



Birmingham Health Partners

Collaboration. Innovation. Application.

West Midlands Clinical Academic Careers Programmes for Nurses, Midwives, Allied Health Professions, Pharmacists and Healthcare Scientists (NMAHPPS)

Evaluation Report

October 2018

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My aspiration is...

"To become a national leader within the NIHR, but also to undertake research that is in collaboration with local populations...My intentions are to develop myself as a leader and aim to get a publication and then re-assess if I still have the potential to develop an academic career in tandem with a clinical leadership role"

Clinical Academic Internship Programme

"I wish to continue to apply for a National Institute for Health Research Clinical Doctoral Research Fellowship (HEE/NIHR CDRF) and continue to lead, participate in research projects relevant to my field of interest. I'm supporting the Research and Innovation team at (my trust) in developing a pathway for clinical academics returning from PhD completion, and I hope to apply to a post like this following completion of a PhD"

Masters to Doctorate Bridging Programme

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Executive Summary

Background

This report presents the evaluation findings of the Heath Education England (HEE) funded West Midlands Clinical Academic Internship Programme (CAIP) and Masters to Doctorate Bridging Programme (MDBP) 2014–2017.

In 2014 Birmingham Health Partners (BHP) launched the CAIP, a pre-masters course, designed specifically to build research capacity and capability of non-medical healthcare professionals – nurses, midwives, allied health professions, pharmacists and healthcare scientists (NMAHPPS) across the West Midlands. From 2015 the programme recruited participants from East of England (EE).

In 2015, MDBP was developed in recognition of the need for a structured programme to facilitate NMAHPPS preparing applications for doctoral study.

Funding from HEE has provided support for these programmes until 2019.

Evaluation Design

A mixed methods two phased evaluation design was undertaken based on the Kirkpatrick model¹. All CAIP and MDBP programme participants from 2014–2017 cohorts (n=82) were invited to complete an online survey. Semi-structured telephone interviews were conducted with a volunteer sample of participants (n=18) and nominated line managers (n=7). Interview data were analysed using framework approach².

Key Findings

🔍 DEMOGRAPHIC DATA

- Of 82 participants invited 53 responded (65% response rate), survey respondents worked in a range of NHS organisations and across the NMAHPPS professions
- 84% of CAIP respondents were employed in Band 6 or 7 posts (n=36), compared with the MDBP group, all of whom held Band 7 or 8 posts
- Seventeen programme participants submitted HEE/NIHR Integrated Clinical Academic Programme applications and 10 have won awards (3 awaiting outcome of interviews)
- In total programme participants have published over 100 articles
- Over a quarter of participants have gained promotion

🔍 THE PROGRAMMES – PROGRAMME FEEDBACK AND SUPERVISION

Overall programme evaluations were positive. CAIP respondents rated the taught programme and the benefits of group interdisciplinary learning most positively. In contrast, MDBP respondents viewed supervision as the most significant element.

Supervisors were highly valued for the range of strategies they used to support participants to develop their research ‘idea’ and clinical academic career aspirations.

🔍 BECOMING A CLINICAL ACADEMIC

The programmes were important in helping participants formulate what was involved in being a clinical academic. Characteristics identified by participants included confidence, commitment, patience and resilience. Behaviours identified for success included: ability to reflect and judge quality

(criticality), grasp opportunities, engage in evidence-based practice and build relationships and networks. There was recognition that personal circumstances such as the 'timing being right' were important if individuals were to progress.

➤ BENEFITS, ENABLERS AND BARRIERS

A wide range of benefits were reportedly accrued by individuals. Some had made progress in a clinical and, or academic career journey, others had undertaken further study, gained promotion, or sought and received funding for research as a result of programme attendance. 51% of CAIP (n=22) and 80% of MDBP respondents (n=8) had taken their research question forward.

The programmes contributed to the development of individuals as research literate practitioners, with confidence to question current practice, engage with research, and apply learning in the clinical environment. Individuals reported having research conversations and initiated or participated in activity within their workplace and/or supported others to consider a clinical academic career. This impact on workplace research culture was valued by managers.

A range of barriers and enablers were identified that impacted on clinical academic career progression. These included: time, managerial, organisational and financial support, personal reasons, job opportunities and wider support networks. Both CAIP and MDBP participants recognised time was the biggest constraint on progress. MDBP informants placed greater emphasis on managerial support as a barrier and, or enabler. CAIP participants identified financial support and personal reasons as the main reasons for not pursuing a clinical academic career.

Recommendations

1. Continued support for programmes such as CAIP and MDBP will provide a return on investment in terms of developing the entry level capabilities for a clinical academic career in some. For others, it is an opportunity to develop confidence as a research literate evidence based practitioner with skills and attributes that can be incorporated into other roles and, or career opportunities
2. Expansion of regional supervisor faculty and support networks is needed to continue to deliver on the supervision valued by participants. This will ensure participants have access to rich interdisciplinary guidance and mentorship they need to progress during, and importantly after completion, of structured programmes
3. Organisational level commitment is needed to provide "a roadmap" for clinical academic careers for NMAHPPS professions including creating an organisational research culture and critical mass of research active and interested clinicians and a formalised career structure
4. Organisations need to establish ways to promote NMAHPPS led research
5. The creation of clinical academic networks and communities amongst professions outside of medicine are needed to provide a support infrastructure for often 'organisationally isolated' aspirant NMAHPPS clinical academics

Contents

| | |
|---|-----------|
| Executive Summary | 3 |
| Background | 3 |
| Evaluation Design | 3 |
| Key Findings | 3 |
| Recommendations | 4 |
| | |
| 1. Background | 6 |
| 1.1 Introduction | 6 |
| 1.2 West Midlands Clinical Academic Careers Programme | 6 |
| 1.2.1 Programme Evolution | 7 |
| 1.2.2 Programme Structure | 7 |
| 1.2.3 Embedded Programme Quality Assurance | 8 |
| | |
| 2.0 Evaluation Design | 9 |
| 2.1 Aims of the Evaluation | 9 |
| 2.2 Study Design | 9 |
| 2.3 Participant Recruitment | 9 |
| 2.4 Instruments | 10 |
| 2.5 Data Analysis | 10 |
| 2.6 Ethical and Governance Approval and Data Management | 10 |
| | |
| 3.0 Findings | 11 |
| 3.1 Demographic Information | 11 |
| 3.2 Programme Feedback and Supervision | 12 |
| 3.3 Becoming a Clinical Academic | 14 |
| 3.4 Organisational benefits | 17 |
| 3.5 Enablers and Barriers | 18 |
| | |
| 4.0 Discussion | 20 |
| | |
| 5.0 Conclusion | 22 |
| | |
| 6.0 Recommendations | 22 |
| | |
| References | 23 |

1. BACKGROUND

1.1 Introduction

The provision of opportunities for all healthcare staff to undertake research for patient benefit has, in the last decade, been highlighted as essential for improving patient care and developing NHS services³. Historically research was an activity largely undertaken by medical staff. Research leaders among non-medical healthcare professionals – nurses, midwives, and allied health professions (NMAHPs) – who could lead healthcare research and remain engaged in expert clinical practice were identified as few in number if not absent³. This along with the growing recognition that the NMAHPs workforce could make a valuable contribution to research and innovation resulted in the creation of a research training programme providing opportunities at masters, doctoral and post-doctoral level.

These competitive schemes when first launched in 2008 failed to attract as many suitable applicants as anticipated and some professions, notably nurses, were less successful than others in gaining awards⁴. In 2012, the Department of Health (DH) published 'Developing the role of the clinical academic researcher in the Nursing, Midwifery and Allied Health Professions'⁵. This report reaffirmed the need to promote research and academic careers to healthcare professionals outside of medicine and dentistry. It proposed a more structured, strategic and 'multi-professional approach' to training and highlighted the need for collaborations between NHS organisations and academic institutions to support delivery⁵. Health Education England (HEE) in its Research and Innovation Strategy operationalized the government's vision for clinical academic careers for all healthcare professions⁶. This strategy identified a structure to enable nurses, midwives, and allied health professions, pharmacists and healthcare scientists (NMAHPPS) to better contribute to research and innovation and provided a clear pathway for acquiring the skills, knowledge and exposure – from research novice to clinical academic leader – for those individuals wishing to combine a career in research and clinical practice.

The HEE/National Institute of Health Research (NIHR) re-launched the national clinical academic training pathway for healthcare professions outside of medicine and dentistry, the Integrated Clinical Academic (ICA) Programme⁷ in 2014. This continued to offer a centrally coordinated and structured pathway for individuals wishing to combine a career in research and clinical practice, allowing ongoing development of both aspects required by clinical leaders but was accessible to more professions and had an additional entry level, the internship programme. The ICA programme consists of five levels from internship, Predoctoral Clinical Academic Fellowship (PCAF), Clinical Doctoral Research Fellowship (CDRF), Clinical Lectureship and Senior Clinical Lecturership⁷. The CAIP and MDBP programmes, the focus of this evaluation, facilitate development opportunities that can enable entry and bridging to pre doctoral and doctoral awards.

1.2 West Midlands Clinical Academic Careers Programmes

The West Midlands Clinical Academic Careers Programmes were designed specifically to support clinical academic career development, and more generally develop research capacity and capability, across the region^{6,7}. These programmes are delivered through a collaboration of organisations coordinated by Birmingham Health Partners (BHP). The programmes provide preparation for entry and access to academic and research training awards whilst developing research skills and capabilities that enhance clinical practitioner competencies irrespective of career direction. Recruitment occurs once per year, all applications are appraised against criteria and short listed candidates interviewed.

1.2.1 Programme Evolution

In 2014, the first Pre-Masters Clinical Academic Internship Programme (CAIP) was piloted. During recruitment to the 2014 programme, it was recognised that further support was required for candidates applying for competitive doctorate awards and the Masters to Doctorate Bridging Programme (MDBP) was piloted in 2015. HEE West Midlands provided initial funding for the first CAIP and MDBP.

Following the successful 2014/15 pilots, BHP was awarded the tender to deliver the CAIP and MDBP for the West Midlands from 2016 until 2019. A total of five cohorts have completed CAIP (n=91), and three cohorts have completed the MDBP (n=23). A sixth CAIP cohort and fourth MDBP cohort commenced in autumn 2018 from the West Midlands (CAIP cohorts five and six and MDBP cohorts three and four are not part of this evaluation).

HEE provided additional funding to recruit individuals from the East of England (EE) region to participate in CAIP (2016, 2017, 2018 cohorts) and MDBP (2018 cohort).

An administrative hub, the Integrated Clinical Academic Office (ICAO), supports programme delivery and infrastructure for clinical academic careers across the region. Partnership working with NHS trusts and higher education institutions across West Midlands and beyond has enabled development of an extensive faculty of supervisors and embedded collaborative working and networking to enable delivery of this successful programme.

1.2.2 Programme Structure

Both programmes provide 30 days release from clinical practice, over 6 months with CAIP and 9 months with MDBP. The programmes consist of a mixture of taught and experiential learning, supported by designated clinical academic supervision, action learning sets and the completion of a clinical academic portfolio. Participants undertake NIHR Good Clinical Practice (GCP) training and are expected to complete research placements for example in clinical research facilities, university research laboratories or with methodological rich research teams.

The primary aim of both programmes is the development of early research skills evidenced by the main output of a patient focussed research question or problem although the expected levels differ for each programme (see Table 1). For CAIP, the aim is to develop the skills to successfully apply for the NIHR Predoctoral Clinical Academic Fellowship and the output for participants normally forms the basis of an evidence review. For MDBP participants the focus is on refining a research question and/or design to generate a proposal to successfully apply for doctoral training. Emphasis is put on self assessment using the Vitae Researcher Development Framework⁹ and action planning. Table 1 (on the next page) outlines the programme outcomes and examples of outputs from both programmes. The expectations have increased over subsequent offerings.

Over 102 academic supervisors, from a wide range of disciplines and educated to doctorate level and beyond, have been recruited from across the region to support participants on the programmes. Supervisors are provided with a formal description of role expectations and a one-off payment. Supervisors and participants are encouraged to continue their relationship beyond completion of the programme.

CAIP participants can complete a Masters-level module (Project Management and Research Governance – 20 credits) at the University of Birmingham (UoB), gaining insight into postgraduate study. The credits accrued can be used toward further study (Accreditation of Prior Learning [APL]).

The programmes are provided at no cost to participants and a single-payment grant is paid to employers. All programme participants can access UoB educational resources through the virtual learning environment CANVAS.

Table 1: Programme aims and outcomes (CAIP and MDBP)

| Clinical Academic Internship Programme | Masters to Doctorate Bridging Programme |
|---|---|
| PROGRAMME OUTCOMES – PARTICIPANTS WILL BE ABLE TO DEMONSTRATE: | |
| <ul style="list-style-type: none"> • Greater awareness of research and engagement with evidence based practice • Ability to critique current evidence and apply findings to their practice to improve patient care • Develop their clinical academic career profile | <ul style="list-style-type: none"> • Research skills and knowledge of methodology and statistics • Leadership, negotiation and influencing skills • Development of clinical academic career profile • Enhanced ability to support members of their team • Development of a supervisory team |
| EXAMPLES OF PROGRAMME OUTPUTS | |
| <ul style="list-style-type: none"> • Research question with proposed methods • Literature review • Research Portfolio • MRes module (optional) • Dissemination of work to their teams • Submission of literature review for publication • Application to NIHR PCAF or MRes | <ul style="list-style-type: none"> • Research question as part of a research proposal with potential methods and funding stream • Discussion of project with Research Design Service • Literature review • Dissemination of work to their teams • Submission of literature review for publication • Engagement with the wider research network (e.g. second author on a research paper) • Research Portfolio • Evaluation of practice e.g. audits • Application to NIHR doctoral programme (or equivalent) |

1.2.3 Embedded Programme Quality Assurance

Evaluation is part of the quality assurance process embedded in programme delivery. Participants are actively invited to provide feedback, rate all aspects of the programme(s) and make suggestions for improvement. Many of these suggestions are incorporated into delivery on an ongoing basis. This continuous listening and improvement approach has been successful and led to the following programme amendments:

- ✓ Introduction of an explicit partnership agreement to ensure all parties (participants, line managers, supervisor(s) and programme team) understand programme expectations, and roles and responsibilities
- ✓ Greater emphasis on publications and applications for awards
- ✓ Importance placed on developing a rounded profile (indicators of esteem) e.g. building networks, CV, conference presentations, and engagement with active researchers

Monitoring programme outputs is an essential part of the programme evaluation. Programme participants are actively encouraged to remain in contact with the programme administrator to report on-going outputs, as it is recognised there can be a delay between completion of the programme and the development of outputs.

2.0 Evaluation Design

2.1 Aims of the Evaluation

- ✓ To understand the 'added' value of the Clinical Academic Internship Programme (CAIP) and Masters to Doctorate Bridging Programme (MDBP) to participants and employing healthcare organisations
- ✓ To determine what are the barriers and enablers, if any, for individuals wishing to progress a clinical academic career following completion of CAIP or MDBP

2.2 Study Design

A two phased mixed methods evaluation design based on Kirkpatrick's¹ reaction, learning behaviour, and results model (see Table 2).

■ Table 2: Kirkpatrick's Evaluation Model and study design

| Kirkpatrick's Evaluation Model | Data Collection Method | Other Sources of Data |
|---|---|--|
| Reaction: degree that participants found the programme favourable, engaging and relevant. | Survey | Programme Evaluations |
| Learning: degree that participants or managers perceived the intended knowledge, skills, attitude, confidence and commitment was acquired through the programme. | Survey Interviews (Participants and Managers) | Annual HEE Evaluation Report |
| Behaviour: the degree participants were applied, or were observed applying, what they had learnt in their job. | Interviews (Participants and Managers) | Rate of grant submissions Rate of award submission Response to feedback (non-award) Response to review (publications) |
| Results: degree that targeted outcomes occurred as a result of the programme. | Interviews (Participants and Managers) | Presentations and posters Publications Awards Grants |

2.3 Participant Recruitment

All intern (CAIP) or bridging (MDBP) participants who completed programmes between 2014 and 2017 were invited to participate in a survey. They were also invited to volunteer to participate in an individual semi-structured telephone interview and asked to nominate a manager to participate in the study by providing contact details.

An email invitation was sent to nominated managers. This included an invitation to participate, details of the evaluation, and explanation of what would be involved if they agreed to participate. On response they were provided with more information (if required) and an appointment was made to conduct an interview.

2.4 Instruments

The survey instrument was developed for this evaluation. It contained 21 closed and 11 open questions and covered topics: demographics; programme feedback, further study, programme impact (individual and departmental level), barriers and enablers, further study and career aspirations.

A total of 18 telephone interviews were conducted with volunteer programme participants – 12 CAIP [11 West Midlands (WM)/1EE], 6 MDBP [all WM]. Seven interviews with line managers all from West Midlands providers were completed.

An interview guide was used to ensure the telephone interviews with programme participants and managers covered similar topics and encouraged informants to talk freely. Verbal consent was gained to record the interviews. Assurances were given regarding the process of anonymization and reporting. All interviews were recorded as a soundfile, and transcribed. Data saturation was reached.

Other data sources including post programme evaluations and annual returns to HEE were used to augment evaluation data (see Table 2).

2.5 Data Analysis

Quantitative survey data was entered into a Microsoft excel database and analysed using descriptive statistics. Free text responses and interview transcripts were analysed using framework method². Data is presented as absolute numbers, proportions (%) and qualitative data with verbatim quotes indicated by programme and informant identifier (e.g. MDBP:4).

2.6 Ethical and Governance Approval and Data Management

The protocol underwent institutional review and no further ethical or governance approvals were required (correspondence available on request). All data is stored on a secure password protected device and will be destroyed in accordance with institutional data protection and information management policies.

3.0 FINDINGS

All survey and interview data along with programme evaluations and other data as described in Table 2 are presented in this chapter.

3.1 Demographic Information

The survey response rate was 65% (53/82), 62% (43/69) CAIP and 77% (10/13) MDBP respondents respectively who had completed the programmes between 2014 and 2017. Table 3 compares the profile by gender and profession of respondents with survey non-respondents for the two programmes.

Forty eight respondents from the WM and five from EE completed the survey. As expected the majority of participants were female, reflecting the wider NMAHPPS workforce. Most individuals were recruited from acute trusts and allied health professions were the largest professional group represented on the programmes. No pharmacists participated in either programme. Participants on the MDBP programme were at a higher clinical grade and had more experience with longer time from registration compared with CAIP.

Table 3: Demographic Summary of Survey Respondents (MDBP & CAIP 2014-2017)

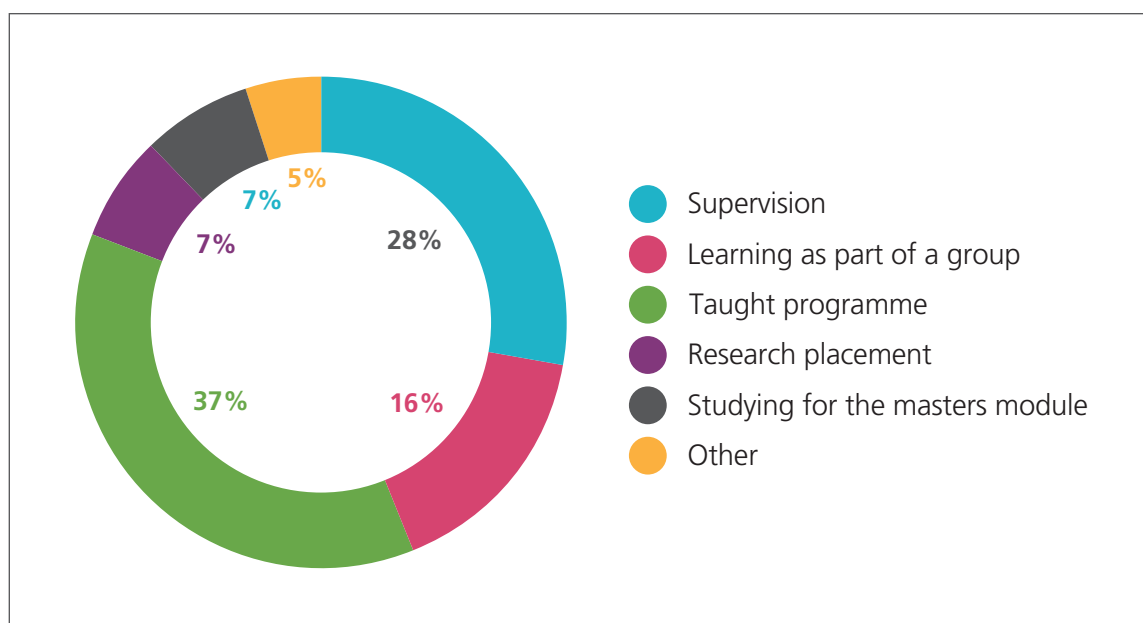
| | | MDBP survey respondents n=10 (%) | MDBP participants (2014–17) (n=13) | CAIP survey respondents n=43 (%) | CAIP participants (2014–17) (n=69) |
|---|----------------------------|-------------------------------------|--|-------------------------------------|--|
| Gender | Male | 2 (20%) | 3 (23%) | 12 (28%) | 15 (22%) |
| | Female | 8 (80%) | 10 (77%) | 31 (72%) | 54 (78%) |
| Professional group | Allied Health Professional | 6 (60%) | 7 (54%) | 18 (42%) | 31 (45%) |
| | Nurse | 4 (40%) | 6 (46%) | 15 (35%) | 29 (42%) |
| | Midwife | 0 | 0 | 6 (14%) | 6 (9%) |
| | Healthcare Scientist | 0 | 0 | 4 (9%) | 3 (4%) |
| Employment banding | Band 5 | 0 | 1 (8%) | 0 | 13 (19%) |
| | Band 6 | 0 | 0 | 19 (44%) | 27 (38%) |
| | Band 7 | 7 (70%) | 7 (54%) | 17 (40%) | 15.5 (22%) |
| | Band 8 | 3 (30%) | 2 (15%) | 4 (9%) | 4.5 (7%) |
| | Not stated | 0 | 3 (23%) | 3 (7%) | 9 (13%) |
| Number of years post registration experience | 0-5 | 0 | Not available | 8 (19%) | Not available |
| | 6-10 | 1 (10%) | | 12 (28%) | |
| | 11-15 | 1 (10%) | | 7 (16%) | |
| | 16-20 | 3 (30%) | | 9 (21%) | |
| | 21-25 | 3 (30%) | | 3 (7%) | |
| | 26-30 | 0 | | 2 (5%) | |
| | 31-35 | 1 (10%) | | 1 (2%) | |
| | 36-40 | 0 | | 0 | |
| | 41-45 | 0 | | 1 (2%) | |
| | Not stated | 1 (10%) | | 0 | |
| NHS Organisation | Acute trust | 7 (70%) | 10 (77%) | 36 (84%) | 61 (88%) |
| | Community trust | 3 (30%) | 3 (23%) | 3 (7%) | 4 (6%) |
| | Clinical Research Network | 0 | 0 | 3 (7%) | 2 (3%) |
| | HEI | 0 | 0 | 1 (2%) | 1 (1.5%) |
| | Charity | 0 | 0 | 0 | 1 (1.5%) |

3.2 Programme Feedback and Supervision

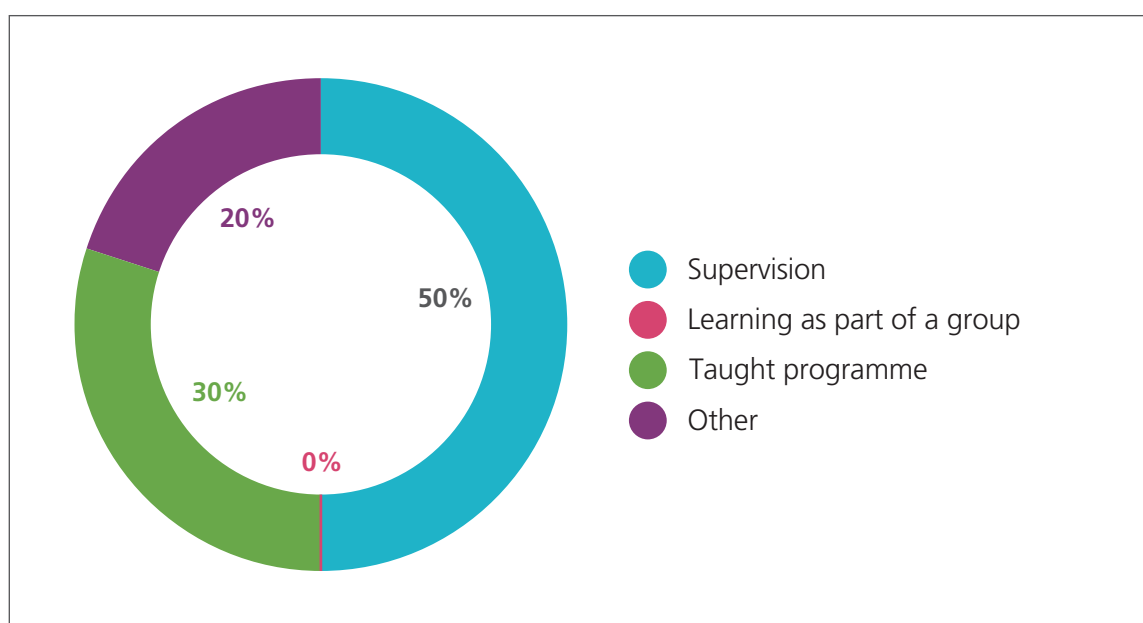
Overall the programmes evaluated very positively in post programme evaluations. 96% (n=64) of participants who completed post programme evaluations indicated the course met their expectations. 90% (46/51) CAIP and 67% (8/12) MDBP of participants indicated they strongly agreed or agreed that the taught programme was helpful.

Survey respondents were asked to rank the most significant aspect of the programme (see Figures 1 and 2). CAIP respondents placed highest value on the taught elements (37%/16), followed by supervision (28%/12) and then learning as part of a group (16%/7). MDBP respondents ranked supervision highest (50%/5) with the taught elements next (30%/3).

■ **Figure 1: Ranking of most significant aspect of CAIP**



■ **Figure 2: Ranking of most significant aspect of MDBP**



The qualitative data gained from interviews provided additional detail and reflected the quantitative data from the survey responses.

Interviewees valued the breadth of the curriculum particularly the masterclasses in academic writing, the “how to do” aspects of research as well as content rich learning:

“Those taught sessions were full of 101 what you need to know” (CAIP:15)

The opportunity to participate in interdisciplinary learning was well received by CAIP participants, however this was not noted by MDBP participants:

“Bringing together people of different groups and just looking at what common knowledge exists and how people are tackling different problems is phenomenally useful and an opportunity that doesn’t exist in many other forms” (CAIP:7)

Supervisors are matched according to participants’ research topic, methodology and/or professional group. They are recruited from across the West Midlands and where necessary further afield if expertise is unavailable locally.

“Having the opportunity to have an academic supervisor who will support you and mentor you, is really, really fortunate, it is a really great opportunity and I think it sometimes it’s not always easy to get those kind of opportunities where you are working clinically” (CAIP:8)

Supervisors provided a range of different types of support:

“She supported me really to develop my academic writing and to write for a publication and to get a paper published” (MDBP:4)

Provided mentorship:

“I think when you finally get the right mentor, and they share the same passion, I think it really does chivvy you on to go on to want to do more” (CAIP:5)

And for some this supervisory relationship continued beyond the end of programme:

“Even after we’ve finished, that (supervisor) would continue to be happy to mentor me throughout my academic career” (MDBP:4)

The programmes also emphasised the incremental building blocks needed to be successful:

“I think I prioritised that I needed to have publications before I could successfully apply for an NIHR grant...I think if individuals or participants in the internship bear that in mind, one of the criteria they look at is your publication history. It’s essential that they write something” (MDBP:4)

A feature of the MDBP is leadership training. This is designed to support the development of skills that enable career progression:

“I don’t think I’d really had any formal leadership training before that and it really made me stop and think about my interactions with people and before I had a meeting or anything like that, you kind of stop and consider what angle you were going to come at it from whereas I don’t know that I did that before and I think that’s changed a lot” (MDBP:S16)

3.3 Becoming a Clinical Academic

Survey respondents reported the programme(s) increased their research skills and knowledge. Table 4 summarises the aggregated survey responses.

The majority agreed or strongly agreed that they felt more confident developing a research question (94%/49), searching (87%/45) and appraising (90%/47) literature, challenging practice using evidence (85%/44), assisting others to use critical appraisal skills (79%/41) and engage in the clinical academic training pathway (87%/45). Seventy three percent (73%/38) felt more confident to liaise with the Research & Development Department in their local organisation.

Table 4: Aggregated survey responses relating to acquisition of research knowledge and skills after completing CAIP/MDBP

| Research knowledge and skills (Respondents CAIP 42, MDBP 10) | Strongly Agree % (N) | Agree % (N) | Neither Agree or Disagree % (N) | Disagree % (N) | Strongly Disagree % (N) |
|--|-------------------------|----------------|------------------------------------|-------------------|----------------------------|
| I feel more confident to develop a research question | 31% (16) | 63% (33) | 6% (3) | 0% (0) | 0% (0) |
| I have more confidence in searching the literature | 33% (17) | 54% (28) | 12% (6) | 2% (1) | 0% (0) |
| I have more confidence in appraising the literature | 19% (10) | 71% (37) | 8% (4) | 2% (1) | 0% (0) |
| I feel more confident to write an article for publication | 21% (11) | 37% (19) | 29% (15) | 13% (7) | 0% (0) |
| I feel more confident to disseminate my work | 21% (11) | 42% (22) | 31% (16) | 6% (3) | 0% (0) |
| I have a greater understanding of which research method to choose | 13% (7) | 58% (30) | 25% (13) | 4% (2) | 0% (0) |
| I have a greater understanding of how to apply for funding | 10% (5) | 58% (30) | 19% (10) | 13% (7) | 0% (0) |
| I have a greater understanding of the research processes e.g. ethics, research governance, etc. | 15% (8) | 75% (39) | 10% (5) | 0% (0) | 0% (0) |
| I have more confidence in liaising with the Research & Development Department in my organisation | 23% (12) | 50% (26) | 17% (9) | 10% (5) | 0% (0) |
| I have more confidence to work with the multidisciplinary team in my department | 19% (10) | 46% (24) | 33% (17) | 2% (1) | 0% (0) |
| I have a greater understanding of Good Clinical Practice (GCP) | 38% (20) | 33% (17) | 25% (13) | 4% (2) | 0% (0) |
| I have a greater understanding of how to undertake patient and public involvement | 29% (15) | 62% (32) | 10% (5) | 0% (0) | 0% (0) |
| I feel more confident to challenge practice using the evidence base | 24% (12) | 63% (32) | 12% (6) | 2% (1) | 0% (0) |
| I have more confidence to help others to develop their critical appraisal skills | 15% (8) | 63% (33) | 19% (10) | 2% (1) | 0% (0) |
| I have a greater confidence to engage with the clinical academic pathway | 35% (18) | 52% (27) | 12% (6) | 2% (1) | 0% (0) |

Ninety five per cent (n=40) CAIP and 80% (n=8) MDBP (n=8) participants indicated they wished to pursue a clinical academic career. 40% (n=17) of CAIP and 40% (n= 4) MDBP had undertaken additional study, while a further 57% (n=24) CAIP and 60% (n=6) MDBP

planned to in the future. Table 5 describes the further study undertaken by participants.

■ **Table 5: Breakdown of further study undertaken following CAIP/MDBP programmes**

| Programme of study | CAIP | MDBP |
|---|-----------------|----------------|
| MRes/MClinRes | 11 | |
| Masters (clinical) | 2 | |
| Masters (Leadership & Management) | 1 | |
| Professional Doctorate | 1 | |
| Doctorate | 2 | 3 |
| Independent prescriber course (M Level) | | 1 |
| TOTALS | 17 (40%) | 4 (40%) |

Twenty three percent (n=10) CAIP and 60% (n=6) MDBP respondents reported they had been awarded funding to undertake research. Funding sources included HEE/NIHR, Universities (n=3), research grants from charities, industry, NHS trusts (n=2), and in-house NHS trust training awards (n=1). 26% (n=11) CAIP and one MDBP respondents have gained promotion, of which two thirds indicated that the programme had contributed to their success. Table 6 shows the number of applications and awards to date to HEE/NIHR ICA scheme. In addition, the Integrated Clinical Academic Office has supported two successful candidates out with programmes for the PCAF Round 1 (2018).

■ **Table 6: CAIP/MDBP Programme HEE/NIHR ICA applications and awards**

| Programme completion date | HEE/NIHR award | Applications submitted | Applications awarded |
|---------------------------|---------------------|-----------------------------|----------------------|
| CAIP 2015–2017 | Masters | 5 | 5 |
| CAIP 2016 | PCAF Round 1 (2018) | 1 | 1 |
| CAIP 2017 | PCAF Round 1 (2018) | 1 | 1 |
| CAIP 2018 | PCAF Round 1 (2018) | 4 | 1+3 “fundable range” |
| MDBP 2016 | CDRF Round 3 (2017) | 3 | 2 |
| MDBP 2017 | CDRF Round 4 (2018) | 2+1 re-submission from 2016 | Awaiting* outcome |

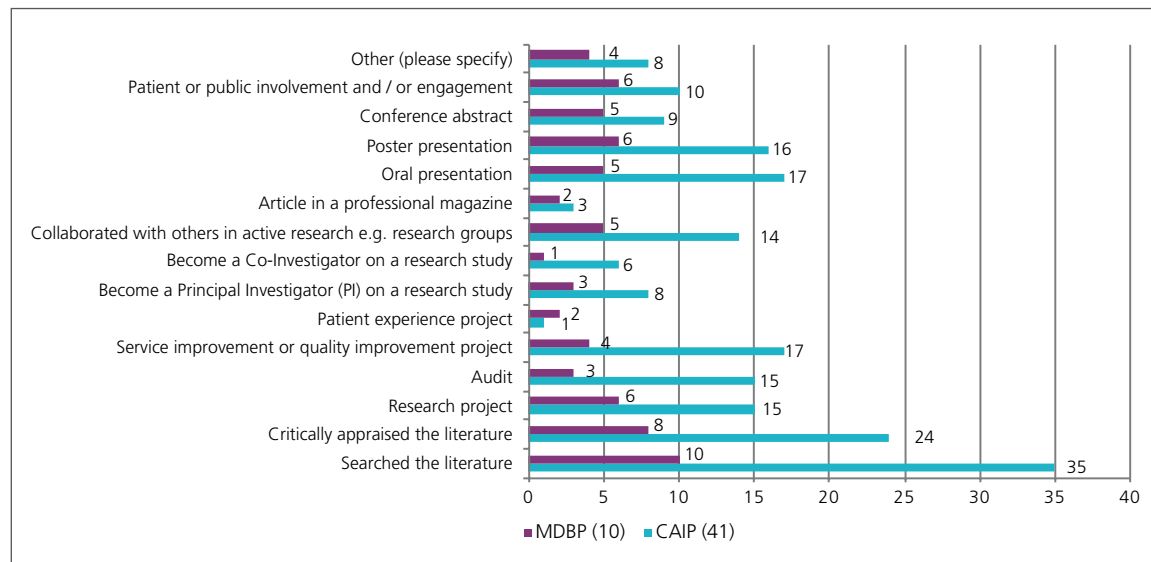
***Shortlisted for interview**

Over half (51%/22) of CAIP respondents indicated they had continued with the research work initiated during the programme despite completing the programme and 80% (n=8) MDBP participants reported having developed their project further.

Sixty three percent (63%/27) and 50% (n=5) of MDBP respondents stated they had

completed a literature review. Participants reported undertaking patient public engagement activity (n=16), giving conference (n=24) and poster presentations (n=22) see Figure 3 for detail. All participants are regularly contacted for updates on outputs and to date more than 100 publications, 33 as first author, have been produced at last audit (August 2018).

■ **Figure 3: Activities undertaken following the CAIP and MDBP**



The demanding expectations surrounding a clinical academic role were described by interviewees (participants and managers) and the characteristics and behaviours that were perceived as required for success. These included confidence, doggedness and resilience, reflective skills, criticality, and growing political know how to better navigate organisations. As one interviewee described:

"I'd applied for the Master's at [Name of University] before I did the internship and didn't get a place and I know now why. The minute I started the internship I knew why I hadn't got a place. I could completely see what I didn't know. When you don't know what you don't know it's hard, isn't it? I had an idea, I had a broad idea, but I hadn't done any literature searching, I hadn't formed it into a research question really tightly. It's the same topic that I'm working on now but I presented it in a different way, I suppose, because I hadn't known" (CAIP:15)

The programme also gave participants confidence that the aspiration was achievable:

"The confidence of the programme to know that these sorts of things aren't beyond possibility and to have an idea, speak to the right people, get the right connections...there are lots of good ideas on the shop floor that aren't taking forward and I think this just gave me the confidence to know that actually you can go and have a chat with the Director of R&D and the Profs, and all of this that I perhaps hadn't really considered before" (CAIP:7)

And an awareness of the challenges and setbacks they might encounter:

"If you're not successful just persevere and I think really that is the message that's probably quite important isn't it, just to get across that you know it's not easy is it, you know it's very competitive, and [you] just keep trying I think, don't you...until it all falls into place almost." (CAIP:3)

For some the programme(s) helped them recognise, although that could be painful, that a

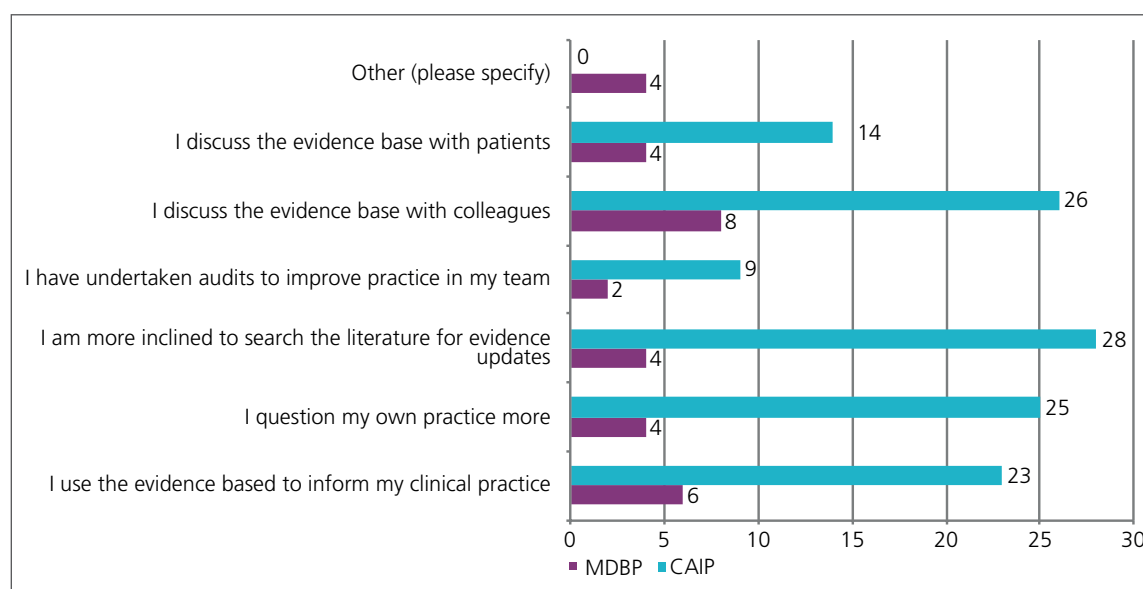
clinical research role was not the right career direction. As one manager reflected about a member of staff who had completed CAIP:

'She had several interviews and was feeling disgruntled "nobody ever gives me a chance, nobody ever gives me extra training" which I (manager) felt was a bit mean because we'd supported her through this (CAIP) but I think that individual was going through a process of understanding herself a bit better really, and knowing what her strengths were and playing to those strengths and I think actually as it's all worked'. (Manager 5)

3.4 Organisational Benefits

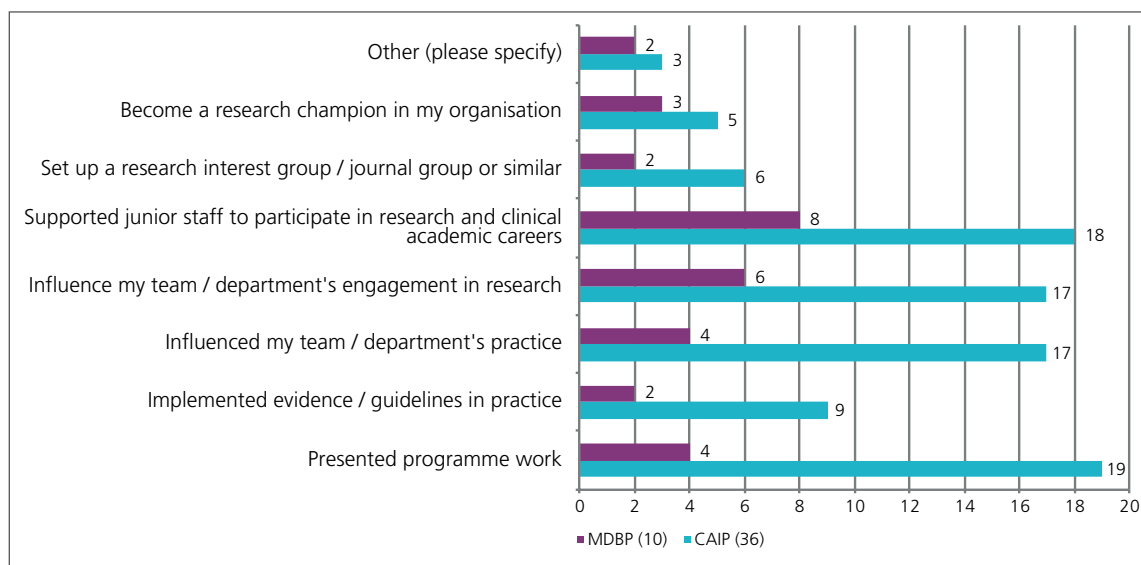
Behaviours learned during the programmes provided benefits for improving the quality of care delivered within services. Figure 4 shows that more than 55% (n=23) of CAIP respondents reported they discussed evidence with colleagues, searched the literature for evidence updates, questioned and used evidence to inform their practice following completion of the programme. Forty per cent of MDBP respondents (n=4) commented they felt they had better understanding of leadership and interaction with their team(s).

■ **Figure 4: Reported behaviours after completing CAIP and MDBP**



In addition, the survey identified new activities initiated following completion of the programmes to enhance and deliver evidence-based practice and research literacy to improve quality of care. Examples included setting up a special interest group, developing clinical guidance, and becoming a member of Q Community, a connected community supported by The Health Foundation to improve healthcare quality across the UK, and participating in research projects. CAIP/MDBP participants report becoming facilitators of team or departmental engagement with research in practice, and contributing to creating a research conducive culture. Figure 5 outlines the various activities CAIP/MDBP graduates have undertaken in the workplace.

Figure 5: Activities undertaken by individual in the workplace following CAIP and MDBP



3.5 Enablers and Barriers

Despite the majority of respondents stating they wished to pursue an academic career, the survey identified significant challenges in establishing such a career. The most significant barriers to progressing a clinical academic career were time, financial support and personal reasons.

The qualitative data provided further detail on the survey responses. These two examples illustrate the financial challenges:

"Well one of the big decisions I had to make about whether or not to accept the role (associated with a research training award) was the hours and the money because it's moving to full time, which is fine... Therefore, by moving to full time but losing my enhancements I'll be on around the same as I get on a good month when I have done lots of nights and weekends. But by working as I'm doing there won't be any opportunity to do extra shifts, any overtime. So a lot of it was money" (CAIP:2)

"So the NIHR ICA Pathway is great because it doesn't affect my pension but if anything else like jumping to university affected things like my pension and my pay and that sort of thing, that could be a bit of a barrier to where I go with it" (CAIP:12)

For some of the CAIP/MDBP participants undertaking the programmes brought a recognition that the time had to be right and this served as an obstacle. For others the programme brought the realisation that they should not embark on a clinical academic journey at all, or at least at the current time:

"I'm not completely sure in terms of my career and progression whether now is the right time to do it" (CAIP:8)

It is clear that management support is significant in enabling fulfilment of career aspirations and many had positive experiences to report. For example:

"It's because we have a manager who is supportive in a culture that's supportive and I

wouldn't necessarily say that's the same in all departments across our trust, I would say that that's part of our department but it's that thing, research then grows itself in that it becomes part of the norm" (CAIP:12)

Release from the workplace, despite the employer grant, was in some cases problematic. Finding appropriately skilled staff to cover services particularly in highly specialised areas and, or recruiting to short term, often part time, vacancies were challenges. In contrast some managers saw this as an opportunity to give other staff the chance to act up, for succession planning or worked creatively to make release possible:

"She's (MDBP) managed to get backfill for (him/her) self so it's just combined at the time we've had some gross money within the service so it's kind of being able to work" (Manager 6)

Some participants felt their managers did not necessarily comprehend that CAIP or MDBP might only be the beginning of a clinical academic journey and that it could mean long term investment in that individual:

"The time element is the main thing really because I know my managers thought once I'd done the PhD bridging programme...that would be it [laughs] really but they don't realise how much work still has to carry on to continue on that trajectory" (MDBP:13)

Whilst at an organisational level there might be a willingness to accommodate career aspirations, the reality of managing the available staff resource and giving opportunities fairly and equitably could be challenging.

Recruitment to the programmes was more common from those who were established in their career. This can present its own logistical problems in terms of delivering services. As is ensuring any investment in staff development is used to benefit care delivery. For example this aspirant clinical academic took responsibility for future proofing the service and demonstrating how a career involving research could bring benefits:

"From my point of view because I'm a senior nurse and I run the service I'm just having to make sure I can show them how the service will continue to run smoothly with me being away doing the fellowship, but then how it will support other people as well, and they all seem to have taken that on board which is really good, which is why I can go forward with it and carry on, it's just showing the benefits and making sure that the service isn't going to suffer while I'm away" (MDBP:14)

One of the consistent messages that emerged during this evaluation study was the problems created by the lack of a formalised career structure for NMAHPPS:

"You know staff have chosen to do bridging, PhDs, either through that route (HEE/NIHR) or through other means and the majority are really committed to clinical practice and want to maintain a presence seeing patients. That's a huge advantage to patients and patient safety but it's really hard to do that with my current budget and HR set up. So that's the bit that needs to be fixed" (Manager 4)

Some organisations were finding their own ways to enable careers. Likewise some individuals were trying to create their own route by identifying opportunities.

4.0 DISCUSSION

This evaluation aimed to understand the added value afforded by the CAIP and MDBP programmes. The programmes offer a unique opportunity to further NMAHPPS' research aspirations providing dedicated time away from busy clinical activities. The taught aspects use proven techniques to support adult learning similar to other research methods programmes however the combination of a cohort of competitively recruited practitioners from a range of healthcare disciplines learning together, and from each other, appears to be a particularly enriching experience. For some individuals the programme was a chance to gain insight into a world they might wish to enter. It is clear some exited the programme with a clear image of what constitutes a clinical academic career. CAIP/MDBP was a gateway for a minority but for others it was a career cross roads where they encountered a possibility and made choices about future direction.

The programme evaluations were overall positive. CAIP was seen as a *"stepping stone"* (CAIP: S1 and S9), *"platform"* (CAIP:8 and 11) or *"launch pad"* (CAIP:11) for beginning a clinical research career; and the MDBP put participants on the *"right path"* (MDBP:13). Participants left with new and, or refined research knowledge and skills and returned to practice clearly evidence-based practitioners who questioned contemporary practice. In many cases individuals implemented these new skills to improve quality of care in the workplace through evidence based practice, encouraging an enquiring research culture and starting initiatives such as journal clubs. Many had for the first time robustly searched and examined literature and embarked on writing for publication, resulting in tangible outputs with 100 publications at the time of evaluation.

Possibly one of the most important lessons learnt by participants is that research involves teams, collaborations and networks. The finding that programme participants valued the supervisor–supervisee relationship and recognised the contribution it made to their learning, is affirming. In excess of 102 researchers from across the region and beyond have been recruited to form the Birmingham Health Partners Integrated Clinical Academic Office (ICAO) Supervisory Faculty. This wealth of experience was clearly appreciated and most pairings were successful. Many of the relationships continued beyond the end of the programme(s) sustained in some cases through the HEE/NiHR ICA application process and into award phase. Many of these pairings crossed disciplines. Over the years of delivery the ICAO team have increasingly promoted and encouraged participants and supervisors to value the benefits of cross fertilisation, be it topic, discipline or methodologically, to strengthen the quality of any research endeavour. This has undoubtedly been successful. The creation of clinical academic networks and communities amongst NMAHPPS are needed to provide a support infrastructure to avoid organisationally isolated aspirant NMAHPPS clinical academics.

It is evident the two programmes increased confidence, research literacy and developed research skills. Despite limited role models within the workplace, participants could articulate the characteristics required by clinical academics following completion of the programme. Similarly behaviours, such as the ability to reflect and judge quality (criticality), build professional research relationships and networks, and deliver the expectations of working in research – whilst remaining patient focussed - were reportedly developed. They recognised the metrics of success – publications, securing training awards, funding for research and further study; and recognised if they wished to pursue their ambition they would need to demonstrate these.

Published evidence⁸ recognises that research active organisations deliver improved outcomes for patients. However, substantial organisational challenges, identified by participants and managers, exist which makes capacity development of clinical academics challenging. Managerial support was particularly emphasised as important in those participating in

MDBP. A formal career framework embedded in clinical practice is required to ensure clinical academic careers are sustainable. Nursing despite being the largest healthcare workforce are not proportionally represented as participants on the programmes, suggesting more support is required by this important group. In addition, large elements of the clinical workforce were missing from the programmes, notably pharmacists, paramedics and those employed by community providers and primary care. Work needs to be undertaken to understand the challenges of establishing clinical academic career opportunities and understanding the research culture in these contexts and communities.

Healthcare organisations need to support and value the research undertaken by NMAHPPS. It is essential that managers are supported to understand the benefits of programmes such as these may have in quality improvement and innovation. The research and activities undertaken on the programmes must have direct benefit to the service in order for the programmes to be sustainable, especially as many of the participants are at later stages in their careers with rare skills making replacement challenging. Individuals and managers recognise that resilience and perseverance were important for coping with the inevitable setbacks and adjustments needed to transition between clinical practice and clinical research, made more difficult given the uncharted career framework.

Some competencies were recognised by participants as still requiring ongoing development such as writing for publication, disseminating their work and how to apply for funding. Given all participants, despite in many cases being expert clinicians, were novice researchers and all pre-doctoral, these findings are unsurprising. It is common and arguably a success of education when learners are enabled to recognise areas that warrant further development. Much emphasis is put on self assessment using the Vitae Researcher Development Framework⁹ and action planning. This coupled with the attention placed on demonstrable outputs has been part of programme evolution.

There is much debate in the clinical academic capacity and capability literature about suitable metrics to demonstrate outcomes^{10,11}. Most concentrate on individual indicators and little on sustainability or impact. One measurable metric is the number of applications and awards made by participants to the HEE/NIHR ICA Programme and/or other similar award schemes. What has become apparent is despite completing intern and bridging programmes like CAIP and MDBP, there is often a gap between the end of programme(s) and submission of outputs such as publications and applications for awards. Supervisors, the Integrated Clinical Academic Office team and partner organisations continue to provide support to bridge this gap and guide potential candidates. This ongoing support requires infrastructure and resourcing if individuals are to be effectively facilitated in a research rich environment.

Not everyone can or will choose to apply for a competitive award such as HEE/NIHR ICA Programme, however this in itself is not failure of the programmes. The CAIP/MDBP attract many with potential but are not able, willing, or choose not, to progress along the NIHR ICA pathway but nevertheless have gained much from the experience and most continue to engage or promote research. Some go on to further study, others gain promotion, and some have secured funding for research or other projects. Many advanced their original research idea and published or many more presented their work. From the survey and interview data many attributed these outcomes to attendance on the programme.

Irrespective of original intention or aspiration, current clinical, professional and personal contexts for many determine whether individuals pursue research or embark on a clinical academic career. Programme participants have highlighted many and varied success stories which bodes well for developing a critical mass of research enriched NMAHPPS clinicians and a few potentially next generation clinical academic leaders.

5.0 CONCLUSION

This evaluation has shown that the HEE internship and bridging programmes are part of the essential infrastructure for supporting aspirant clinical academics. The support provided during the programme continues well beyond. It is apparent these practitioners return to practice with a renewed sense of purpose and enthusiasm to engage in research and influence others to do so.

Despite the many success stories, the path to a secure clinical academic career is unclear; best intentions when applying for CAIP or MDBP can be derailed. One respondent described a clinical academic career as similar to searching for the *“Holy Grail”* (CAIP:2) but the HEE funded programmes provides some tangibility.

It is a challenging time to be working within the health service. Through research, staff have the potential to improve quality, find efficiencies and to innovate. Clinical academic NMAHPPS want to participate in change through patient focussed research, but need opportunities such as CAIP and MDBP, infrastructure and networks to sustain them, and career structures to maximise that contribution.

6.0 RECOMMENDATIONS

1. Continued support for programmes such as CAIP and MDBP will provide a return on investment in terms of developing the entry level capabilities for a clinical academic career in some. For others, it is an opportunity to develop confidence as a research literate evidence based practitioner with skills and attributes that can be incorporated into other roles and, or career opportunities
2. Expansion of regional supervisor faculty and support networks is needed to continue to deliver on the supervision valued by participants. This will ensure participants have access to rich interdisciplinary guidance and mentorship they need to progress during, and importantly after completion, of structured programmes
3. Organisational level commitment is needed to provide “a roadmap” for clinical academic careers for NMAHPPS professions including creating an organisational research culture and critical mass of research active and interested clinicians and a formalised career structure
4. Organisations need to establish ways to promote NMAHPPS led research
5. The creation of clinical academic networks and communities amongst professions outside of medicine are needed to provide a support infrastructure for often ‘organisationally isolated’ aspirant NMAHPPS clinical academics

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