



SPECIAL ISSUE ARTICLE

Enablers and barriers to progressing a clinical academic career in nursing, midwifery and allied health professions: A cross-sectional survey

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Funding information

Funding was provided to University of Southampton by Health Education England and National Institute for Health Research to conduct the survey. The idea for the survey was conceived whilst AR was in receipt of a Florence Nightingale Foundation Leadership Scholarship. The views expressed in this publication are those of the authors and not necessarily those of NHS England and NHS Improvement, the National Institute for Health Research, Health Education England or Department of Health & Social Care.

Abstract

Aims and Objectives: This study aimed to understand the routes by which nurses, midwives and allied health professionals (NMAHPs) pursue and sustain a research career and the enablers and barriers to career progression.

Background: Robust evidence is central to practice and professional decision making of NMAHPs, with generation and translation of research arguably best led by those clinically active. Whilst countries like the UK and USA have fellowship schemes to support research career development, anecdotal reports suggest barriers exist in translating these opportunities into sustainable clinical academic careers.

Design: Online survey.

Methods: An online questionnaire addressing career choices, facilitators/barriers and support was emailed to 1074 past applicants (doctoral and post-doctoral) to National Institute of Health Research fellowship schemes (awarded and rejected) in England between March and May 2017; 231 responded (25.6%). Study reporting adheres to STROBE checklist.

Results: Overall, 134 doctoral and 96 post-doctoral applicants participated; two-thirds were from allied health professions. Most were early in their research career. Interest in research was most frequently sparked by interaction with people in research positions. Nearly half had their first research experience during their BSc project; though less often for nurses/midwives/health visitors (37.5%) than other NMAHPs (51.6%).

The award of a fellowship resulted in higher likelihood of being research-active (doctoral level). Nearly three quarters pursuing a clinical academic career indicated 'clearer career paths' and 'greater integration across clinical and academic departments' were desirable. Most common barriers related to research roles, availability of positions and funding.

Conclusions: Fellowship schemes are important to NMAHPs' research careers, but there are serious challenges to establishing and sustaining a career.

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Relevance to clinical practice: Lack of a clear model of career progression, at national and local level, and barriers to creating joint posts impacts on capacity of clinical academics to strengthen integration of research with practice.

KEYWORDS

nursing research, nursing workforce, research in practice, survey, workforce issues

1 | BACKGROUND

Building sustainable capacity for the generation of research is critical, not only for developing research excellence but to improve health outcomes (Hanney et al., 2013). Whilst integrated clinical and research career pathways exist for doctors, in many countries comparable opportunities have been ill-defined for nurses, midwives and allied health professionals (NMAHPs) (Smith et al., 2018; Van Oostveen et al., 2017). Often those interested in becoming involved in research do not know where to begin. As a consequence, these professions are not at the same stage of research capacity development as medicine, yet they form the vast majority of the clinical workforce which provides care to patients (Carrick-Sen et al., 2016).

In response to these concerns in England, the Clinical Academic Training (CAT) fellowship programme was launched in 2008 with funding from the Chief Nursing Officer (Department of Health, 2012). This built on recommendations published in a report of the UK Clinical Research Collaboration (2007) (UK Clinical Research collaboration [UKCRC], 2007). The 2007 report, 'Developing the Best Research Professionals' (the Finch report) highlighted the lack of a clinical academic careers framework for nurses and midwives in the United Kingdom (UK) (UKCRC, 2007). The report (UKCRC, 2007) recommended establishing a coordinated range of research training opportunities through funding five stages of the clinical academic career pathway to support development of nursing clinical academics in England. Whilst initially focussing on nursing and midwifery, the findings were thought applicable to development of clinical academic careers for the allied health professions as well.

Publication by Health Education England (HEE) of the Clinical Academic Careers Framework in 2015 brought together previous funding and collaborative initiatives in order to streamline the approach to developing clinical academic careers (HEE, 2015a). The framework recognised each of the healthcare professions had its own clinical training pathway, with specific vocational, academic, registration and regulatory arrangements, and presented the opportunity to identify common approaches to capacity and capability training to support clinical academic careers across all the healthcare professions (HEE, 2015a). Hence the CAT programme evolved into the Integrated Clinical Academic (ICA) programme, with funding from Health Education England (HEE). The resultant ICA pathway combines academic and clinical training (National Institute for Health Research & Health Education England [HEE-NIHR], 2020) (see details of fellowship awards available).

What does this paper contribute to the wider global clinical community?

- This is the first survey using a national sample to consider career progression, experiences and views of individuals pursuing a clinical academic career. It builds and extends on evidence from different countries on the facilitators and barriers to pursuit of a clinical academic career that are common to the health professions.
- Whilst there are some unique aspects to the NIHR fellowship programme, there appear to be some common obstacles to pursuing a clinical academic career path and solutions to these merit serious consideration globally.
- Improved career pathways, greater flexibility and reward mechanisms and a culture that values academically trained health-care professionals appear to be common components for successful development of research capacity and capability in these groups.

The programme aims to support the development of a clinical academic workforce in England across the non-medical health professions. It now offers 5 different schemes to support clinical academics at different stages of their careers (National Institute for Health Research & Health Education England, 2020). The National Institute for Health Research (NIHR) ICA programme makes awards to approximately 170 nurses, midwives and AHPs each year in England, with a total of 36 new awards in 2018 at the Doctoral, Clinical Lecturer and Senior Clinical Lecturer levels. Fellowships are awarded on an annual basis through national competition. Funding supports basic salary, research costs, a bespoke training programme and support for attendance at conferences and provision for visits to other institutions, both in the UK and abroad. Since 2008, NIHR personal awards for NMAHPs have increased significantly. However, the number of applications from nurses and midwives to these NIHR career development awards, particularly for the post-doctoral awards, is low and they have a statistically lower success rate compared with other professional groups (NIHR Strategic review of training, 2017).

Alongside these developments in the NIHR training programme, other condition-specific charities such as Cancer Research UK (CRUK) (Cancer Research UK [CRUK]: Our funding schemes, 2020) and the British Heart Foundation (BHF) (British Health Foundation

[BHF]: What we fund, 2020) as well as funders like the Medical Research Council (MRC) (Medical Research Council [MRC]: Skills & careers, 2020) increasingly are offering fellowship opportunities directed at NMAHPs.

Across the world, countries vary in their interest in and commitment to clinical academic careers for NMAHPs and are at different stages of development. As well as the UK, countries such as Canada and the USA, offer career research schemes (Canadian Institutes of Health Research, 2020; National Institute for Nursing Research [NINR], 2020) and others, including the Nordic Countries, the Netherlands and Australia, are recognising the importance of developing an infrastructure to achieve growth in research capacity in these professions and identified the need for formalised research training pathways at junior levels (Carrick-Sen et al., 2019; Kim, 2009; Smith et al., 2018; Van Oostveen et al., 2017).

Whilst the evidence suggests increases in research training opportunities amongst non-medical clinicians in England has been effective (National Institute for Health Research Trainees Coordinating Centre [NIHRTCC], 2017), worry remains across the professions around long-term career opportunities and the extent to which healthcare organisations value them. Although there have been many positive developments applicable to the development of clinical academic careers (Trusson et al., 2019) there is still a concern that embedding a research-based culture is a major challenge in healthcare (Brown et al., 2015). In 2015, in England, the Shape of Caring Review (known as the Willis Report) was published highlighting the specific need to generate a research culture in nursing and provide the architecture to make change necessary (HEE, 2015b). The Willis Report emphasised the importance of clinical academic roles in nursing and the need to continue to expand and develop them. It suggested significant architecture to make the changes necessary, including sustained national and local coordination.

Some of the challenges in relation to this pathway, like lack of clear entry points, no clear model of career progression and insufficient post-doctoral posts, continue to be reinforced as critical issues (Baltruks & Callaghan, 2018; Trusson et al., 2019). These closely mirror previous analysis of factors hypothesised as critical to establishing a robust and sustainable clinical academic career pathway for nurses, midwifery and the allied health professions (Latter et al., 2009; Westwood et al., 2018). Alongside the ongoing debate around the concerns and issues raised by this career path, there remains an appetite in the UK, Europe and in many parts of the world to explore formalised training pathways underpinned by infrastructure and funding.

1.1 | Aim

The aim of the study was to provide an overview of the career progression of NMAHPs in England who wished to pursue independent research and clinical academic careers and factors affecting progression. It sought to understand:

1. how and why healthcare professionals first become interested in an academic career
2. the career paths they pursue
3. the nature of enablers and barriers to pursuing a clinical academic career

2 | METHODS

The NIHR invited 1074 past applicants (2008–2016) to their doctoral and post-doctoral level schemes (File S1), both awarded and rejected, to complete an online questionnaire. Those invited included applicants to schemes both with and without an integrated clinical element. The questionnaire and participant information sheet was included as a link within the invitation email and a reminder was sent approximately three weeks later. Prior to completion, the participants were asked to tick a box to confirm they had read and understood the participant information sheet and consented to take part. Data collection took place between March 2017 and May 2017 and the participants formed a convenience sample.

The online questionnaire was an amended version of the questionnaire used by Industrial Facts and Forecasts (IFF) research (2015) (Medical Research Council [MRC], 2015), adapted for completion by non-medical health professionals (see questionnaire as File S2). It was pre-tested by five past applicants during the adaptation and development stage and amendments were made following feedback. The final questionnaire contained 7 sections, the first section related to 'initial interest and experience in research' and included questions such as 'which of the following first sparked your interest in research?' and 'how did you gain your first research experience?' The second section asked about pursuing a higher degree and included questions about the main motivation for pursuing a higher degree and the funding. The other sections focussed on career since applying for a fellowship; current position; reflections on career to date; careers advice, support and guidance and demographics. Not all participants were presented with every question; survey questions were tailored to the participant and in some cases, the question pathway depended on responses to earlier questions. The iSurvey tool enabled routing to be built into the questionnaire, so for example, questions specific to doctoral respondents were only directed to those who indicated they had applied for a doctoral fellowship. This minimised the complexity of the survey for participants.

The responses were downloaded into an excel database. The first author (MA) conducted the data analysis. Only the data from those who reached the end of the survey and clicked the 'save and finish' tab were included in the analysis. The analysis of the data was descriptive, with findings reported as frequencies and percentages. Open-text answers were analysed using thematic analysis using an EXCEL database; data were coded and main themes were developed. There was no imputation of missing values within the data and missing data were included as a category within the data for each question. Some of the responses relate to all respondents and

others exclude participants 'still undertaking fellowship/funded programme of study'.

The study was reviewed and approved by the University of Southampton, School of Health Sciences Research Ethics Committee. A full account of the methods used in this study are available in the report (Richardson et al., 2019). The STROBE checklist was used in the reporting of the study (see File S3).

3 | RESULTS

The email invitations were successfully delivered (did not bounce) to 904 past applicants and 231 went on to complete the online questionnaire (clicked 'save and finish'); a 25.6% response rate. A further 85 invitations were sent to awarded applicants to 7 additional funders, with a similar response rate, but the findings from those respondents are not reported here. Overall, 162 participants (70.1%) had complete data, 55 participants (23.8%) had 1 piece of missing data and 14 participants (6.1%) had more than one piece of missing data. When considering each question, the mean missing data per question was 1.8% (range: 0–31.3%). There was no imputation of missing values within the data.

The findings presented in this paper focus first on the demographics and early career of respondents; those who completed the survey were, in the main, in the initial phase of their research career and showed some variation between the different professional groups around early research experiences. Secondly, key enablers and barriers to career progression from the survey responses have been summarised and these relate mainly to funding opportunities and availability of positions as well as the importance of local senior academics and mentors in providing advice and support.

3.1 | Demographics

A total of 134 doctoral and 96 post-doctoral applicants participated (one participants' fellowship level was unknown); there were more females in both cohorts. Doctoral applicants tended to be younger with nearly 80% under 50 years. Around two-thirds were allied health professionals, health-care scientists or pharmacists and the majority of respondents were white British (71%), with a broad range of ethnic groups represented (Table 1).

Overall, there were less awarded than rejected respondents in both the doctoral (awarded: 46.3%) and post-doctoral cohorts (awarded: 49%). The term 'awarded doctoral applicants' referred to doctoral applicants who indicated in the survey that they had completed a PhD and indicated this was since 2010 or were still undertaking their PhD and that their PhD was funded by NIHR and/or HEE. The term 'awarded post-doctoral applicants' referred to those who indicated that their most recent application was successful. The term 'rejected doctoral applicants' referred to those that have not been 'awarded' based on the above definition and the term 'rejected

TABLE 1 Demographic characteristics of respondents to the survey by fellowship level.

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

The table shows the demographics of respondents to the survey where data on fellowship level was available ($n = 230$). For one participant the information on fellowship type was missing. The percentages shown are calculated from the total number of respondents within each cohort. The professions of the respondents were: allied health professionals ($n = 120$), nurse, midwife, health visitor ($n = 72$), healthcare or clinical scientist ($n = 20$), pharmacist ($n = 9$), prefer not to say or missing ($n = 4$), dual role ($n = 2$), clinical psychologist ($n = 2$), public health specialist ($n = 2$).

post-doctoral applicant' referred to those who indicated that their most recent application was not successful. Just under half of respondents ($n = 109$, 47%) indicated they were pursuing a clinical academic career (CAC).

Most respondents were early in their research career. Overall, just over a third of doctoral (38.8%, $n = 52$) and just under a third of post-doctoral (29.2%, $n = 28$) respondents were still undertaking a fellowship/funded programme of study via any funder and just over three quarters had made only one career transition ($N = 115$, 76.2%) following their fellowship application. The majority indicated they were research-active in their current role (70% of the doctoral applicants and 93% of post-doctoral applicants).

3.2 | Overview of career choices

All respondents were asked about their early career choices. Interest in research was sparked in a range of different ways and could arise at any point in a career, whilst in a clinical role or during pre or post-qualification training (Figure 1). Interaction with people in research positions ($n = 116$, 50.2) and issues encountered in practice or service delivery ($n = 98$, 42.4%) were the most frequent ways interest in research was sparked. The highest proportion of respondents, just over a third, first became interested in a research-related career whilst in a clinical role (35.1%) (Figure 1).

Overall, nearly half (47.6%) had their first research experience during their BSc undergraduate project; however, this was less often the case for nurses/midwives/health visitors ($n = 27$, 37.5%) than other NMAHPs ($n = 80$, 51.6%) (Figure 1). Some respondents ($n = 15$, 6.5%) had their first research experience whilst working as clinical research staff; this was more common for nurses/midwives/health visitors ($n = 12$, 16.7%).

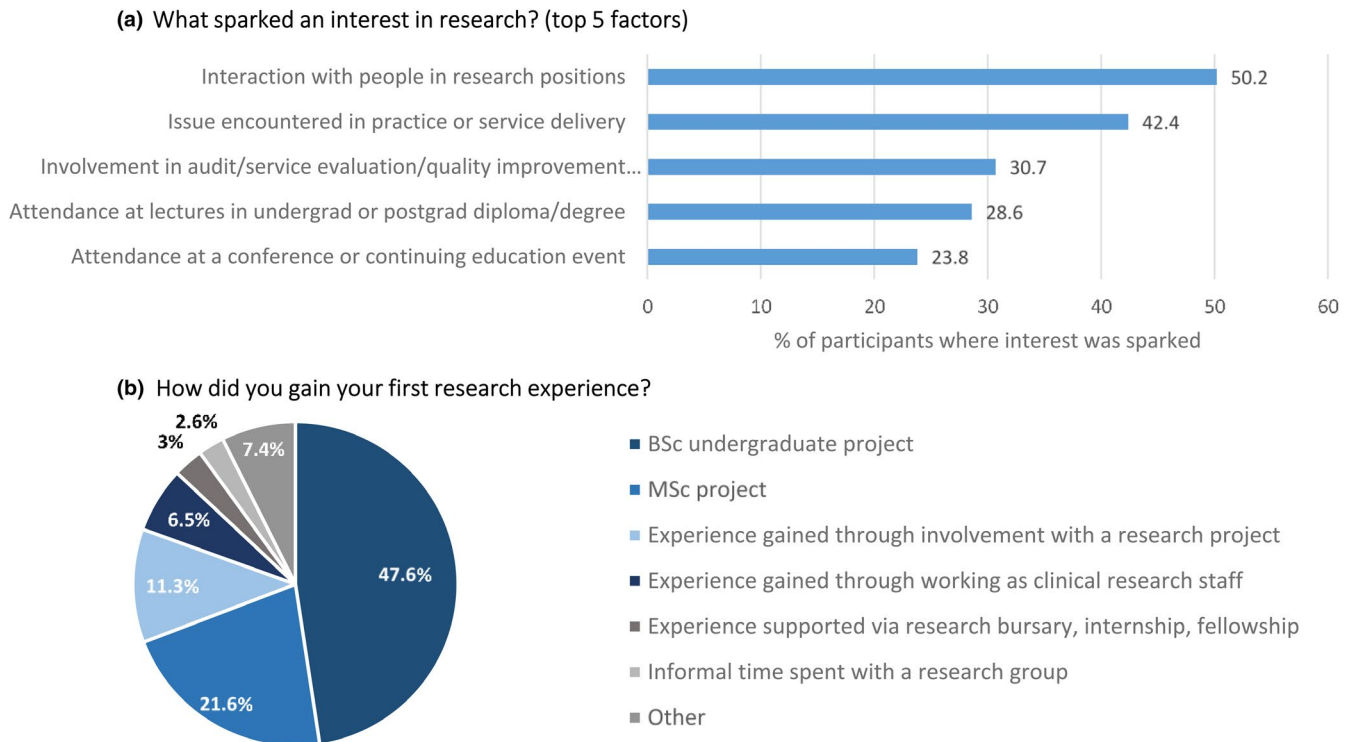


FIGURE 1 A figure to show responses to survey questions asking about 1a. what sparked their interest in research and 1b. how they gained their first research experience. The questions were asked to all 231 respondents; with missing data for 1 respondent for Figure 1a. The data are shown as percentages.

3.3 | Enablers and barriers to pursuing a research-related career

3.3.1 | Enablers

With regard to doctoral respondents ($n = 82$) (excluding those still undertaking), those awarded a fellowship were more likely to be research-active in their current role than rejected applicants (79.2% and 65.5%, respectively). Most post-doctoral respondents, whether they had been awarded a fellowship or not, were research-active (awarded: 95.2%, rejected: 90.9%).

Career path (awarded only)

When considering the career path of awarded respondents (excluding those still undertaking) (doctoral $n = 24$, post-doctoral $n = 21$), 'academic employed by the University' was the most common role taken up post-fellowship by both the awarded doctoral ($n = 8$, 33.3%) and post-doctoral ($n = 11$, 52.4%) cohorts. The highest proportion of doctoral respondents returned to or continued in the post held pre-fellowship ($n = 5$, 20.8%). However, post-doctoral respondents ($n = 9$, 42.9%) most commonly took their next position as it 'fitted with research career aspirations'.

Opportunities and advice

Research-active respondents (excluding those still undertaking a fellowship/funded programme of study) ($n = 120$) most commonly found the following factors to be important in progressing their

research-related career: experience and skills gained through training and research (doctoral: $n = 37$, 64.9%; post-doctoral: $n = 46$, 73%), advice, support and guidance (doctoral: $n = 37$, 64.9%; post-doctoral: $n = 34$, 54%) and success in securing funding (doctoral: $n = 35$, 61.4%; post-doctoral: $n = 45$, 71.4%).

Those pursuing a Clinical Academic Career

Those currently pursuing a Clinical Academic Career (CAC) ($n = 109$) were asked to indicate which factors would make it easier to pursue this career pathway. Just under three quarters (74.3%) specified that clearer career paths for clinical academics and greater integration across clinical and academic departments to support clinical academic roles would make it easier. More grant/funding opportunities (63.3%), greater alignment of NHS and University employment (60.6%) and greater visibility/number of senior clinical academic role models (62.4%) were indicated by nearly two-thirds (Figure 2).

3.3.2 | Barriers

Participants reported a range of difficulties encountered whilst pursuing a research-related career. Of 228 (99%) pursuing this career path, just over 70% indicated it was difficult or very difficult (Figure 3).

Challenges on completion of higher degree

When asked to indicate how much of a challenge a list of factors were on completion of their higher degree (scale of one to five)

(n = 145), just over 40% found securing a research-related post that reflected their chosen area of focus 'a lot' (score five) of a challenge. Just over a quarter (28.3%, 27.6%, 26.9%) found securing a post at an appropriate clinical level, one that reflected the knowledge and skills acquired during the training fellowship or a position where they could sustain some research activity 'a lot' (score 5) of a challenge.

Across career transitions

Of the awarded respondents, 45 had transitioned to one or more roles following their fellowship and of these, just under 85% (n = 38) had experienced some sort of barrier. Overall, the most commonly

indicated barriers related to research roles; availability of positions (33.3%), funding (26.7%) and maintaining research activity (26.7%). Nearly half of 24 awarded doctoral respondents who had moved to their first role indicated that 'inadequate support from employing institution' was a barrier (Table 2).

Financial impact of pursuing a CAC

Of those pursuing a CAC (n = 109), just under 60% (n = 65) indicated they had been effected financially and this was most commonly due to 'slower progression through the salary bands' (n = 37) or lower current salary as a result of pursuing this career path (n = 30).

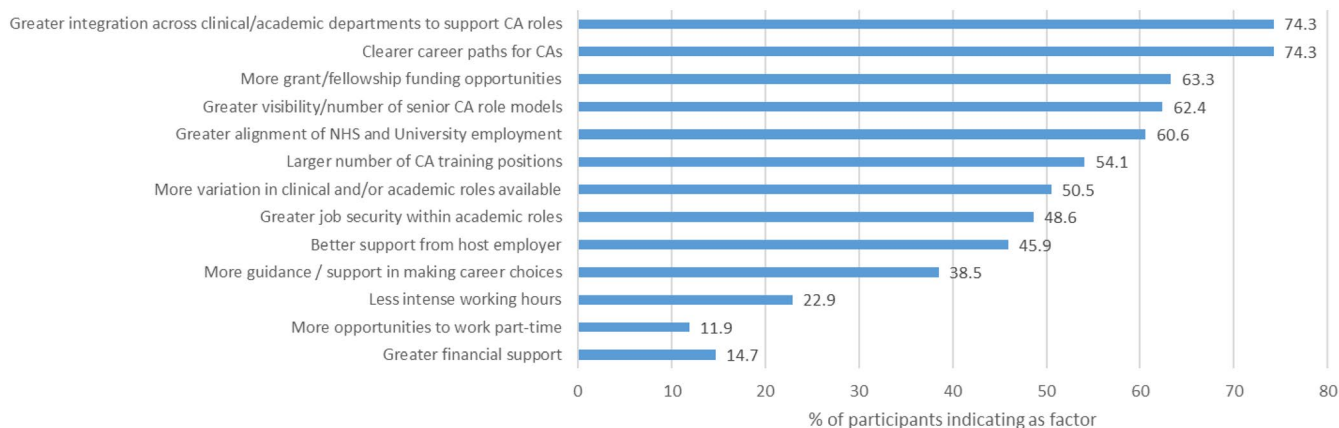


FIGURE 2 A graph to show the factors that would make it easier to pursue an integrated clinical academic career. In total, 109 participants who had indicated they were following this career path were asked; data were missing in 5 participants. The data are shown as percentages.

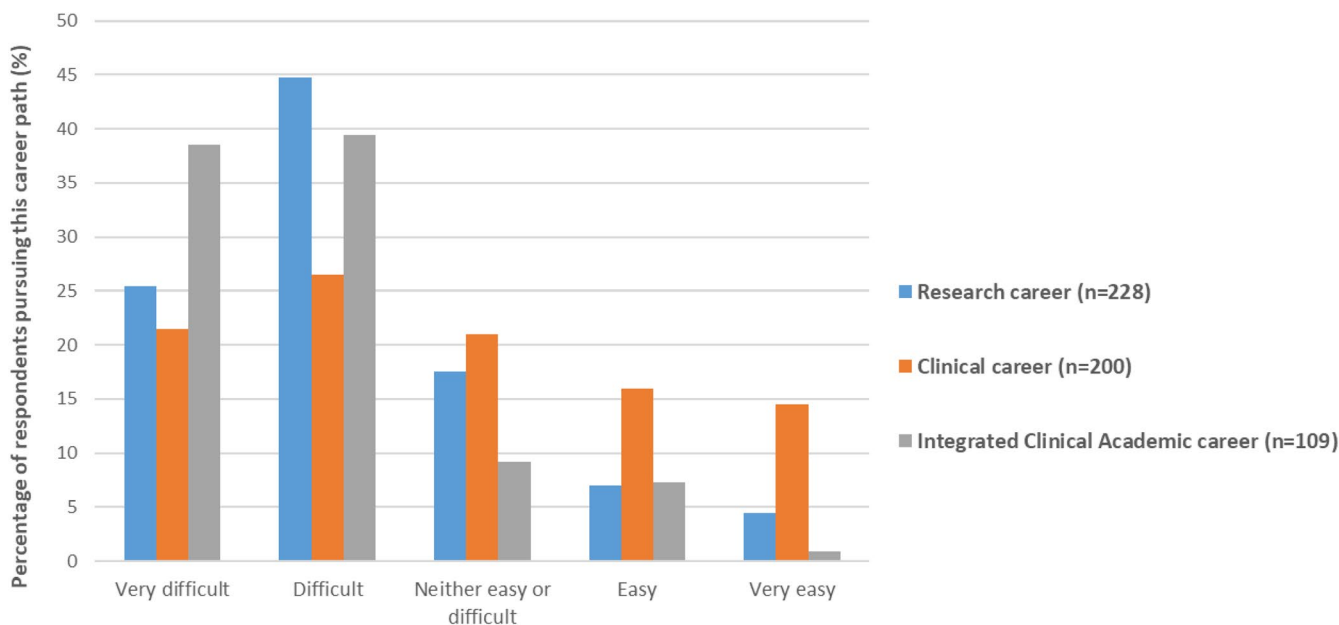


FIGURE 3 A graph to show the ease or difficulty of pursuing a clinical (n = 200, missing data for 1 respondent), research (n = 228, missing data for 2 respondents) and integrated clinical academic career path (n = 109, missing data for 5 respondents). The data includes responses only for those who indicated that they were following these career paths and are shown as a percentage of those pursuing each career path.

Thematic analysis: further comment about clinical academic careers
Most participants (n = 223) provided further comment about CACs. Of these, around 10% described being positive, grateful and thankful for the award or expressed the importance, value or need for the clinical academic role within the NHS to ensure that it is research-led and that research is embedded within all health care disciplines. However, most described difficulties with pursuing this career pathway. Main themes included difficulties with securing funding, lack of opportunities, poor integration of academic and clinical roles, insufficient clarity of the career path, little attention to bridging and transition, and variation in opportunities dependent on profession or location.

3.4 | Advice, support and guidance

Since becoming interested in a research-related career, nearly all respondents had received some kind of advice, support and guidance (96%). The three most commonly accessed sources were from senior clinical academics (56%), a mentor or fellowship award holder (52% and 49%, respectively). The least frequently accessed sources were University careers advice, other formal careers advice and research training programme director (Figure 4).

Overall, just over a quarter (27.3%) were fairly or very dissatisfied with the advice, support and guidance they had received. More of the awarded cohort found advice, support and guidance important in their decision to take the career path they had compared with their rejected counterparts.

4 | DISCUSSION

In England, introduction of a national Integrated Clinical Academic Programme has provided a route into a clinical academic career

(Health Education England, 2015a) and is enabling a new generation of nurses, midwives and allied health professionals to follow an academic career. With over 225 funded since the scheme was launched, the programme has clearly increased the number of individuals pursuing this career option. The NIHR scheme is the largest of a number of funding opportunities for NMAHPS and sits alongside other condition-specific schemes offered by charities across England (BHF: What we fund, 2020; CRUK: Our funding schemes, 2020). This survey was designed to capture, and is the first analysis of, the routes by which applicants to NIHR schemes first become interested in research and the career pathways they follow. It catalogues the nature of enablers and barriers to pursuing a clinical academic career and suggest ways individuals might be supported as they transition from one career stage to another. Whilst the NIHR scheme and the findings from this survey are specific to England, issues around the clarity of this type of career pathway and integration of research with a clinical role resonated with issues reported in other countries.

The positive impact of being awarded a fellowship on people's careers was clear, similar to the findings of the MRC's cross-funder review of medical clinical academic careers (MRC, 2015). The award of a fellowship appeared linked to a greater likelihood of being research active, particularly in the doctoral cohort. Exposure to senior academics and opportunities to develop an understanding of what a research-related career might involve were influential in sparking interest in an academic career.

The fact that a higher proportion of the 'other health care professional group' had their first research experience during a BSC undergraduate project compared to the nurse, midwife and health visitor cohort might reflect differences in undergraduate training programmes, suggesting exposure and opportunity to undertake empirical research differs by profession. These different educational experiences were first observed in the Finch report who noted

TABLE 2 Barriers encountered during transition from Fellowship to first role in awarded applicants.

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

The table shows the barriers encountered by respondents that had been awarded their fellowship and had completed it (not still undertaking the fellowship) during the transition from research training fellowship to first role (n = 45). The respondents were given a list of options and indicated all that applied. The data are given as total and percentages.

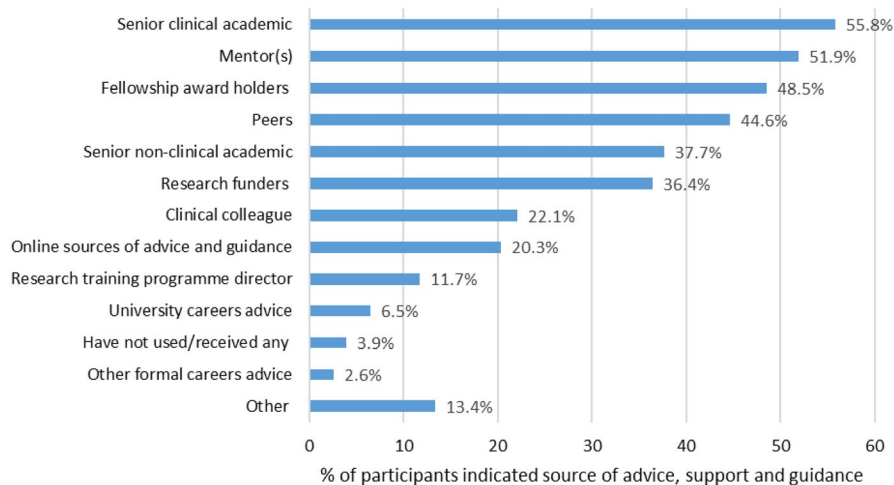


FIGURE 4 A bar graph to show the sources of advice, support and guidance received by participants about pursuing a research-related career. The responses shown are for all 231 respondents in the survey and are given as percentages.

students are not 'purposefully nurtured to become...researchers...' (UKCRC, 2007). This difference could also be attributed to the longer time AHPs have been an all degree profession, whereas until recently only a small proportion of nurses graduated with a degree (Trusson et al., 2019). Recently, Trusson and colleagues (2019) in a regional study found allied health professionals were more likely to progress post Masters (Trusson et al., 2019). The content and focus of undergraduate curricular in the different professions could usefully be examined to ensure these don't result in unequal opportunities to learn about research, which might later impact on how people see the place of research in relation to their own careers. The Inspire programme, coordinated by the Academy of Medical Sciences and supported by Wellcome Trust, which seeks to encourage undergraduate medical, dental and veterinary science students to consider a research career, could be adapted and applied across the health professions (The Academy of Medical Sciences, 2019).

Although often described as difficult, desire for a research career path appeared strong and, in the most part, resolute, even amongst rejected respondents. However, absence of a well-defined postgraduate education and training pathway, unlike in medicine, impacts on both desirability and viability of pursuing a CAC. There remains uncertainty around role definitions and expectations, with some early career researchers describing it as an unknown role, highlighting the importance of finding your identity within an organisation to fully thrive (Cowley et al., 2020). Greater recognition that this is a legitimate and valued career pathway would accelerate the contribution of this group to the development and evaluation of innovations in health-care (Cowley et al., 2020). Although all will not be suited or able to continue along such a pathway, the absence of a clearly articulated route mitigated against career progression (Carrick-Sen et al., 2019). Introducing a career structure across the health professions that incorporates the option of a clinical academic career would encourage the development of roles that align with early, mid and senior stages of a clinical academic career. In the USA, Canada and Australia, formal joint appointments are more commonly available at the senior level (Carrick-Sen et al., 2019) suggesting that there needs to be more focus internationally on the clinical academic career pathway from the early career stage. As the clinical academic career

pathway becomes more embedded in nursing, then individuals might consider making an earlier decision to engage in research training and follow this career path, instead of the more traditional career pathways like management or specialist or advanced care delivery (Trusson et al., 2019).

Frequently acknowledged as a pinch point (Illes-Smith., & Ersser, 2019; NIHRTCC, 2017), transition to the post-doctoral phase was accompanied by a range of difficulties and perceived to be particularly challenging. The majority of awarded doctoral applicants who had reached the end of their fellowship had transitioned to either an academic position or clinical post, with no formal sessions for research. A significant number of the doctoral cohort returned to or continued in the role they had pre-fellowship, as they considered this to be their only option. Whilst returning to a clinical post is a legitimate part of an integrated clinical academic career, the fact posts taken up following a fellowship were often the same as those prior to the fellowship, is concerning. The potential challenges encountered at this stage have been previously described by Latter et al. (2009) who highlighted the importance of opportunities for fellowships and lectureships to avoid individuals simply being 'absorbed back into clinical practice without any opportunity for research or move into academia without being able to retain a senior clinical element to their work'. Similarly, a group of nurses in the Netherlands has described the time after receiving their doctoral degree as being like a 'crossroad'; a time where they were searching for 'focus and depth' in their research (De Lange et al., 2019). Post-doctoral nurses returning to Jordan after completing a PhD in the UK found mentorship and support at this career point, either from their PhD supervisor or others to be important during this transition (Al-Nawafleh et al., 2013). There continues to be a need to consider the period that immediately follows doctoral training if return on investment in doctoral fellowships is to materialise.

As well as a clear career path, respondents highlighted the importance of achieving greater appreciation of the competing demands of a clinical and academic role. The difficulties encountered in combining clinical and research roles are a substantial issue, both in England and internationally. In a qualitative interview study, post-doctoral nurses working in a dual role in a clinical facility in

the Netherlands found the combination of the two roles difficult with clinical practice usually taking priority over research. They highlighted the importance of the role in identifying important topics for their research programme and ability to implement findings, but the 'balance' between the roles was difficult to achieve (De Lange et al., 2019). There is a desire for organisations to work together to establish structures and processes to enable those in clinical academic posts to work more seamlessly across academic and clinical environments. Whitworth et al. (2012) reinforce the importance of work to reconcile different cultures and values in practice-academic partnerships. Greater clarity on the principles and expectations of different parties involved, akin to the statement coordinated by the Wellcome Trust (2019), could prove to be a helpful device.

Current pay systems, infrastructure and differing cultures in healthcare organisations and universities are creating barriers. These factors presented significant obstacles to respondents and support from employers to remain research-active was felt to be lacking. As recommended by Baltruks and Callaghan (2018), employment conditions, especially salaries and pensions, could usefully be examined to ensure they don't disadvantage non-medical health professionals pursuing a clinical academic route.

The most common enablers revolved around success in securing funding, experience and skills gained through training or research, and advice, support and guidance. In the most part, advice, support and guidance came from personal contact at a local level, whether from senior clinical academics, mentors, fellowship award holders or peers. Accessible and visible role models have an important part to play, demonstrating the potential opportunities of a career in research combined with practice and to provide support with career decisions (De Lange et al., 2019; Van Oostveen et al., 2017). In a recent study, clinical academics at the pre-doctoral and doctoral stage expressed the need to identify not only individual role models but 'networks of influence' to support them in their personal development and to work with them to act as 'advocates for change' within the clinical environment (Cowley et al., 2020). This is especially the case in clinical environments which may underappreciate the contribution of academic research and where nurses are not encouraged to develop academic competencies (Van Oostveen et al., 2017). The findings from our survey indicate that there is scope to improve access to, and provision of, support and guidance as less than half were satisfied with advice and support received.

As far as we know, this is the first national survey to consider clinical academic career progression in NMAHPs. Interestingly, research with doctors and dentists (Lopes et al., 2017; MRC, 2015; Ranieri et al., 2016), despite this group having a well-characterised career path, has revealed similar findings in terms of barriers and enablers to career progression. Amongst doctors and dentists, experience and skills gained through training and research, securing funding and mentoring were all considered to be important enablers for career development (MRC, 2015). There is also a lack of clarity amongst doctors and dentists regarding aspirations and routes

to progression as a clinical academic (MRC, 2015). When considering specifically impact of an Academic Clinical Fellowship (ACF) scheme (Clough et al., 2017), similar benefits and challenges were also highlighted, particularly balancing clinical and academic activities. However, doctors and dentists have a longer history and more established route into clinical academic roles. NMAHPs might learn from some of these experiences. A survey of senior UK doctors found that female doctors felt more disincentivised to pursue a clinical academic career compared to their male counterparts due to lack of career flexibility and the desire for more part-time posts, flexible working and career guidance (Lambert et al., 2015). Although other factors were highlighted as the main issue in our survey, it is important to consider factors such as these and ensure flexibility in routes and roles when further developing clinical academic routes in the NMAHPS.

The survey had its limitations. The NIHR pathway is not the only route to a clinical academic career, other paths are possible (Westwood et al., 2018; White Rose University Consortium, 2018), but it is the largest funder in this area in England. Other schemes can differ in terms of how they are structured, funding available, and training offered so the findings from this survey might not fully reflect a comprehensive set of enablers and barriers applicable to other funding pathways and indeed other countries. The NIHR does not keep up to date contact details of past applicants who were unsuccessful and so had to rely on the most recent email address recorded; it did not include those who might have considered applying but then did not proceed; and the response rate was rather low. Because of the relative recency of the programme, there were only small number of individuals who had made more than one career transition. But it does provide the first in-depth examination of the benefits and challenges faced by NMAHPs entering the clinical academic pathway in England.

5 | CONCLUSION

The introduction of the NIHR fellowship scheme has proved popular and successfully developed a cadre of non-medical clinical academics. However, as is the case in many countries developing similar career routes, the lack of a formal career structure for those with research training in clinical practice leaves many having to find their own way, often with little support from employers, and frequently with nowhere to go but their previous jobs. These schemes are therefore at risk of not realising the potential benefits of clinical academic careers both for developing research excellence and improving patient outcomes. This study underlines the importance of overcoming barriers like perceptions of value of research in, and about, practice and lack of infrastructure directed at supporting development and implementation of roles. There is an argument that sustainable change might only be brought about if clinical academic pathways for NMAHPs are supported through national and regional and organisational policies helping to ensure a consistent approach which extends to the entire career pathway.

6 | RELEVANCE TO CLINICAL PRACTICE

A facilitative culture and supporting infrastructure to enable nurses, midwives and the allied healthcare professions establish and sustain a clinical academic career will ensure they are better used for the benefit of the public and patients, the organisations they work for, and the health-care system. Investment in a clinically active academic research workforce underpins these professions' contribution to transformational changes in patient care, strengthen leadership and increase the visibility and impact of research.

ACKNOWLEDGEMENTS

We would like to thank the survey respondents. Professor Latter for critical review of the protocol and Professor Fader for reviewing the manuscript. Medical Research Council for permission to draw on the survey content of the cross-funder review. We also thank the team at NIHR Academy for managing distribution of the invitation to participate to fellowship applicants and fellowship holders, in particular the support and advice of Dr Pete Thompson. AR also thanks Professor Lisa Bayliss-Pratt and Ms Liz Fenton, for their encouragement and support during her Health Education England sponsored Florence Nightingale Foundation Leadership Scholarship and their permission to conduct the survey as part of her fellowship programme.

CONFLICT OF INTEREST STATEMENT

AR reports grants from Health Education England and the National Institute of Health Research and non-financial support from National Institute of Health Research, during the conduct of the study. AR is a member of the NIHR Academy Nursing and Midwifery Incubator Executive Group, an NIHR Senior Investigator and in receipt of grants from NIHR. MA reports financial support from Health Education England and the National Institute for Health Research during the conduct of the study.

DISCLAIMER STATEMENT

Professor Richardson is a National Institute for Health Research (NIHR) Senior Investigator. The views expressed in this article are those of the author(s) and not necessarily those of the NHS, the NIHR, the Department of Health and Social Care or Health Education England.

CONTRIBUTIONS

Conceived the idea: AR; designed the study: AR, GW and MA; designed the survey, collected and analysed the data: MA and AR; drafted the manuscript: AR and MA; critically reviewed the manuscript: GW. All authors read and approved the final manuscript.

DATA SHARING STATEMENT

Data are available on reasonable request.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

How to cite this article: Avery M, Westwood G, Richardson A. Enablers and barriers to progressing a clinical academic career in nursing, midwifery and allied health professions: A cross-sectional survey. *J Clin Nurs*. 2021;00:1–11. <https://doi.org/10.1111/jocn.15673>