



# Clinical academic research internships: What works for nurses and the wider nursing, midwifery and allied health professional workforce

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## Abstract

Nurse-led research and innovation is key to improving health experiences and outcomes and reducing health inequalities. Clinical academic training programmes for nurses to develop research and innovation skills alongside continued development of their clinical practice are becoming increasingly established at national, regional and local levels. Though widely supported, geographical variation in the range and scope of opportunities available remains. It is imperative that clinical academic opportunities for nurses continue to grow to ensure equity of access and opportunity so that the potential of nurse-led clinical academic research to improve quality of care, health experience and health outcomes can be realised. In this paper, we describe and report on clinical academic internship opportunities available to nurses to share internationally, a range of innovative programmes currently in operation across the UK. Examples of some of the tangible benefits for patients, professional development, clinical teams and NHS organisations resulting from these clinical academic internships are illustrated. Information from local evaluations of internship programmes was

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collated to report what has worked well alongside 'real-world' set-up and sustainability challenges faced in practice. Clinical academic internship schemes are often opportunistically developed, making use of hybrid models of delivery and funding responsive to local needs and available resources. Key enablers of successful clinical academic internship programmes for nurses were support from senior clinical leaders and established relationships with local universities and wider organisations committed to research capacity building.

**KEYWORDS**

clinical academic, education, innovation, internship, learning, nurse, research, training

## 1 | BACKGROUND AND INTRODUCTION

The term clinical academic is used to describe a healthcare professional who combines research and clinical practice (Baltruks & Callaghan, 2018). There are two main types of clinical academics in the UK: clinically active academics who primarily work in Universities and clinically active health researchers who primarily work in health and social care organisations. Both types undertake research that is grounded in clinical practice to address clinically important questions and improve health experiences and outcomes.

Supporting the growth of clinical academic research and careers is a central tenet of the UK Government's strategy for the National Health Service (NHS) to deliver innovative, world class health care (Department of Health, 2012). In 2015, The NHS Constitution stated its commitment to research and innovation to improve the health and care of the population (Department of Health, 2015) and the NHS Long Term Plan (NHS England, 2019) recognises the central role of the NHS in advancing health research and innovation. Research has found that when individuals and healthcare organisations engage in research, patients have better outcomes (Downing et al., 2017), mortality rates are lower (Bennett et al., 2012; Ozdemir et al., 2015), and organisational healthcare performance is improved (Boaz et al., 2015). The positive impact of research for patients and organisations has been recognised by the regulator of health and social care in England, the Care Quality Commission (CQC), who adopted research activity as a key indicator of well-led organisations in 2018 (CQC, 2018).

For clinical academic research to grow and flourish, the recruitment, development and retention of staff who understand the importance of research and innovation and the role of an embedded research culture in their workplace is key. In the UK, investment in coordinated research training and career development funded by the National Institute of Health Research is growing exponentially (NIHR, 2017). The National Institute of Health Research is the largest funder of health research and health research training in the UK, investing in clinical academic research capacity and capability for all health professionals is one of its five core workstreams. However, as relative newcomers to clinical academic opportunities and careers, nurses, midwives and allied health professionals presently

### WHAT DOES THIS PAPER CONTRIBUTE TO THE WIDER GLOBAL CLINICAL COMMUNITY

- This paper illustrates and reports on a range of innovative clinical academic internships programmes in operation in the UK along with their tangible benefits for patients, professional development, clinical teams and healthcare organisations.
- We share learning of 'what works' in practice and identify factors conducive for clinical academic internship programme success and sustainability.
- Key enablers of successful clinical academic internship programmes for nurses are support from senior clinical leaders and established relationships with local universities and research organisations committed to research capacity building.

lag behind other disciplines. Collectively, nurses, midwives and allied health professionals (NMAHPs) make up more than two-thirds of the healthcare workforce (The Nuffield Trust, 2019), yet they constitute 1%, <1% and 4% of trainees in the National Institute of Health Research (NIHR) research training infrastructure, respectively (NIHR, 2017). Although clinical academic opportunities for NMAHPs to develop research and innovation skills alongside their clinical practice have become increasingly established at national, regional and local levels over the last decade, there is clearly a long way to go, and none more so, than for the nursing profession.

Whilst focused on nurses, this paper is positioned in the wider context of the NIHR (2018) Senior Nurse and Midwife Research Leader Programme aimed at strengthening the research voice and influence of nurses and midwives in the NHS and broader NMAHP clinical academic opportunities (Table 1). The authors of this paper are members of the UK Clinical Academic Roles Implementation Network (CARIN). Members of CARIN are clinical academic research development leaders for their organisations who work to increase clinical academic opportunities, further embed research culture and advance the development and implementation of joint clinical

TABLE 1 Information sources for national clinical academic research training fellowships

Scotland	Wales	Northern Ireland	England
Clinical Academic Research Career Framework: Clinical academic research careers. (NHS Education for Scotland, 2020)	Building Research Capacity for Nursing, Midwifery, Allied Health Professions & Pharmacists. (Research Capacity Building Collaboration Wales, 2020)	Health and Social Care Services Research and Development Division Northern Ireland: Improving health and social care through research. (HSCNI, 2020)	Health Education England & National Institute for Health Research Integrated Clinical Academic programme. (HEE, 2020)

academic roles across all healthcare professionals (Council of Deans, 2020).

In this paper, we describe and report on a range of national, regional and local clinical academic internship programmes available to nurses, to share internationally an England and Wales/United Kingdom perspective and programme innovations. It is important to note that these opportunities are not unique to nurses and are open to other non-medical professionals. Six case studies provide examples of the different types and formats of locally developed clinical academic internship programmes currently in operation in NHS Trusts in England and Wales. Examples of some of the tangible benefits for patients, nurses, clinical teams and NHS organisations resulting from these clinical academic internships are illustrated. Local evaluation information from these programmes has been collated and presented here to share learning of what worked well alongside some of the 'real-world' set-up and sustainability challenges faced in practice. In conclusion, key reflections for future proofing sustainable clinical academic internships and career pathways for nurses are made.

## 2 | NATIONAL CLINICAL ACADEMIC OPPORTUNITIES

Across the UK, national strategies, guides and resources exist to support and advance Nurses, Midwives and Allied Health Professionals (NMAHPs) participation in research and to guide development of clinical academic career pathways (AUKUH, 2016; HSCNI, 2020; NIHR, 2017, 2019; NIHR CRCC, 2018; NES, 2020; RCBC, 2020). The UK is well served with research and innovation infrastructure and numerous opportunities exist at national levels to support aspiring clinical academic researchers and career pathways. UK-wide, across the four nations, there are a range of research training fellowship programmes for NMAHPs (Table 1) from Masters through to Doctoral, post-Doctoral, Senior Clinical Academic and Clinical Professorship levels (Baltruks & Callaghan, 2018). Members of devolved countries can apply for NIHR funding as well as their own schemes.

These programmes, many of which cover research and salary costs, support nurses to undertake research and to develop sound clinical research knowledge and skills in the process. In so doing, they enable nurses to develop their own clinical academic career and strengthen research capability and capacity across health and social care. There are also many other national-level clinical academic research opportunities, for example from the Stroke Association, The

Dunhill Medical Trust, The Wellcome Trust and UK Research and Innovation Research Councils. Navigating the range of national research opportunities available can be challenging. In addition, many of these programmes require applicants to demonstrate a good level of research knowledge, skills and experience at the point of application. For nurses wanting to take a first step into research or apply for one of the national training programmes, regional and local clinical academic internships help to bridge the clinical -> clinical academic skills gap.

## 3 | REGIONAL CLINICAL ACADEMIC INTERNSHIP OPPORTUNITIES

Clinical academic internships are important because they provide opportunities for those new to research to gain research knowledge, experience and skills often by undertaking smaller scale, clinically relevant research projects whilst supported by experienced researchers. Although there are regional clinical academic research internships on offer, there is much disparity in type and availability of opportunities at this level. This variation is a result of differences in regional research capacity and capability building funding streams and research infrastructure. For example, regional clinical academic internship programmes have been supported by Health Education England (HEE), (an organisation responsible for health workforce education, training and development) and NIHR Collaboration for Leadership in Applied Health Research and Care (CLAHRC), and since 2019, Applied Research Collaborations (ARC) (organisations to address regional health and care issues) in some, but not all regions. Even when these programmes exist regionally, nurses may have less opportunity to access them because clinical areas do not have established links with the Universities that host them. A case study demonstrating the importance of designated research capacity and capability funding streams and systems at regional level can be seen in Box 1.

## 4 | LOCAL CLINICAL ACADEMIC INTERNSHIP OPPORTUNITIES

More recently, individual NHS Trusts have developed their own unique clinical academic internship programmes in response to local need and availability of resources to support them. As with regional programmes, local opportunities vary. Examples of some of the

**BOX 1 Regional research capacity and capability building case study**

Funded by HEE and NIHR, the North West regional clinical academic internship programmes were first introduced in 2014 (Miller et al., 2020). Hosted by the University of Central Lancashire, these master's degree level accredited programmes supported 42 healthcare professionals, representing 5 NHS Hospital Trusts enabling practitioners to experience a research role whilst optimising their clinical expertise. Building on these programmes, the capacity building theme for NIHR Collaboration for Leadership in Applied Health Research and Care North West Coast (CLAHRC NWC) supported clinical academic internships from February 2015 to September 2019 (Khan et al., 2020). During this period, 67 interns from health and social care organisations and local authorities from across the North West Coast region were supported to complete projects important to their employing organisations, patients, service users and carers. Regional internship programmes have additional benefits of being able to draw on and share learning across a wider range of research partners, public advisors and health and social care organisations, thus allowing them to address regional health priorities.

<b>Case 1</b>	<b>Pan-Wales Collaboration across Health Boards and NHS Trusts, First into Research Fellowship Programme since 2008.</b>
	<ul style="list-style-type: none"> <li>•0.2wte* protected time for 12 months, remains in clinical team.</li> <li>•Practice-based research training supported by bi-monthly Community of Scholars Programme meetings. Clinical academic projects are aligned with government policy and priority areas to contribute to the evidence base and maximise practice impact needed for NHS Wales.</li> </ul>
<b>Case 2</b>	<b>Large Tertiary Centre in North East England, Clinical Academic Internship Programme since 2016.</b>
	<ul style="list-style-type: none"> <li>•0.2wte protected time for 6 months, maintained in clinical team.</li> <li>•Interns undertake an evidence-based clinical project (e.g. audit, service evaluation, literature review, research proposal) with clear benefit for patients or workforce. Training is personalised and involves placements (e.g Ethics Committee), inhouse training and mentorship by a senior, research active NMAHP.</li> </ul>
<b>Case 3</b>	<b>Secondary and Tertiary Care Teaching Hospital in North West England, Clinical Academic Trainee (CAT) Internship Programme since 2017.</b>
	<ul style="list-style-type: none"> <li>•0.2wte protected time, flexible lengths up to 3 years, remains in clinical team with new job description.</li> <li>•Interns undertake an evidence-based, healthcare improvement project with demonstrable benefit for patients and clinical teams. Personalised, formal and informal, training programme with clinical academic mentorship supported internally, and by local University and NIHR CLAHRC/ARC NWC**.</li> </ul>
<b>Case 4</b>	<b>District General Hospital (3 sites) in South East England Hospital, Clinical Academic Scholar Programme since 2017.</b>
	<ul style="list-style-type: none"> <li>•0.2 or 0.4wte* protected time for 12 months (two programmes). Nurses seconded onto programme.</li> <li>•Scholars undertake an evidence-based service improvement project linked to Trust Quality objectives. Research training involves literature review and article for publication, developing research skills and utilising research to challenge practice.</li> </ul>
<b>Case 5</b>	<b>National Specialty Hospital in London, England, Clinical Academic Internship Programme since 2018.</b>
	<ul style="list-style-type: none"> <li>•0.2wte* protected time for 12 months seconded to research and development team.</li> <li>•Interns develop a small-scale research or service evaluation project relevant to their clinical area. Interns are supported by a nursing research mentor and through their project learn about study design and approval processes. Interns learn about other research activities by shadowing clinical research nurses.</li> </ul>
<b>Case 6</b>	<b>District General Hospital (3 hospital sites) in East of England, Clinical Academic Internship Programme since 2019.</b>
	<ul style="list-style-type: none"> <li>•0.4wte* protected time for 4 months working with research team.</li> <li>•Working alongside clinical research teams, interns learn about feasibility, set up and delivery of clinical trials. Interns are encouraged to develop a project, relevant to their clinical practice in line with the Trust's expertise and priority areas. Interns participate in research masterclasses to support their development.</li> </ul>

Key: \*0.2wte = 7.5 hours, the equivalent of one day per week and 0.4wte = 15 hours, equivalent to two days per week. \*\*NIHR CLAHRC/ARC NWC (National Institute of Health Research Collaboration for Leadership in Applied Health Research and Care / Applied Research Collaboration, North West Coast).

**FIGURE 1** Examples of local clinical academic internship programme case studies

different ways that NHS Trusts have designed and are delivering internships are illustrated in Figure 1.

These internship examples vary in terms of their specific goals, duration and training, though there are core components, illustrated in Box 2.

The national Pan-Wales programme was introduced in 2008, and the regional and local case study clinical academic internship programmes have commenced within the last 5 years. The Pan-Wales programme has supported 39 First into Research Internship Awards and the regional North West England case study programme has supported 67 internships since inception in 2014. Across the local

NHS Trust-based Clinical Academic Internship Programme Case Studies cohort sizes average between four and eight internship places per annum.

## 5 | CLINICAL ACADEMIC INTERNSHIP PROGRAMME EVALUATION

Evaluation of the clinical academic internships has taken the form of programme evaluation questionnaires, interviews, internship reports, meetings and/or group discussions with interns and their

**BOX 2 Core components of clinical academic internships for nurses**

Goals	To increase research and innovation capacity and capability of nursing staff. To increase confidence of nurses to challenge practice, ask questions and to use and implement research in practice. To provide local, clinical academic opportunities to support those wishing to develop a clinical academic career. To attract and retain high-quality staff. To enable aspiring clinical academics to develop skills and attributes to support applications for competitive research training fellowships.
Model	Protected time for a given period to undertake clinical academic internship research work.
Eligibility	Early career Nurses, (Midwives and AHPs), though commonly also open to mid and senior career staff in recognition of usual clinical career trajectories. Some programmes are also open to non-registered health practitioners based on need and interest.
Activity types	To develop research skills by working with senior clinicians and experienced researchers, undertaking research training and/or undertaking local, small-scale, evidence-based clinical research projects with clear potential benefit for patients and/or clinical teams.
Programme	Bespoke, personalised training and activities based on individual's and organisation's needs and goals.
Funding	Protected clinical academic research time is funded.

**BOX 3 Professional development case study: from research newcomer to nurse clinical doctoral research fellow**

A Band 6 clinical nurse based within acute medicine at Western Sussex Hospitals NHS Foundation Trust joined the Clinical Improvement Scholarship programme with no previous experience or knowledge of research and clinical academic roles. Following completion of her first degree in Nursing, she had been working full time in clinical practice for several years demonstrating a real passion for improving care for patients and supporting staff mental health and well-being. Her main reasons for applying to the scholarship were related to growing frustration with her ability to feel she was making a difference which had also led to her considering leaving her nursing role. During the scholarship programme, whilst also developing her masters level research experience, she was able to successfully achieve two improvement projects, one introducing a new pain scoring system for patients with dementia and the other developing a manager's toolkit for supporting staff mental health and well-being. In the last 2 years, she has successfully helped roll this out across the whole organisation with the backing of our Chief Executive, won the Trust annual award for innovation in practice, written an article for publication and been accepted to present at an International Nursing conference. In May 2020, following a successful application, she began a new clinical academic role as Nurse/Clinical Doctoral Research Fellow where she will be researching holistic care of frail elderly patients in the acute care environment as part of her everyday practice over the next 4-5 years.

**BOX 4 Benefits for patients, clinical teams and NHS Organisation case study: from research newcomer to nationally recognised dementia champion**

A Band 4 Health Care Assistant working in the Emergency Department at Lancashire Teaching Hospitals NHS Foundation Trust recognised that dementia care was at a high standard but could be enhanced for patients in the later stages of dementia. She undertook a clinical academic internship to explore the experiences of staff working in hyper-acute/acute settings in communicating with patients who have dementia. She then developed and implemented an adaptation to patient identification wristbands for patients with dementia with the aim of enhancing person-centred care and ensuring that health professionals across a range of settings including emergency departments, imaging and wards were discretely alerted when checking patient details, enabling staff to then utilise their dementia training. In recognition of her innovation and drive to improve care for patients with dementia, she won the 'Caring Category' Quality Award in recognition of the adaptation to patient wristbands for patients with dementia in the Emergency Department and is now recognised as a Dementia Champion. The idea has been implemented in a range of hospital and community settings, improving the communication with and care of patients with dementia. The project has been presented at national conferences and clinical meetings and used as a case study example by the Royal College of Nursing to celebrate nursing practice and by NHS England as a case study of good practice.

clinical academic mentors, academic supervisors, clinical leads and public advisors (Bell & Colleran, 2019; Miller et al., 2020; Olive, 2019a). The basic premise behind evaluations was to find out about, what had gone well, what were the challenges, what could be done better, support needs, future work, training plans and ideas for programme improvement. These local evaluations evidence positive impact of clinical academic internships in relation to:

1. Professional development and career progression (Case study Box 3)
2. Benefits for patients, clinical teams and NHS organisations (Case study Box 4)
3. Embedding research culture (Case study Box 5)

Professional development in research and transferable skills has included:

1. Information literacy to search, critically appraise and review evidence.
2. Growth in confidence to utilise research to challenge and change practice.
3. Engaging and working with public advisors, clinical teams and researchers towards a common goal.
4. Designing robust methods to evaluate practice, undertake research, implement research in practice and measure impact.
5. Dissemination through abstracts, conference presentations, social media and peer-reviewed publications.
6. Increased knowledge, confidence and capacity in research.
7. Project and change management skills.
8. Completion of accredited internship postgraduate modules which have spring-boarded to further postgraduate study.
9. Applications to and success in attracting fellowships (NIHR MSc funding, NIHR Pre-doctoral and Doctoral fellowship opportunities) or funding to progress along the research pathway.
10. Career progression through promotion or pathway change to clinical research, clinical academic or continuous improvement.
11. Leadership skills and becoming a more rounded and confident professional.

Benefits for patients, clinical teams and NHS organisation were evidenced by:

1. Development and implementation of new evidence-based care pathways and changes to practice.
2. Improvements in patient experiences and outcomes.
3. Improvement in collaborative clinical team working and performance.
4. Finding shared aspirations with colleagues from other professions and bridging inter-professional barriers.
5. Development and implementation of new staff education programmes.
6. Attracting and retaining high-quality staff.
7. Improved well-led CQC ratings.

Embedding research culture across the organisation was achieved through:

1. Engaged, enthused research champions who make research in practice visible.
2. Student nurses experiencing research in practice through their placements.
3. Growing local community of research aware, active and supportive NMAHPs.
4. Strengthening networks with regional research infrastructure (NIHR NHS Research and Development, Research Design Service, Applied Research Collaborations and the Innovation Agency).
5. Development of new collaborations and networks and engagement with existing ones such as the Florence Nightingale Foundation and Council for Allied Health Professionals Research.
6. Recognition of the essential role of clinical academic research within NHS organisations forming part of everyday strategic, operational and continuous improvement activity.

## 6 | CLINICAL ACADEMIC RESEARCH INTERNSHIPS: WHAT WORKS FOR NURSES AND THE WIDER NMAHP WORKFORCE?

The benefits of clinical academic internships for patients, interns, clinical teams and NHS organisations are clear. However, for nurses, especially early career nurses on the front-line of 24/7 health service delivery, securing their participation in clinical academic opportunities may initially be difficult. Nursing shortages (The Health

### BOX 5 Embedding research culture across the organisation case study: from research newcomer to NHS Trust research champion

A Band 7 clinical nurse specialist working in the spinal cord injury centre at the Royal National Orthopaedic Hospital NHS Trust was passionate about improving the care experiences and outcomes of her patients but lacked confidence in her ability to undertake research. She held a first degree but had no experience of research or improvement work and had never written any papers for publication. During the internship period, she received coaching from an experienced researcher and attended monthly support meetings and regular training sessions. She went on to conduct a service evaluation, which was published in the *British Journal of Nursing*, presented her work at two international conferences and was shortlisted for an improvement fellowship. Three years later, she is undertaking a Masters in Research, writes a regular blog for the *Nursing Times* and is a research champion for the Trust, supporting other nurses to develop research confidence.

Foundation, 2019) and clinical workload demands due to high bed occupancy rates averaging at more than 90% (Ewbank et al., 2020) add to this nurse-specific challenge.

## 6.1 | Recruitment and retention

Connecting positive impact of clinical academic opportunities with recruitment and retention of nurses can help overcome challenges based on staffing concerns. Presently, data about the impact of clinical academic roles on nurse retention is limited. However, qualitative data from evaluations of the internship programmes illustrated here indicate positive effect on job satisfaction. Clinical academic interns stated that they felt more empowered, confident and that they were making a difference (Bell & Colleran, 2019; Miller et al., 2020; Olive, 2019b). Many reported that their internship had reignited and reinvigorated excitement in their clinical work and that they felt they mattered to the organisation (Miller et al., 2020). Anecdotally, some interns reported that they may have left the NHS Trust if they had not undertaken their clinical academic programme. The potential of local clinical academic internships to contribute to attracting and retaining high-quality staff is emerging, leaders of these internship programmes report expressions of interest from nurses outside their organisations. These findings resonate with the Academy of Medical Science's (2020) report that time for clinical academic research built into healthcare workforce roles boosts recruitment and retention and can help prevent burnout.

## 6.2 | Funding

Financial pressures across the NHS mean that local clinical academic internships are often run on limited budgets sourced from a variety of funding pots. Replacement funding for interns to be released from practice is essential. Even with replacement funding, release is not always possible as periods of peak practice demand meant that nurse and midwives' pre-arranged clinical academic research days were sometimes rescheduled (Bell & Colleran, 2019; Olive, 2019b). Release from practice for the clinical academic internships illustrated here have been funded from nursing bank budgets, nurse vacancy budgets, charitable funds and National Institute of Health Research and Health Education England research capacity building funding streams. Some internship programmes were single source funded and some were hybrid, drawing on a range of sources.

## 6.3 | Clinical academic support

Even within a small cohort, clinical academic interns will be pursuing very different projects, each with different learning and development requirements at different times. For example, intern projects

may have a primary clinical audit (e.g. medical record survey) or literature search or patient experience or service evaluation or quality improvement focus, or indeed be a mix of these. Consequently, research training programmes with built-in flexibility for adaptations are necessary to meet clinical academic interns' development needs in a time-activity sensitive manner. Personalised learning and development plans can ensure that interns access the right training and support at the right time, drawing on internal and external learning opportunities. Internal learning opportunities include activities such as clinical audit for quality improvement, research placements, literature searching and critical appraisal training. External learning opportunities with Universities support interns to develop skills in clinical academic writing, research methods and implementation science.

Clinical academic interns are best supported by a team made up of senior clinicians, experienced clinical academic researchers and, where possible, patient and public advisors to meet their learning, development and project goals. Although not a prerequisite, clinical academic supervisors usually have post-doctoral research experience and are matched with interns based on their clinical and/or research expertise. Clinical academic supervision is commonly scheduled on a monthly basis although it is often more frequent at the beginning of the internship programme when interns are shaping their research ideas or require support with ethics application. Capacity for supervisors to be flexible and responsive to changing support needs is important. In addition to regular, formal progress monitoring and support mechanisms, informal opportunities, such as lunch or coffee break catch-ups, enable peer-to-peer clinical academic support networks to develop across the institution.

## 6.4 | Partner research organisations

Good relationships with local NMAHP-research active Universities, often mobilised by clinically focused NMAHP Professors, were important for these clinical academic internship programmes to be realised. A number of these clinical academic internships were supported by invaluable, in-kind support from local Universities and partner research organisations. Most of the NHS Trust clinical academic case studies illustrated do not have what is known in the UK as 'University Hospital' status, a designation that recognises embedded research links between an NHS Trust and a School of Medicine or Dentistry (University Hospital Association, 2019). Clearly, as exemplified in the case studies here, developing collaborations and building relationships with local universities are important for NHS Trusts to develop local clinical academic career opportunities but importantly, not having 'University Hospital' status is not a barrier.

Despite challenges, local clinical academic internship programmes and local clinical academic communities are thriving. Through our experiences of leading and evaluating clinical academic internship programmes, we have identified factors conducive for success and sustainability (Box 6).

**BOX 6 What works: factors conducive for clinical academic internship programme success and sustainability**

Culture	<ul style="list-style-type: none"> <li>Senior clinical leaders who champion and support research and innovation.</li> <li>Organisations and clinical areas with a clear patient experience-centred culture.</li> <li>Organisations and clinical areas with embedded research and innovation culture.</li> </ul>
Clinical team	<ul style="list-style-type: none"> <li>The clinical academic internship project is important for the clinical team and endorsed by team leader(s).</li> <li>The clinical academic internship project contributes to the clinical team's strategic goals.</li> <li>Clinical team engaged from beginning and agree project focus.</li> <li>Clinical leads involved in internship selection and recruitment.</li> </ul>
Timeframe and resource	<ul style="list-style-type: none"> <li>Being mindful of importance of demonstrable benefits in a reasonable timeframe for often stretched teams.</li> </ul>
Internships	<ul style="list-style-type: none"> <li>Interns working together on the same or related projects can enhance momentum and project results.</li> </ul>
Clinical academic support	<ul style="list-style-type: none"> <li>Early identification of a core clinical academic support team and corresponding training and development for intern.</li> <li>A core clinical academic support team to provide rounded support and advice consisting of clinical lead(s), post-doctoral (or equivalent), experienced subject and/or methodological researcher(s) and public and patient advisor.</li> <li>Responsiveness to integrate additional expert members in the clinical academic support team as needed.</li> <li>Regular, at least monthly, formal and informal progress monitoring and support to help keep intern on track and prevent isolation.</li> </ul>
Flexibility	<ul style="list-style-type: none"> <li>Built-in programme flexibility, for example, drop-in and intern-led sessions in addition to anticipated and planned training sessions so learning activities are relevant and timely.</li> </ul>
Sustainability	<ul style="list-style-type: none"> <li>Draw on and make the most of existing research infrastructure and research and innovation networks.</li> <li>A developing community of research active NMAHPs with the skills and impetus to buddy and support or mentor others.</li> </ul>

**6.5 | Research culture**

Senior clinical leaders that understand the benefits of clinical academic research were key for clinical academic opportunities to become established and grow. Clinical areas that had a strong patient experience-centred and quality improvement culture were keen to nominate and support colleagues applying for and undertaking clinical academic internship projects. These same clinical areas often had track records of supporting research and innovation, research active NMAHP consultants or specialist practitioners and a commitment to supporting patients to participate in research. Matrons as clinical leaders are key to expansion of nursing research by being knowledgeable about local research processes, championing research and innovation, and supporting staff aspiring to follow a

clinical academic career (NHS Improvement, 2020). Similarly, ward leaders are pivotal in taking advantage of links with Universities and opportunities for their teams to become involved in research (NHS Improvement, 2018).

Buy-in from clinical teams is an important factor for success and one way to achieve this is to make sure that clinical academic research projects have relevance for teams' strategic goals. Clinical team support is more likely to engender project approval and engagement from clinical managers and NHS Trust executives. Clinical academic interns felt well supported in contexts where their project was important for their clinical team, was a high priority area and contributed to meeting the teams' objectives. Engaging clinical teams early on and seeking their approval and commitment to the project, though often resource intensive



for the intern, was valuable for generating support and reducing future resistance. Similarly, identifying mentors and internship support teams early helps keep interns on track by planning their work programme and initiating training and development to support it.

Depending upon clinical team and organisational goals, recognising the potential of 'quick win' projects is important, such as an evidence-based innovation that can produce demonstrable benefit to patients and clinical teams within shorter timeframes. Shorter projects can be particularly useful for clinical areas that are new to research and/or clinical areas that may have difficulty committing staff to internships of longer duration. By addressing the 'what's in it for us as a department?' question, demonstrable success and benefit will positively affect future clinical team buy-in and wider adoption across the organisation.

## 7 | MEASURING SUCCESS

Clinical academic research internships and clinical academic research careers are sometimes mistakenly understood through a narrow definition of 'research' and what it means to be 'a researcher' (Bench et al., 2019). These misconceptions may be associated with the currently low, though growing, number of NMAHP clinical academic posts and role models across the UK (NIHR, 2017). Clinical academic internships with a quality improvement component are often helpful vehicles for engaging nurses in research early in their careers by developing both research and improvement science skills concurrently and creating research conducive environments (Bell & Colleran, 2019; Bench et al., 2019). Findings from a focus group study (Bench et al., 2019) found that nurses may feel more comfortable with the idea of improvement projects and see these as more relevant to their role and to their local setting. Clinical academic internship quality improvement projects tend to focus first on developing a project idea and then on exploring the right methodology for it. Whilst these internships often fulfil the criteria of an improvement rather than a research project, they nonetheless increase interns' understanding of the differences, and simultaneously, their confidence and competence in both research and improvement methodologies (Bell & Colleran, 2019; Bench et al., 2019; Miller et al., 2020).

Whilst some interns have gone on to undertake pre-doctoral and doctoral fellowships, such a route is not for everyone and interns may return to their clinical areas equipped with skills and knowledge that support future improvement projects. There are many ways that nurses integrate clinical academic research internship learning in their practice and careers. Across the programmes illustrated here, clinical academic internship graduates have gone on to become Unit Research Champions, Clinical Research Nurses, Quality Improvement Leaders, Speciality Champions (e.g. Dementia), Peer Research Mentors and Clinical Academic Researchers, all of which contribute to further embedding research culture and opportunities and improving healthcare experiences and outcomes for patients, families, carers and staff, locally and nationally.

These positive impacts of supporting and embedding clinical academic research internships described across these programmes have both tangible and intangible attributes at individual, clinical team and organisational levels. It is important that measures of success of local clinical academic internship programmes fully captures impact (Coad et al., 2019). Alongside impacts of clinical academic research for patient care, metrics currently assessed annually in participating NHS Trusts by the UK Clinical Academic Roles Implementation Network survey (Council of Deans, 2020) captures information about research embeddedness at:

1. Organisational (e.g. Trust Board, Strategy; Research Visibility),
2. Operational (e.g. Clinical Academic Committee, Mentorship Scheme; Talent Spotting Scheme; Numbers undertaking internships and Masters, Doctoral and Post-doctoral programmes, Joint Clinical Academic Research Posts), and
3. Individual (e.g. Level of Research Education; Research Funding; Publications; Professional Development) levels

In addition to these metrics, measures of clinical academic research impact are developing locally, outcome measures from internships presented here include the following:

1. Numbers of new initiatives implemented into areas,
2. Nurses' contributions to local and national policy/protocol/guideline development,
3. Presence of local forums for discussing research/improvement e.g. ideas clinics, journal clubs
4. Evidence that research/improvement activity is discussed at appraisal and feeds into nurses' revalidation to maintain their registration with the Nursing and Midwifery Council,
5. Unit quality accreditation scores

The impact of clinical academic research activities locally was also noted as evidence of excellence in NHS Trusts' Care Quality Commission Inspection Reports (Care Quality Commission, 2018, 2020), Health Education England Quality Framework Monitoring reports, National Institute for Health Research Clinical Research Facility reports and University Nursing and Midwifery Council Quality Monitoring reports (Olive, 2019a).

## 8 | COVID-19

COVID-19 has no doubt had an impact on clinical academic internships. In the first stages, clinical imperatives to ensure that health systems were able to cope with anticipated increased demands meant that some clinical academic internships were placed on hold. However, some organisations and clinical teams enabled interns to continue their research activity alongside their clinical contribution. In some instances, interns were deployed to support and run COVID-19 clinical trials. Whilst their own research projects were delayed, they were able to gain valuable urgent public

health trials experience as part of an experienced team of clinical research staff. This sends an important message at a time when research has experienced a shift in focus, and nationwide recognition of its primacy in responding to a global pandemic has led to increased interest and acknowledgement of the need for research activity. Interns have been invited to be co-applicants on COVID-related research studies and are taking up such opportunities as a direct result of their internship experiences. Responding to this unprecedented global health crisis perfectly demonstrates the transferability of interns' developed research skills and ability to adapt and apply to a rapidly changing landscape of clinical academic research questions and priorities. We have also seen many briefings and letters of support for NIHR academy members about safeguarding training fellowships and ensuring clinical academics are not adversely affected by the pandemic, which articulates the value placed on these individuals and the schemes they are part of.

## 9 | CONCLUSION

Clinical academic internships are pivotal for nurses who wish to pursue a clinical academic career and for those keen to take a first step into the research and innovation world. As illustrated here, nurses have achieved impactful, practice changes as a result of their clinical academic internship programmes. The clinical academic research from the internship programmes show-cased here has directly contributed to improving quality of care, health experience and health outcomes. These quality improvements have been recognised as good practice in NHS Trust CQC inspection reports and nationally as exemplars of practice innovation and excellence. Importantly, clinical academic internships are not only about developing career clinical academic researchers. Clinical academic internships enable nurses and the wider workforce to engage with research evidence to move towards real evidence-based practice in which nurses are confident to engage with research evidence, ask questions, challenge practice and implement research findings in practice.

Enablers for successful clinical academic internship programmes for nurses are clinical leaders that understand the wider benefit of research engaged organisations alongside established relationships with local universities and regional organisations committed to research capacity building. Often, clinical academic internship schemes are opportunistically developed, making use of hybrid models of delivery and funding responsive to local needs and available resources.

The UK has excellent research infrastructure that supports national pre-doctoral, doctoral and post-doctoral research training fellowships and regional and local clinical academic internship opportunities are increasing. However, geographical variation means that access for some may be limited. It is imperative that clinical academic opportunities for nurses continue to grow to ensure equity of access and opportunity so that the potential of nurse-led clinical

academic research to improve quality of care, health experiences and health outcomes can be realised.

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## CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

## AUTHOR CONTRIBUTIONS

All authors have made substantial contributions to the paper's conception and design, the provision of data and its collective analysis and interpretation. All authors have been involved in collating materials, drafting the manuscript and critically revising it for important and relevant, applied intellectual content. All authors have approved the final version, take responsibility for portions of content and have agreed to be accountable for the work assuring its accuracy and integrity.

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