	1	2	3	4	5	6	7



ASK SECTION C TO ALL EXCEPT THOSE STILL COMPLETING THEIR PHD (DO NOT ASK TO B2=1)

## C Career since applying for a [IF CRTF from sample: Research Training] [IF CSF from sample: Clinician Scientist] Fellowship

### ASK ALL

In this section we would like to find out what you have been doing since applying for a [IF CRTF=1: Research Training Fellowship] [IF CSF=1: Clinician Scientist Fellowship]. This is so that we can better understand the variety of career paths pursued by clinical academics.

We're interested in the different types of positions you have held. You do not need to provide information about every attachment and department in which you have worked.

### ASK ALL

C1 IF FIRST LOOP: Which of the following did you do first after [IF (CRTF=1 AND B9=1) or (CRTF=1 AND APPLICATION STATUS=1)): undertaking your research training fellowship][ IF CRTF=1 AND B9=2: applying for a research training fellowship] [IF ((CSF=1 AND B12=1) OR (CSF=1 AND APPLICATION STATUS=1)) : undertaking your Clinician Scientist Fellowship] [IF CSF=1 AND B12=2: applying for a Clinician Scientist Fellowship].

[DISPLAY IF (CRTF=1 AND B9=2) OR (IF CSF=1 AND B12=1): If you made multiple applications for a [CRTF=1 AND B9=2: research training fellowship] [CSF=1 AND B12=2: clinician scientist fellowship] please consider the time since the most recent application

ALL FOLLOWING LOOPS: Which of the following did you do next?

DISPLAY TO ALL: If the terms below do not correspond exactly to your positions please choose the nearest equivalent or specify in 'other'.

		WHEN RESPONSE IS USED AS A TEXT SUB IN LATER QUESTIONS E.G. C4 TEXT SHOULD BE
Full time clinical training (specialist or GP trainee)	1	full time clinical training (specialist or GP trainee)
Academic Clinical Lecturer (pre-CCT)	2	an academic Clinical Lecturer (pre-CCT)
Research Fellow (pre- or post-CCT, university or NHS funded)	3	a Research Fellow (pre- or post-CCT, university or NHS funded)
DISPLAY IF CRTF FROM SAMPLE: Intermediate Clinical Fellowship holder (from an external funder, pre-or post-CCT)	4	holding an Intermediate Clinical Fellowship (from an external funder, pre-or post-CCT)
Clinical non-consultant position (post-CCT)	5	a Clinical non-consultant position (post-CCT)
NHS Consultant	6	an NHS consultant
General Practitioner	7	a General Practitioner
Clinical Lecturer (post CCT)	8	a Clinical Lecturer (post CCT)
Clinical Senior Lecturer	9	a Clinical Senior Lecturer
Clinical Reader	10	a Clinical Reader
Clinical Professor	11	a Clinical Professor
Senior Clinical Fellowship holder (from an external funded)	12	a Senior Clinical Fellowship holder (from an external funded)
Industrial appointment	13	working in an industrial appointment
Other Clinical position (PLEASE WRITE IN)	14	USE WRITE IN TEXT

		WHEN RESPONSE IS USED AS A TEXT SUB IN LATER QUESTIONS E.G. C4 TEXT SHOULD BE
Followed a non-research based career path outside of the medical profession	15	working in a non-research based career path outside of the medical profession
Followed a research based career path outside of the medical profession	16	working in a research based career path outside of the medical profession
Career break	19	
Other (PLEASE WRITE IN)	17	USE WRITE IN TEXT
Still undertaking fellowship	18	

## C2 DELETED

ASK ALL EXCEPT THOSE STILL COMPLETING THEIR FELLOWSHIP AWARD (C1=18)

C3 What was your primary reason for taking [IF C1=1-17 this position; C1=18 a career break]?

PLEASE SELECT ONE OPTION ONLY.

IF C1=1-17: Fitted with my clinical career aspirations	1	
IF C1=1-17: Fitted with my research career aspirations	2	
IF C1=1-17: I was awarded funding	3	
IF C1=1-17: It was required to progress my clinical training	4	
IF C1=1-17: It was an obvious next step	5	
It was the only option	6	
Personal reasons – location	7	
Personal reasons – family commitments	8	
Other personal reasons	9	
Other (WRITE IN)	10	
Don't know	11	

ASK ALL EXCEPT THOSE STILL COMPLETING THEIR FELLOWSHIP (C1=18)

ON FIRST LOOP DO NOT ASK TO DECLINED APPLICANTS (B9=2 OR B12=2)

C5 IF FIRST LOOP: What barriers, if any did you encounter during this transition from your [(IF (CRTF=1 AND B2 1 OR 3) INSERT ANSWER FROM B1) OR (CRTF=1 AND (B1=5 OR B2=3) Research Training Fellowship): [IF (CSF=1 AND B12=1): Clinician Scientist Fellowship] to [INSERT ANSWER FROM C1]?

ALL FOLLOWING LOOPS: What barriers, if any, did you encounter during the transition from [ANSWER GIVEN AT C1 IN PREVIOUS ITERATION] to [ANSWER GIVEN AT C1 IN CURRENT ITERATION]?

PLEASE SELECT ALL THAT APPLY.

Family commitments	1	
Availability of positions	2	
(Re) Location	3	
Availability of funding	4	
Changing employers – contract issues	5	
Changing employers – maternity rights	6	
Changing employers – pension issues	7	
Changing employers – Other issue (PLEASE SPECIFY)	10	

Maintaining research activity	11	
Inadequate support by host institution/mentoring	15	
Other (WRITE IN)	12	
Don't know	13	
Did not encounter barriers	14	

ASK ALL EXCEPT THOSE STILL COMPLETING THEIR FELLOWSHIP (C1=18)

ON FIRST LOOP DO NOT ASK TO DECLINED APPLICANTS (B9=2 OR B12=2)

C4 Overall, how easy did you find this transition?

PLEASE SELECT ONE OPTION ONLY.

Very easy	1	
Easy	2	
Neither easy nor difficult	3	
Difficult	4	
Very difficult	5	
Don't know	6	

ASK ALL EXCEPT THOSE STILL COMPLETING THEIR FELLOWSHIP OR ON A CAREER BREAK (C1=18 OR 19)

C6 In this role [DISPLAY IF C1=2-3 OR 5-14 OR 17: as][IF C1=1: in][ANSWER GIVEN AT C1 IN CURRENT ITERATION], approximately what proportion of your time was spent on:

PLEASE ENTER APPROXIMATE %, DIVIDING YOUR TIME BETWEEN THE THREE CATEGORIES

IF YOU HAVE NOT SPENT ANY TIME ON AN ACTIVITY WITHIN THIS ROLE THEN PLEASE ENTER 0% NEXT TO THE ACTIVITY

DS: ENSURE % SUM TO BETWEEN 90%-110%

	%
_1 Clinical activity	
_2 Research activity	
_3 Other activity	
DS SINGLE CODE: Don't know	

ASK ALL EXCEPT THOSE STILL COMPLETING THEIR FELLOWSHIP (C1=18)

C7 Is this the role that you are currently doing?

Yes	1	
No	2	

DS: IF C7=2 GO BACK TO START OF LOOP (C1), OTHERWISE CONTINUE TO SECTION D

ASK SECTION TO ALL EXCEPT THOSE STILL COMPLETING THEIR RESEARCH DEGREE OR FELLOWSHIP OR ON A CAREER BREAK AT MOST RECENT ITERATION (DO NOT ASK TO B2=1 OR C1=18 OR C1=19)

## D Current position

- D1 In the last section you told us that you are currently [ANSWER GIVEN AT C1 IN MOST RECENT/HIGHEST ITERATION]. 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 YOUR PRIMARY EMPLOYER

PLEASE SELECT ONE OPTION ONLY

University	1	
Teaching Hospital	2	
NHS	3	
Other Research Institute (WRITE IN)	4	
Public/voluntary body	5	
Private Sector Company	6	
Other (WRITE IN)	7	

D2 DELETED

## ASK ALL

- D3 In which specialty area are you currently working?  
If more than one applies, please select the specialty which you consider your primary area.

DS: DISPLAY AS DROP DOWN OR AUTO COMPLETE (ALLOWING FOR OTHER OPTIONS TO BE WRITTEN IN).

PLEASE START TYPING AND SELECT AN ANSWER FROM THE LIST THAT APPEARS. IF YOU CANNOT SEE THE CORRECT OPTION PLEASE TYPE IN YOUR ANSWER BELOW IN DETAIL

Acute Internal Medicine	General Surgery	Paediatric Surgery
Allergy	Genito-Urinary Medicine	Paediatrics
Anaesthetics	Geriatric medicine	Palliative Medicine
Audio vestibular Medicine	Haematology	
Cardiology	Histopathology	Periodontics
Cardiothoracic Surgery	Infectious Diseases	Pharmaceutical Medicine Psychiatry
Chemical Pathology	Intensive Care Medicine	Plastic Surgery
Child and Adolescent Psychiatry	Medical Oncology	Prosthodontics
	Medical Microbiology	Medical Virology
Clinical Genetics	Medical Ophthalmology	Psychiatry of Learning Disability
Immunology	Medical Microbiology and Virology	Medical Psychotherapy
Clinical Neurophysiology	Neurology	Public Health Medicine
Clinical Oncology	Neurosurgery	
Clinical Pharmacology and Therapeutics	Obstetrics and Gynaecology	Rehabilitation Medicine
Clinical Radiology	Occupational Medicine	Renal Medicine

Community Sexual and Reproductive Health		
Dental and Maxillofacial Radiology	Old Age Psychiatry	Respiratory Medicine
Dental Public Health	Ophthalmology	Restorative Dentistry
Dermatology	Oral and Maxillofacial Pathology	Rheumatology
Diagnostic Neuropathology	Nuclear Medicine	
Emergency Medicine	Paediatric and Perinatal Pathology	
Endocrinology and Diabetes Mellitus	Oral and Maxillofacial Surgery	Special Care Dentistry
Endodontics	Oral Medicine	Sport and Exercise Medicine
Forensic Histopathology	Paediatric Cardiology	Tropical Medicine
Forensic Psychiatry	Oral Microbiology	Trauma and Orthopaedic Surgery
Gastroenterology	Oral Surgery	Urology
General Psychiatry	Orthodontics	
General Internal Medicine	Otolaryngology	OTHER (SPECIFY)
General Practice	Paediatric Dentistry	NOT APPLICABLE
Vascular Surgery	Veterinary Medicine	

ASK IF RESEARCH ACTIVE (IF C6\_2>0 IN MOST RECENT/HIGHEST ITERATION)

D4 You mentioned that some of your time is spent on research activity. In which research areas are you currently active?

PLEASE SELECT ALL THAT APPLY.

Laboratory based biomedical research	1	
Population health research	2	
Clinical trials	3	
Clinical research other than trials	4	
Health services/applied research	5	
Pharma	6	
Biotechnology/medical device development	7	
Health policy/politics	8	
Teaching (PLEASE SPECIFY THE TOPIC)	9	
Other (WRITE IN)	10	

## ASK IF RESEARCH ACTIVE (IF C6\_2&gt;0 IN MOST RECENT/HIGHEST ITERATION)

D5 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	1	
Contributing to research led by others (e.g. by providing clinical/ health material and/or data)	2	
Other research activity (WRITE IN)	3	
RESEARCH ADMINISTRATIVE ACTIVITIES		
Commissioning research and/or shaping institutional research strategies and/or major funding decisions	4	
Regulating research e.g. as a member of an ethics committee, regulatory agency	5	
Other administrative activity (WRITE IN)	6	
TEACHING ACTIVITIES		
Supervising students	7	
Lecturing	8	
Clinical teaching	9	
Other teaching activity (WRITE IN)	10	

## E Reflections on career to date: Overall satisfaction

## 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.

Very easy	1	
Easy	2	
Neither easy nor difficult	3	
Difficult	4	
Very difficult	5	
Don't know	6	

## 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.

Very easy	1	
Easy	2	
Neither easy nor difficult	3	
Difficult	4	
Very difficult	5	
Don't know	6	

## ASK ALL

E3 Which of the following, if any, might have made it easier for you to pursue a career in research?

PLEASE SELECT ALL THAT APPLY.

## ASK IF MORE THAN ONE OPTION SELECTED AT E3

E3a Which is the main factor that would have made it easier for you to pursue a career in research?

PLEASE SELECT ONE OPTION ONLY

DP INSTRUCTION: IF ONLY ONE ANSWER CODED AT E3 THEN FORCE E3A ANSWER TO BE THE SAME AS E3

	E3	E3a
Greater flexibility in the clinical training model	1	1
Clearer career paths for clinical academics	2	2
Greater visibility/number of senior clinical academic role models	3	3
More guidance and/or support in making career choices	4	4
More grant/fellowship funding opportunities	5	5
Greater financial support (to meet student debts, counter impacts of delaying completion of training, etc.)	6	6
Greater support for career breaks and flexible working (including maternity leave)	7	7
Greater job security within academic roles	8	8
Greater integration across clinical and academic departments to support research roles	9	9
Greater alignment of NHS and University employment (contracts, pensions, maternity benefits etc.)	10	10
Better support from host institution(s)/supervisor(s)	19	19
More flexibility in terms of mobility and ability to re-locate	11	11
Less intense working hours	12	12
More opportunities to work part-time	13	13
Larger number of academic training positions (AF, ACF, ACL, etc.)	14	14
More variance in clinical and/or academic job roles available	15	15
Other (WRITE IN)	16	16
Don't know	17	
None of the above	18	

E4 DELETED

E5 DELETED

ASK IF UNDERTAKEN/UNDERTAKING A HIGHER DEGREE FROM B1=1-4 AND RESEARCH ACTIVE (IF C6\_2>0 IN MOST RECENT/HIGHEST ITERATION)

E6 Which of the following financial impacts, if any, have you experienced as a result of pursuing a career as a clinical academic?

Lower current salary	1	
Slower progression through salary bands	2	
Increased size and/or duration of student loan	3	
Taken out another loan	4	
Other (WRITE IN)	5	
No financial impact	6	DS: ALLOW SINGLE CODE ONLY
Don't know	7	DS: ALLOW SINGLE CODE ONLY

E7 DELETED

ASK IF NOT RESEARCH ACTIVE (IF C6\_2=0 IN LATEST LOOP)

E8 Earlier you indicated that in your current role none of your time is spent on research activity. What are the main reasons you are not research active?

PLEASE SELECT ALL THAT APPLY.

Lack of clinical academic posts in local area/unable to relocate to posts available	1	
Lack of funding	2	
Lack of (quality) careers advice	3	
Lack of job security in research positions	4	
Better pay/promotion opportunities etc. available in non-research roles	5	
Did not enjoy research experience	6	
Lack of research outputs limited the number of roles/funding routes available to progress	7	
Longer working hours need to meet both clinical and research commitments	8	
Experienced difficulties in balancing personal/family commitments with work commitments	9	
You realised your career aspirations were not realistic	10	
Not aware of anyone with a similar background to you having a successful career in research	11	
Lack of support from host institution(s)/supervisor(s)	14	
Other (WRITE IN)	12	
Don't know	13	



## ASK IF NOT RESEARCH ACTIVE (IF C6\_2=0 IN LATEST LOOP)

E9 Would you have preferred to have a research active role?

Yes	1	
No	2	
Don't know	3	

E10 DELETED

E11 DELETED

## F Reflections: career advice, guidance and training

## 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 clinical academic career. In answering this section, please consider the period from when you first became interested in research to date.

F1 DELETED

## ASK ALL

F2 Who did you receive advice, support, and guidance from?

*PLEASE SELECT ALL THAT APPLY*

## ASK ALL WHO GIVE MORE THAN ONE RESPONSE AT F2

F3 Whose advice, support, and guidance have you found the most useful?

*PLEASE SELECT ONE OPTION ONLY*

DP INSTRUCTION – ONLY SHOW OPTIONS SELECTED AT F2. IF ONLY ONE OPTION SELECTED AT F2 FORCE THE SAME ANSWER AT F3.

	F2	F3
University careers service	1	1
Other formal careers advice service	2	2
Senior clinical academics	3	3
Senior non-clinical academics	4	4
Clinical fellowship holders (current or previous)	5	5
Peers	6	6
Training programme director	7	7
Research funders (e.g. Research Councils, NIHR, charities)	8	8
Mentor(s)	9	9
Online sources of advice and guidance	10	10
Other (WRITE IN)	11	11
Have not used/received any advice, support or guidance	12	12
Don't know [DP: ALLOW SINGLE CODE ONLY]	13	13

## ASK ALL

- F4 Overall, how satisfied have you been with the availability of advice, support, and guidance about clinical academic careers?

PLEASE SELECT JUST ONE ANSWER

Very satisfied	1	
Fairly satisfied	2	
Neither satisfied nor dissatisfied	3	
Fairly dissatisfied	4	
Very dissatisfied	5	
Don't know	6	
Not applicable	7	

## ASK IF USED/RECEIVED ANY CAREERS ADVICE, SUPPORT, GUIDANCE OR TRAINING (F2=1-11)

- F5 Overall, how satisfied have you been with the quality of advice, support, and guidance you have received about clinical academic careers?

PLEASE SELECT ONE OPTION ONLY.

Very satisfied	1	
Fairly satisfied	2	
Neither satisfied nor dissatisfied	3	
Fairly dissatisfied	4	
Very dissatisfied	5	
Don't know	6	
Not applicable	7	

## ASK IF USED/RECEIVED ANY CAREERS ADVICE, SUPPORT, GUIDANCE OR TRAINING ((F2=1-11)

- F6 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.

Very important	1	
	2	
	3	
	4	
Not important at all	5	
Don't know	6	

## ASK ALL

- F7 What, if anything could have been improved about the advice, support, guidance or training on offer/that you received to make pursuing a clinical academic career easier?

WRITE IN		
Nothing	1	
Don't know	2	

## ASK ALL

- F8 We are interested to know whether you consider yourself proactive or reactive when it comes to managing your clinical academic career.

Please rate yourself on the following scale where 1 means you have been very proactive e.g. planning and managing your career in advance and 5 means you have been very reactive e.g. responding to opportunities only when they arise.

PLEASE SELECT ONE OPTION ONLY.

Proactive	1	
	2	
	3	
	4	
Reactive	5	
Don't know	6	

## ASK IF RESEARCH ACTIVE (IF C6\_&gt;0 IN MOST RECENT/HIGHEST ITERATION)

- F9 On a scale of 1 to 5, where 1 is not important at all and 5 is very important, how important do you feel the following have been in enabling you to progress your clinical academic career to date?

PLEASE SELECT ONE OPTION FOR EACH STATEMENT

	Not important at all			Very important			DK
_1 Skills gained through training or research	1	2	3	4	5	6	
_2 Experience gained through training or research	1	2	3	4	5	6	
_3 Advice, support, guidance	1	2	3	4	5	6	
_4 Placements abroad (travelling fellowships, collaborative visits etc.)	1	2	3	4	5	6	
_5 Collaborative visits etc. to other UK institutions	1	2	3	4	5	6	
_6 Placements in other sectors (e.g. industry, charity, government)	1	2	3	4	5	6	
_7 Success in securing funding	1	2	3	4	5	6	
_8 Mentoring	1	2	3	4	5	6	

F10 DELETED

F11 DELETED

## G Reflections on career to date – outputs and funding

### ASK ALL

We'd now like to ask a few questions about your research outputs and any funding applications you have made since applying for a [IF CRTF=1: Research Training Fellowship] [IF CSF=1: Clinician Scientist Fellowship] to date.

If you applied for a [IF CRTF=1: Research Training Fellowship] [IF CSF=1: Clinician Scientist Fellowship] more than once please consider the time since the most recent application.

### ASK ALL

G1 During your career to date, roughly how many peer reviewed, original research papers have you had published in refereed journals? Please provide an answer for first, middle and last author peer reviewed papers.

	PLEASE WRITE IN NUMBER	
First author published papers		Don't know
Middle author published papers		Don't know
Last author published papers		Don't know

### ASK ALL

G2 What other outputs have you achieved to date?

PLEASE SELECT ALL THAT APPLY.

A significant impact or influence on policy/practice at a local, regional, national or international level	1	
Intellectual property that has been copyrighted or that has had a patent granted	2	
Products and/or interventions such as diagnostic tests, medical devices, surgical interventions	3	
New businesses/spin outs	4	
Membership or fellowship of a learned Society	5	
Establishment of collaborations or partnerships that resulted in a tangible output	6	
Placements in other sectors (e.g. industry, charity, government)	10	
Supervision of PhD student(s)	11	
Other (WRITE IN)	7	
No other outputs to date	9	DS: ALLOW SINGLE CODE
Don't know	8	DS: ALLOW SINGLE CODE

## ASK ALL

- G3 Aside from your [IF CRTF=1: Research Training Fellowship][IF CSF=1: Clinician Scientist Fellowship] what other funding have you applied for to date?  
PLEASE SELECT ALL THAT APPLY.

## ASK IF G3=1-10

- G4 And which of the applications that you made were successful?  
PLEASE SELECT ALL THAT APPLY.  
DS: PLEASE ONLY DISPLAY CODES SELECTED AT G3

	G3	G4
Early career fellowship (early postdoctoral)	1	1
DISPLAY IF CRTF=1: Intermediate career fellowship (to establish research independence, e.g. Clinician Scientist Fellowship/Award)	2	2
Senior career fellowship	3	3
Starter Grant for Clinical Lecturers	4	4
Research bursary	5	5
Research grant (3 years or less in duration)	6	6
Research grant (over 3 years)	7	7
Research centre grant	8	8
Bridging/transition funding	9	9
Other (WRITE IN)	10	10
I have not applied for any more funding	11	11

ASK IF SUCCESSFUL CRTF/SUCCESSFUL CSF APPLICANTS: ((IF CRTF=1 AND B9=1) OR (CRTF =1 AND APPLICATION STATUS=1))) OR ((CSF =1 AND B12=1) OR (CSF=1 AND APPLICATION STATUS=1)))

DS INSTRUCTION IF MADE SUCCESSFUL TO BOTH CRTF AND CSF THEN USE 'Clinician Scientist Fellowship' AS TEXT SUB

- G5 The next question is about the impact you think obtaining a fellowship has had on your career.  
For this question, we'd like you to just consider your [(IF CRTF=1 AND B9=1) OR (CRTF=1 AND APPLICATION STATUS=1)): Research Training Fellowship] [(CSF =1 AND B12=1) OR (CSF=1 AND APPLICATION STATUS=1)) Clinician Scientist Fellowship] award.  
In a few sentences, please tell us in your own words, what impact undertaking a [(IF CRTF=1 AND B9=1) OR (CRTF FROM SAMPLE AND APPLICATION STATUS=1)): Research Training Fellowship] [IF (CSF =1 AND B12=1) OR (CSF=1 AND APPLICATION STATUS=1)): Clinician Scientist Fellowship] had on your clinical academic career?

WRITE IN

## H Demographics

### ASK ALL

The research funders 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.

- H1 We'd now like to ask you some questions about yourself.  
Are you male or female?

*PLEASE SELECT JUST ONE ANSWER*

Male	1	
Female	2	
Prefer not to say	3	

### ASK ALL

- H2 Which of the following age brackets do you currently fall into?

*PLEASE SELECT JUST ONE ANSWER*

25-30	1	
30-34	2	
35-39	3	
40-44	4	
45-49	5	
50-54	6	
55+	7	
Prefer not to say	8	

### ASK ALL

- H3 The Equality Act defines a person as having a disability if he or she 'has a physical or mental impairment that has a 'substantial' and 'long-term' negative effect on your ability to do normal daily activities'. Do you consider yourself to have such a disability?

Yes	1	
No	2	
Prefer not to say	3	

## ASK ALL

H4 How would you describe your ethnic group?

PLEASE SELECT ONE OPTION

White (including British, Irish, any other white background)	1
Mixed (including white & black Caribbean, white & black African, white & Asian, any other mixed background)	1
Asian or Asian British (Indian, Pakistani, Bangladeshi, any other Asian background)	2
Black or Black British (Caribbean, African, any other Black background)	3
Other ethnic groups (Chinese, any other ethnic group)	4
Don't know	5
Prefer not to say	6

## ASK ALL

H5 And, finally how would you describe your nationality?

PLEASE SELECT ONE OPTION

UK national	1
From within the EU (non-UK national)	2
From outside of the EU	3
Don't know	4
Prefer not to say	5

## I Re-contact section

## ASK ALL

I1 Thank you for taking the time to complete this survey. Sometimes we need to get back in touch with you to clarify your answers. Would you be happy to be called back if we need to check any of the responses you have given today?

Yes	1	
No	2	

## ASK ALL

I2 As part of this research study we will also be conducting some further telephone interviews to explore in greater detail some of the issues covered in this survey . Would you be willing for IFF Research to contact you for this follow-up work?

Yes	1	
No	2	

## ASK ALL

- I3 The research funders on whose behalf we are conducting this survey are listed below.  
Your anonymised responses will be shared with all the research funders.  
Which of the following funders would you...  
...be willing for your survey answers to be passed back along with your name?

## ASK ALL

- I4 ...be happy to contact you about cases studies as part of their careers guidance?

## ASK ALL

- I5 ...be willing to be contacted by about future research studies?

	I3. (question text as shown above)	I4. (question text as shown above)	I5. (question text as shown above)
_7 SINGLE CODE: All awarding bodies listed	7	7	7
_1 Medical Research Council	1	1	1
_2 British Heart Foundation	2	2	2
_3 Cancer Research UK	3	3	3
_4 National Institute for Health Research	4	4	4
_5 Wellcome Trust	5	5	5
_6 Academy of Medical Sciences (AMS)	6	6	6
_8 SINGLE CODE: None of the awarding bodies listed	8	8	8

## ASK IF I3 8

- I6 Please provide your GMC number if possible. This will assist some of the research funders in matching the survey responses with their own application records.

PLEASE TYPE IN YOUR ANSWER BELOW. ALLOW PREFER NOT TO ANSWER	1	
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## ASK IF WILLING TO BE CONTACTED FOR ANY REASON (I1=1 OR I2=1 OR I4 8 OR I5 8)

- I7 Please can you provide the best landline and the best mobile number to contact you on

WRITE IN LANDLINE NUMBER. ALLOW PREFER NOT TO ANSWER	1	
WRITE IN MOBILE NUMBER. ALLOW PREFER NOT TO ANSWER	2	

## ASK IF WILLING TO BE CONTACTED FOR ANY REASON (I1=1 OR I2=1 OR I4 8 OR I5 8)

- I8 And please can you confirm which email address is best to reach you on

WRITE IN	
PREFER NOT TO ANSWER	



ASK IF WILLING TO BE CONTACTED FOR ANY REASON (I1=1 OR I2=1 OR I3 8 OR I4 8 OR I5 8) AND IF ACCESSED ONLINE SURVEY VIA OPEN LINK

I9 And please can you write in your name below

WRITE IN

PREFER NOT TO ANSWER

ASK ALL

The survey is now complete. Thank you very much for your help today. Your responses have been submitted and you can now close this window.

Finally we would just like to confirm that this survey has been carried out under IFF instructions and within the rules of the MRS Code of Conduct. Thank you very much for your help today.

# 11 Appendix 4: Topic guide for qualitative interviews

## MRC Clinical Destinations Topic Guide

J5507 Date Telephone

### A Introduction and warm up

- Ask to speak with name respondent
- Thank respondent for agreeing to take part
- Introduce self and IFF Research
- Introduce evaluation
  - IFF Research has been commissioned by MRC (the Medical Research Council) and a number of other funders to conduct research to better understand the routes by which Research Training Fellowship and/or Clinician Scientist Fellowship applicants developed an interest in pursuing a research career, the support and barriers they've experienced in managing their careers and the range of pathways trainees have followed since their application
  - You recently took part in the online survey exploring your views and experiences and today we'll explore these in a little more detail.
  - IF NECESSARY: The other funders are British Heart Foundation, Cancer Research, National Institute for Health Research (NIHR), Wellcome Trust and Academy of Medical Sciences.
- MRS Code of Conduct and Confidentiality
- Recording – Permission to record
- Reassurances to cover
  - Please note that all data will be reported anonymously and your answers will not be reported to MRC, the other funders or anyone else, in any way that would allow you to be identified unless agree to be shared.
  - We wish to speak to with you regardless of whether your application(s) were successful or not and whether or not you were funded by the MRC.
  - Participating in the research will not affect any current or future dealings with or funding from MRC or any of the other funders.
  - The interview will last approximately 30 minutes

*The purpose of this section is to introduce interviewer, IFF Research and explain what will be covered in the interview*

## B Summary of online interview

### A few lines of text summarising:

- what sparked initial interest in research and when became interested in a research career;
- main motivation for undertaking a higher research degree (online response from B3);
- individual's career path to date, the number of transitions, key transitions along the way;
- careers advice, support, guidance or training received throughout career; and what could have been improved,
- what they are currently doing;
- any difficulties experienced (both during particular transitions and at an overall level); and,
- overall thoughts/reflections on career to date.

### Key sections/questions to focus on for this participant:

*The purpose of this section is to act as a short summary/ prompt to the interviewer of what information was collected within the online survey and which areas it will be important to focus on during the depth interview*

## C Initial interest and motivations for pursuing a clinical research career

I'd like to start by asking you a little bit more about your initial interest and motivations for pursuing a clinical research career.

**NOTE TO INTERVIEWER:** Some participants may feel that they have not really had a research career, in particular those who were unsuccessful CRTF 2012-14, but we would still like to speak to them about their experiences

### ASK ALL (CORE QUESTION)

#### C1 What sparked your initial interest in research? Anything else?

- PROMPT IF NECESSARY: You mentioned [RESPONSE FROM A5] sparked your initial interest in research?
- Why was this?
- In what way did this/these spark an interest in research?
- Did this/they lead you to do anything differently (not necessarily just at this point of career)? Did you pursue any research training/work experience at this time? Did this shape where/how you wanted to get into research?

### ASK ALL (CORE QUESTION)

#### C2 When asked during the online interview at what stage of your training you became interested in a research career you mentioned [RESPONSE FROM A4], why do you think you became interested at this point?

- What appealed to you about a research career? IF RESPONSE TO ONLINE SURVEY B3 WAS 'TO SUPPORT/FURTHER CLINICAL CAREER' PROBE FURTHER TO WHAT EXTENT THAT WAS THEIR MAIN MOTIVATION ABOVE INTEREST IN RESEARCH MORE GENERALLY? HAS EXPERIENCE SINCE THEN CHANGED MOTIVATION?
- What, if anything, did you have to weigh up when thinking about pursuing a research career
- Did you pursue any research training/work experience at this time?

*The purpose of this section is to explore in more detail participants initial interest and motivations for pursuing a clinical research career.*

*For those who had particularly interesting/ unusual motivations/routes we will explore in more detail the research experience gained prior to applying for a research training fellowship, any difficulties they experience in gaining initial experience and any long term goals or ambitions participants had early on in their career.*

ASK IF MORE RECENT COHORT (NON-CORE QUESTION)

**C3 How did you gain your first research experience?**

- What did your first research experience involve?
- Did you have any difficulties getting initial research experience?  
IF YES: What types of difficulties did you face and how did you overcome them?
- Following your first research experience, were you able to maintain this level of research activity?

ASK IF MORE RECENT COHORT (NON-CORE QUESTION)

**C4 How much and what type of research experience did you have before applying for a research training fellowship?**

- In retrospect, do you feel you had enough research experience before applying for a research training fellowship? If not, why not?

ASK IF MORE RECENT COHORT (NON-CORE QUESTION)

**C5 How exposed to research were you during your time at medical school?**

- How visible were researchers and possible research career paths during your time at medical school and during specialist training? Why do you say this?

ASK IF MORE RECENT COHORT (NON-CORE QUESTION)

**C6 When you initially became interested in research what were your long term plans and ambitions?**

- What was your ultimate career goal/aspiration?
- Did you have a clear career path in mind of how to achieve your long term research plans and ambitions? IF YES: What was that career path?
- Did you have any alternative routes/a plan B in mind?
- At this point in your career, how much knowledge did you have of alternative career paths? Why do you say that?
- When you initially became interested in research, how easy or difficult did you expect your future career path to be? Why was this?

*The purpose of this section is to explore in more detail participants initial interest and motivations for pursuing a clinical research career.*

*For those who had particularly interesting/unusual motivations/routes we will explore in more detail the research experience gained prior to applying for a research training fellowship, any difficulties they experience in gaining initial experience and any long term goals or ambitions participants had early on in their career.*

## D Overview of clinical research career

### ASK ALL (CORE QUESTION)

- D1** During the online survey you tracked your career path since applying for a research training fellowship/Clinician Scientist Fellowship. For this interview I'd like to explore your career path and transitions in a little more detail.

#### LIST OF TRANSITIONS/ROLES FROM ONLINE SURVEY TO USE AS PROMPTS

- How did you decide when to move and which role to move into?
- What types of issues did you have to consider when choosing which role to move into?
- PROBE FOR: MOBILITY/GEOGRAPHY, FAMILY COMMITMENTS, ADVICE, FORMAL SUPPORT MECHANISMS, OPPORTUNITIES AVAILABLE, NHS/ACADEMIC ALIGNMENT, FUNDING.
- PROBE: HOW MUCH HAVE YOU BEEN ABLE TO PLAN/HOW MUCH CONTROL HAVE YOU HAD OVER YOUR CAREER? HOW MUCH OF YOUR CAREER HAS BEEN REACTIVE/DRIVEN BY OTHER FACTORS?
- IF UNSUCCESSFUL: You mentioned in the online survey that your application(s) for a research training fellowship/Clinician Scientist Fellowship schemes were unsuccessful, why do you think your application(s) were unsuccessful?

### ASK IF SUCCESSFUL (NON-CORE QUESTION)

- D2** Have you had to make any concessions/sacrifices to be able to move into the positions you have held? IF YES: Tell me more about these? What sacrifices have to had to make and why? What impact did these sacrifices have? On your personal life? To your career?
- What would have helped? Who should this help have come from?

### ASK IF FOUND IT DIFFICULT TO PURSUE A CLINICAL CAREER (NON-CORE QUESTION)

- D3** You mentioned during the online survey that overall you had found it difficult to pursue the clinical career path/job role you wanted, why was this?
- What do you feel are the main hurdles or blockers to pursuing a clinical career?
  - IF BLOCKERS/DIFFICULTY FACTORS IDENTIFIED: How and when in your career did you experience these? What impact did they have on you/your career?
  - IF BLOCKERS/DIFFICULTY FACTORS IDENTIFIED: How can these blockers/difficulties be reduced or eliminated?
  - What do you feel are the factors affecting why some people find it easy to pursue a clinical career whereas others find it difficult?

### ASK IF FOUND IT DIFFICULT TO PURSUE A CLINICAL CAREER (NON-CORE QUESTION)

- D4** Overall what would have made it easier to pursue a clinical career?
- PROBE FOR: ADVICE, MOBILITY/GEOGRAPHY, FAMILY COMMITMENTS, FORMAL SUPPORT MECHANISMS, OPPORTUNITIES AVAILABLE, GREATER NHS/ACADEMIC ALIGNMENT, FUNDING.
  - What would have helped? Who should this help have come from?

*The purpose of this section is to gain a more detailed overview of participants' clinical research careers. We will examine the different routes participants have taken, including unsuccessful applicants to find out what they did next.*

*We will explore the career pathways of those with both few and a larger number of transitions.*

*We will investigate further those who experience difficulties and unpick what these barriers are.*

## ASK ALL WHO RESPONDED EASY OR DIFFICULT (CORE QUESTION)

- D5** You mentioned during the online survey that overall you had found it [EASY/DIFFICULT] to pursue the research career path/job role you wanted, why was this?
- IF EASY: Was there anything in particular that facilitated this?
  - What do you feel are the main hurdles or blockers to pursuing a research career?
  - IF BLOCKERS/DIFFICULTY FACTORS IDENTIFIED: How and when in your career did you experience these? What impact did they have on you/your career?
  - IF BLOCKERS/DIFFICULTY FACTORS IDENTIFIED: How can these blockers/difficulties be reduced or eliminated?
  - What do you feel are the factors affecting why some people find it easy to pursue a career in research whereas others find it difficult?

*The purpose of this section is to gain a more detailed overview of participants' clinical research careers. We will examine the different routes participants have taken, including unsuccessful applicants to find out what they did next.*

*We will explore the career pathways of those with both few and a larger number of transitions.*

## ASK ALL (CORE QUESTION)

- D6** Overall what would have made it easier to pursue a research career?
- PROBE FOR: ADVICE, MOBILITY/GEOGRAPHY, FAMILY COMMITMENTS, FORMAL SUPPORT MECHANISMS, OPPORTUNITIES AVAILABLE, GREATER NHS/ACADEMIC ALIGNMENT, FUNDING.
  - What would have helped? Who should this help have come from?

*We will investigate further those who experience difficulties and unpick what these barriers are.*

## ASK ALL (CORE QUESTION)

- D7** How happy have you been with the split of clinical and research activity in the positions you have held?
- IF NOT HAPPY: Why not? What would you like the split to be like? What is preventing you from doing more research/clinical activity?
  - In which role has the split been best? Any why? What was the split of clinical and research activity in this role?
  - How valued by colleagues (clinical and academic), training directors, heads of department, deans etc. have you felt in the positions you have held? Why do you say that?

## ASK ALL (CORE QUESTION)

- D8** What difficulties, if any, did you experience in managing the logistics of a clinical and research career?
- Did you have any difficulties managing your NHS and academic posts?
  - How aligned do you feel NHS and academia settings are?
- INTERVIEWER NOTE: We are referring to local clinical and research settings rather than asking at a strategic national level

## ASK IF HELD A ROLE WITH NO RESEARCH ACTIVITY (NON-CORE QUESTION)

- D9** You mentioned that you have held/currently hold a position that does not involve any research activity, why were you/are you not research active in this role/currently?
- PROBE FOR: STILL IN CLINICAL TRAINING, ADVICE, MOBILITY/GEOGRAPHY, FAMILY COMMITMENTS, FORMAL SUPPORT MECHANISMS, OPPORTUNITIES AVAILABLE, GREATER NHS/ACADEMIC ALIGNMENT, FUNDING

<p>ASK IF RETURNED TO A ROLE WITH RESEARCH (NON-CORE QUESTION)</p> <p><b>D10 Why did you return to a career in research when you did?</b></p> <p>What prompted you to do this?</p> <ul style="list-style-type: none"> <li>• How easy or difficult was it to go back into research?</li> <li>• What challenges did you face?</li> <li>• Who or what influenced your decision to return?</li> </ul> <p>ASK IF CURRENT ROLE DOES NOT INVOLVE RESEARCH (NON-CORE QUESTION)</p> <p><b>D11 What are your thoughts on returning to a role in research?</b></p> <ul style="list-style-type: none"> <li>• What, if anything, appeals to you about returning to a research role?</li> <li>• What are the barriers to returning to a research active role?</li> </ul>	<p><i>The purpose of this section is to gain a more detailed overview of participants' clinical research careers. We will examine the different routes participants have taken, including unsuccessful applicants to find out what they did next.</i></p> <p><i>We will explore the career pathways of those with both few and a larger number of transitions.</i></p> <p><i>We will investigate further those who experience difficulties and unpick what these barriers are.</i></p>
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## E Careers advice, support, guidance and training

<p>I'd now like to discuss any careers advice, support, guidance and training you might have sought or received about pursuing a clinical research career.</p> <p>ASK IF RECEIVED ADVICE (CORE QUESTION)</p> <p><b>E1 During the online survey you mentioned that you had received advice, support or training from [RESPONSE FROM F2] and that the advice from [RESPONSE FROM F3] had been most useful, why do you say this?</b></p> <ul style="list-style-type: none"> <li>• What advice, if any, did you receive when you were starting out in your career? How useful did you find this?</li> <li>• What advice, if any, are you receiving at the moment? How useful is this? What advice would you like to receive at this point in your career?</li> </ul> <p>ASK IF RECEIVED ADVICE (CORE QUESTION)</p> <p><b>E2 During the online survey you mentioned that you had been [RESPONSE FROM F5] with the quality of the advice, support and guidance you had received, why did you say that?</b></p> <ul style="list-style-type: none"> <li>• Which careers advice, support, guidance or training received was most useful? Why?</li> <li>• Which careers advice, support, guidance or training received was least useful? Why?</li> <li>• How did you decide which advice was valuable/trustworthy?</li> </ul> <p>ASK IF RECEIVED ADVICE (CORE QUESTION)</p> <p><b>E3 What has been the best bit of careers advice you have received and why? Where or from whom did you get that advice?</b></p>	<p><i>The purpose of this section is to explore participants' views and experiences of careers advice, support, guidance or training throughout their clinical research career.</i></p> <p><i>Within this section we will also capture information about what additional support (and when in career) they would have benefitted from.</i></p>
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<p>ASK IF RECEIVED ADVICE (NON-CORE QUESTION)</p> <p><b>E4</b> What additional advice, support, guidance or training, if any, would you have liked when moving between roles? Why?</p> <ul style="list-style-type: none"> <li>At which transition points would you have benefitted most from additional advice, support, guidance or training?</li> </ul> <p>ASK IF RECEIVED ADVICE (NON-CORE QUESTION)</p> <p><b>E5</b> What do you feel could be done to improve the careers advice, support, guidance or training on offer?</p> <ul style="list-style-type: none"> <li>What advice should be given? In what format should this be offered?</li> <li>At what point should careers advice, support or guidance be offered? Why?</li> </ul> <p>ASK IF NO ADVICE RECEIVED (CORE QUESTION)</p> <p><b>E6</b> During the online survey you mentioned that you had not received any careers advice. What advice, if any, would you have liked to receive?</p> <p>ASK ALL (CORE QUESTION)</p> <p><b>E7</b> What advice would you impart to someone starting out on a clinical research career now?</p>	<p><i>The purpose of this section is to explore participants' views and experiences of careers advice, support, guidance or training throughout their clinical research career.</i></p> <p><i>Within this section we will also capture information about what additional support (and when in career) they would have benefitted from.</i></p>
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## F Reflections on and satisfaction with career to date

<p>ASK ALL (CORE QUESTION)</p> <p><b>F1</b> Thinking about the whole of your clinical research career, how would you sum up your career to date?</p> <ul style="list-style-type: none"> <li>How satisfied are you with what you have achieved?</li> <li>How does what you are doing now compare to what you thought you'd be doing by this point when you first started thinking about/ planning your career? Why?</li> </ul> <p><b>IF DIFFERENT IN ANY WAY:</b> In what way is this different to what you expected to be doing? How do you feel about that?</p> <ul style="list-style-type: none"> <li>How successful do you feel you have been in your career to date? Why?</li> <li>How do you measure success? What does success mean to you? Has your view on success changed over time? If so, how?</li> </ul> <p>ASK IF APPLICATION SUCCESSFUL (CORE QUESTION)</p> <p><b>F2</b> In your own words, what impact did completing a research training fellowship/Clinician Scientist Fellowship have on your career?</p> <p>ASK IF APPLICATION UNSUCCESSFUL (CORE QUESTION)</p> <p><b>F3</b> In your own words, what impact did being unsuccessful in your application(s) for a research training fellowship/Clinician Scientist Fellowship have on your career?</p> <ul style="list-style-type: none"> <li>In what way(s) do you think your career would have been different if you had been successful in your application(s) for a research training fellowship/Clinician Scientist Fellowship? Why do you think this?</li> </ul>	<p><i>The purpose of this section is to get participants to reflect on their whole clinical research career to date.</i></p> <p><i>Within this section we also ask unsuccessful applicants what they did differently as a result of being unsuccessful in their research training fellowship/Clinician Scientist Fellowship application(s).</i></p>
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## ASK ALL (CORE QUESTION)

- F4** What have been the financial implications, if any, of pursuing a career as a clinical researcher?
- PROBE WITH RESPONSES FROM ONLINE SURVEY (E6)
  - What impact have these had on you?  
On your career choices/aspirations?
  - IF DO NOT MENTION CLINICAL EXCELLENCE AWARDS: Are you aware of the Clinical Excellence Awards?
  - IF AWARE OF AWARDS: How much of an incentive to pursuing a research career are the Clinical Excellence Awards? Does the current consultation about their future concern you in any way? If so, how?

## ASK ALL (NON-CORE QUESTION)

- F5** If you knew what you know now back when you were first setting out in your career, what career path would you have taken? Why?
- If you could change one thing about the career path you have followed what would it be?

## ASK ALL (NON-CORE QUESTION)

- F6** What has been the most valuable thing you have learnt about pursuing a clinical research career?

## ASK ALL (NON-CORE QUESTION)

- F7** What would you say are the key skills, personal characteristics and competencies needed to succeed as a clinical researcher?

## ASK ALL (CORE QUESTION)

- F8** What is the one thing funders/universities/NHS should know about to help support clinical researchers?

*The purpose of this section is to get participants to reflect on their whole clinical research career to date.*

*Within this section we also ask unsuccessful applicants what they did differently as a result of being unsuccessful in their research training fellowship/Clinician Scientist Fellowship application(s).*

## G Final comments and wrap it up

G1 Finally, is there anything else you would like to tell MRC or any of the other funders supporting the survey about your clinical or research career or clinical research careers and pathways in general?

G2 Your anonymised responses will be shared with all the research funders. Which of the following funders would you be willing for your responses to be passed back to the survey funders along with your name?

Medical Research Council	1
British Heart Foundation	2
Cancer Research UK	3
National Institute for Health Research	4
Wellcome Trust	5
Academy of Medical Sciences (AMS)	6
All awarding bodies listed	7
None of the awarding bodies listed	8

G3 THANK RESPONDENT AND CLOSE INTERVIEW

I declare that this survey has been carried out under IFF instructions and within the rules of the MRS Code of Conduct.

Interviewer signature:

Date:

Finish time:

Interview Length

Mins

*The purpose of this section is to offer participants the opportunity to mention anything not already covered within the topic guide and to thank them for taking part.*



