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TITLE

Clinical academic research internships for nurses, midwives and allied health professionals:

A qualitative evaluation.

ABSTRACT

Background: Nurses, midwives and allied health professionals are integral to research, yet rarely engage simultaneously in research and clinical practice. Clinical academic internships offer a route to access academic research training. This study aimed to elucidate facilitators and barriers to participation and engagement, and suggest improvements for future programmes. **Method:** The experiences of 10 health professional research interns were explored, using a method based on a synthesis between grounded theory and content analysis. **Findings:** Four categories emerged: 1) integrating clinical and research aspirations; 2) Support – or lack of it; 3) The hidden curriculum; 4) The legacy effect. Within these categories, respondents identified a variety of facilitators and barriers to engagement, including unforeseen challenges. **Conclusion:** Formal support is necessary but not sufficient to foster engagement and maximise benefits. Participation must be supported by colleagues and enabled by institutional structures. The potential impact of internships on engagement with research is considerable but requires collaboration between all stakeholders. **Implications for Practice:** Deeper institutional engagement is needed so that internship opportunities are fully supported by all colleagues and practically enabled by institutional structures. Future schemes should attempt to promote opportunities to collaborate via group projects to reduce researcher isolation.

Keywords: Clinical Academic; Research; Education; Health Personnel; Interdisciplinary Education; Qualitative Research

23

BACKGROUND

24 The development of a research culture in nursing, midwifery and allied health professions
25 (NMAHPs) is essential for evidence-based healthcare. Historically, clinically active NMAHPs have rarely
26 led or collaborated in research that contributes to their discipline's evidence base (Health Education
27 England, 2015; Gibson, 2019). Their involvement in research often entails promoting the
28 implementation of evidence-based practice, or co-ordinating and delivering research projects led by
29 medically qualified clinical academics (Whitehouse, 2018). There is increasing international evidence
30 that research-active practitioners enable healthcare organisations to provide better quality care and
31 improved patient outcomes (Krzyzanowska et al., 2011; Ozdemir et al., 2015, Van Oostveen et al.,
32 2017, Windsor et al., 2015; Windsor et al., 2017).

33 Clinical academics '*work in health and social care as clinicians to improve, maintain, or recover*
34 *health while in parallel researching new ways of delivering better outcomes for the patients.*' (NHS
35 NIHR, 2016 p11). Challenges to career pathways for NMAHPs identified in the UK, as well as Australia
36 and New Zealand (Windsor et al., 2015; Windsor et al., 2017) include demands on both time and
37 expertise, with practitioners having to develop and maintain professional credibility in 'multiple
38 arenas' (Logan, Gallimore, & Jordan, 2016). Culture, lack of infrastructure and leadership are
39 important barriers (Van Oostveen et al., 2017). Many NMAHPs embark on doctoral level study only
40 after achievement of senior clinical posts (Trusson et al, 2019). This is echoed by the World Health
41 Organisation's global nursing strategy which discusses competence in 'evidence generation' only for
42 nursing leaders (WHO, 2016).

43 Several initiatives in the UK sought to develop clinical academic career pathways, such as the
44 development of joint lecturer-practitioner appointments between Higher Education Institutions (HEI)
45 and health providers. However, these often focused on combining pre-registration level teaching with
46 clinical practice, with little engagement in conducting research (Williamson, 2004). The NHS
47 introduced NMAHP consultant roles in 2000 (Department of Health, 1999), to enable practitioners to

48 combine 50% clinical practice with teaching, research and management activities. Several evaluations
49 of these roles suggest that many NMAHP consultants undertake little or no primary research, although
50 they do engage in activities such as raising research awareness and conducting audits (Humphreys et
51 al., 2007; Avery and Butler 2008; Kennedy et al., 2011). These senior posts do not in themselves
52 provide an obvious stepping-stone for aspiring early or mid-career clinical academics. Furthermore,
53 an evaluation of tensions in research collaboration between HEIs and NHS trusts found a mismatch
54 between organisational commitment and the support received by aspiring NMAHP clinical academics.
55 Immediate clinical work was often prioritised, whilst academic activity was at times referred to by NHS
56 managers as '*research rubbish*'; some respondents felt that only large medically-led research studies
57 were supported (Springett et al., 2014).

58 In 2012, the UK National Institute for Health Research (NIHR) launched an integrated clinical
59 academic pathway for NMAHPs with a competitive funding programme covering release from clinical
60 practice (Department of Health, 2012). The first stage is for early career NMAHPs to participate in a
61 clinical academic internship (Westwood et al., 2018). One programme, delivered by a team of
62 experienced NMAHP health researchers from a HEI in the North of England, enables NMAHPs to take
63 their first steps in developing a research career alongside their substantive clinical post. All healthcare
64 staff, regardless of previous educational attainment, were eligible to apply for the opportunity. This
65 inclusive approach ensured that no staff group was excluded. Individual ability was assessed through
66 a rigorous application and interview process, and subsequent support was tailored to individual
67 learning needs. Interns were released from clinical practice for typically one day per week for 12
68 months to undertake a small clinical research project on a topic agreed with their managers. This
69 approach is unusual; such internships typically focus on the development of research skills, viewing
70 independent research as something for later in the pathway, e.g. PhD. The taught aspect of the
71 programme consisted of ten training days delivered by the HEI, detailed in **Table 1**. Individual support
72 was provided by clinical line managers, the employing organisation's research and development
73 department, and an academic supervisor from the HEI.

74 The uptake and outcomes of this pathway are being evaluated nationally, but there has thus
75 far been little exploration of the experiences of those involved (Hiley and Swift, 2016; Kane et al.,
76 2016).

77 Aim

78 To explore NMAHPS' experiences of undertaking a clinical academic internship programme
79 and to identify facilitators and barriers to participants' engagement.

80 METHODS

81 Participants and Setting

82 Purposive sampling from one cohort of an internship programme hosted at a HEI in the North
83 of England, UK. Data collection took place August-September 2014.

84 Recruitment

85 All 12 interns were verbally informed about the evaluation at a training day, with the
86 opportunity to ask questions. An email invitation and participant information sheet were sent by the
87 lead researcher. After two weeks, a second email was sent and those who agreed to participate were
88 invited to interview.

89 Data Collection

90 Face-to-face interviews were conducted shortly before the end of the programme, at a time
91 and place chosen by the participant. The semi-structured interview guide, **Table 2**, mirrored the
92 chronology of the programme. Participants were asked to reflect on the programme's impact on their
93 day-to-day practice, and future educational and career aspirations. Interviews were audio-recorded
94 and transcribed verbatim (authors 1 and 2) (Creswell and Creswell, 2018).

95 Data Analysis

96 Burnard's (1991) method, based on a synthesis between grounded theory and content
97 analysis, was followed. Authors 1 and 2 independently open-coded the transcripts, facilitated by NVivo
98 (V10) software. Disagreements in coding and categorising were resolved via third party adjudication
99 (author 4). Emerging themes were identified and grouped under four higher-order headings.

100 Ethical considerations.

101 Ethical approval was granted by the host HEI STEMH ethics committee (Ref No: 231). To
102 minimise the power differential between researcher and participant (Holloway and Wheeler, 2010)
103 the evaluation was led by researchers not directly involved with the programme. Interns were under
104 no obligation to participate, and two chose not to. To prevent identification of participants, personal
105 information such as gender was not recorded, and contextual information such as job title or work
106 setting is not reported.

107 FINDINGS

108 Ten interns participated. Interviews lasted 14 - 73 minutes. Professions represented were
109 nurse (n=3), occupational therapist (n=3), physiotherapist (n=2), midwife (n=1), and public health
110 specialist (n=1).

111 Integrating clinical and research aspirations

112 Participants' motivations to better understand evidence-based practice were influenced by a
113 desire to improve patient care.

114 *"If we can make improvements for the patients... at the end of the day it's*
115 *making a difference."* (Participant 10)

116 Some interns were influenced by previous exposure to research during educational
117 experiences, or involvement in clinical research delivery.

118 *"I got involved in the [X] project... promoting it on the ward and identifying*
119 *potential participants... and just thought, I want to get more involved with*
120 *research."* (Participant 6)

121 Interns were motivated to explore this career direction without the time commitments or
122 personal and professional life changes that might be incurred by undertaking Master's- or Doctoral-
123 level study. The programme appeared to address an unmet need for short-term development
124 opportunities.

125 *"It can be quite daunting can't it, to research and things so it [the internship]*
126 *looked... a way that I could... check it out without actually jumping in too deep."*
127 (Participant 3)

128 Support – or lack of it

129 Interns had a variety of clinical and educational backgrounds, and felt this diversity was
130 acknowledged in the teaching approach.

131 *"They [taught sessions] were aimed at somebody who'd never done research*
132 *before. They didn't go into it too academically, which is great because that would*
133 *have put everybody off...it was kind of a working knowledge of what to do next*
134 *which I thought was fine – it was exactly the right approach."* (Participant 9)

135 They placed particular value on the supportive nature of the programme's academic
136 facilitation.

137 *"So, it's been really, really supportive. I feel really nurtured actually, by all*
138 *aspects..."* (Participant 7).

139 Likewise, support from managers facilitated interns' engagement and increased support from
140 the wider team.

141 *"I've received a lot of encouragement from [the service manager] and within my*
142 *team. Within [service] staff-wise...who I work with directly, they've been brilliant."*

143 (Participant 8)

144 Some interns reported that most of their colleagues were supportive.

145 *"Patients asked 'Why is s/he not here?'. They [colleagues] have supported me*
146 *saying, 'Well, if s/he hasn't got her up to date education, how can s/he treat you?'"*

147 (Participant 10)

148 However, others encountered a lack of understanding from their colleagues.

149 *"...I think they just sort of perceived that you were studying for your own benefit."*

150 (Participant 2)

151 One intern presented colleagues' reactions as 'banter'.

152 *"I got called 'swot' (laughs)...and they said they weren't surprised... they were*
153 *delighted for me really."* (Participant 4)

154 Others reported that colleagues voiced concerns about the effect on their own workloads and
155 service delivery.

156 *"She [peer colleague] didn't think that my position would be covered by someone*
157 *else, which it wasn't. Yeah, she talked about it. And she's been openly quite*
158 *negative about it."* (Participant 6)

159 *"...when I went into the MDT [multidisciplinary team] meeting I said to the*
160 *consultant, 'I won't be in the meeting next week, I'm doing a research internship,'...*
161 *He was a bit like, 'Oh right, well...we're short staffed, why are they letting you do*
162 *that?'"* (Participant 8)

163 The interns were working in a complex inter-professional context. They had each secured
164 formal support from their direct manager and their research and development department, yet the
165 existing hierarchical, medically-led culture of clinical academic research was often unsupportive.

166 *“One of the other consultants said he's never heard anything so ridiculous –*
167 *(laughs nervously) - as a [X] doing research.” (Participant 8)*

168 The hidden curriculum

169 There were many benefits from adopting a shared inter-professional philosophy for the
170 programme. These were most apparent in the ‘hidden curriculum’, as interns suggested that the group
171 sessions facilitated informal learning which was not part of the educational objectives.

172 *“But support and... just having a chat at lunchtime, ‘What do you think about,*
173 *this/that?’, you know, and thinking, ‘Alright – different perspective’...you’re not*
174 *on your own.” (Participant 10)*

175 Despite their different areas of practice, interns found they shared vocational aspirations and
176 challenges to developing as clinical academics, which bridged the inter-professional barriers
177 sometimes present in clinical practice.

178 *“You’re drawing on lots of backgrounds and resources...I’ve enjoyed listening to*
179 *other people and thinking, there’s such a wealth of backgrounds and...people out*
180 *there that want to improve the services that they’re working in.” (Participant 3)*

181 Attending regular sessions as a cohort enabled the interns to form close and supportive
182 connections, creating a shared experience. This helped to overcome some of the professional isolation
183 which is sometimes experienced when undertaking career development opportunities.

184 *“...one of the benefits of doing it (research) through the internship programme, is*
185 *at times when you felt quite isolated around what you’re dealing with or*

186 *managing, is that when the interns come together, you realise you're not having*
187 *a unique experience."* (Participant 2)

188 The legacy effect

189 The interns developed confidence to make immediate changes to their professional practice.
190 Several of them identified ways they had implemented their learning in the clinical setting.

191 *"...because I have become more interested, I am reading more literature about*
192 *different things, so trying to put that into practice and say, 'Well actually we're*
193 *doing this wrong, so let's...'. I'm feeling better about myself, that I'm performing*
194 *better in my job."* (Participant 10)

195 *"...I've learned more about what I was doing by doing the search...and there's*
196 *quite a few times when I was scanning and screening on title, and 'I don't need for*
197 *that, but that's gonna be really handy for the other thing I'm doing'."*
198 (Participant 9)

199 Others were aware of the benefits of their new skills to their multi-disciplinary team.

200 *"...I can be a point of call within the service now, if people are sort of planning a*
201 *project or planning some kind of evaluation or consultation, for them to speak to*
202 *me first."* (Participant 2)

203 Those who had previously been hesitant to consider further research or study felt empowered
204 to progress.

205 *"It's given me an energy to think, 'Well, it doesn't need to end here'... this isn't*
206 *some kind of mystical thing (laughs) that only the chosen few can get into."*
207 (Participant 3)

208 *“And the idea that now I could do a PhD...that...suddenly that seems so much*
209 *more...accessible than it was. The idea that...that was just what other people did.*
210 *(whispers) That maybe I could do that. That would be exciting.”* (Participant 6)

211 DISCUSSION

212
213 Clinical academics are integral to the development, implementation and evaluation of
214 evidence-based healthcare. The variability in clinical academic training, and the challenges of
215 recruiting and retaining clinical academics, have previously been highlighted (Windsor et al., 2015).

216 Several motivating factors appeared to influence interns’ engagement, notably previous
217 exposure to research and the desire to improve patient care. This reflects the assumptions of policy,
218 and the importance of developing clinical academic roles to ensure that research is designed and
219 conducted in response to clinical issues, and findings are translated into clinical practice (Morris et al.,
220 2011; Krzyzanowska et al., 2011; NIHR, 2016). In a recent realist synthesis, Cooke et al. (2018)
221 identified ‘*making a difference*’ as a symbolic mechanism which not only effects research capacity
222 development, but also signals its importance.

223 Interns felt their diverse educational backgrounds were acknowledged in the taught
224 programme. Feelings of isolation in the clinical setting during the internship were common, but the
225 group provided much-needed support, and opportunities to learn from one another across
226 professions. Haralambos and Holborn (2008) describe this as the hidden curriculum; ‘*the unintended,*
227 *and often unacknowledged, learning that occurs during a programme of study*’. There have been
228 several calls for greater cross-disciplinary collaboration in professional development opportunities
229 (Pickstone et al., 2008; Roddam et al., 2019), yet a recent review of studies from 7 countries found
230 that uni-professional education is common (Jones et al., 2018). It could be argued that internship
231 programmes that reflect the complex multi-disciplinary ethos of patient care might be more effective

232 in improving outcomes than initiatives that focus on the delivery of profession-specific training. This
233 approach has been described as ‘Mode 2’ knowledge production, or ‘co-producing knowledge’; the
234 result of non-hierarchical, multi-professional groupings with heterogenous skills and experiences, and
235 has been identified as a mechanism for effective research capacity development (Cooke et al., 2018).

236 Findings also shed light on participants’ internal motivations and barriers. Notably,
237 participants did not explicitly identify career progression as a motivation. A strong element of the
238 interns’ accounts was hesitancy about taking initial steps into research. The internship offered an
239 accessible opportunity to gauge their interest and aptitude without the risks associated with career
240 change or commitment to long-term study. This finding is of interest against the policy background
241 that assumes movement of clinicians into research demonstrates leadership progression (WHO, 2016;
242 Trusson et al., 2019).

243 The UK Department of Health strategy for nurse consultants recognised the need ‘*to enable*
244 *experienced nurses to remain in clinical practice rather than move into management*’ (Kennedy et al.,
245 2011 p2). However, lack of understanding of, and engagement in research by those who do pursue
246 management career pathways may lead to a lack of vision, weak leadership and disempowerment of
247 aspiring clinical academics. Van Oostveen et al. identified ‘*the absence of supporting structures for*
248 *nurses who combine clinical and academic work*’ (2017, p4974) as a deficiency in facilitating clinical
249 academic careers for nurses in particular.

250 Although most participants found their peers and managers were supportive, there were
251 some striking negative, hostile and bullying attitudes. This is out of step with the espoused values of
252 the NHS and its commitment to research, but echoes tensions described by Springett et al. (2014).
253 Critical attitudes towards clinical academic nurses were also reported from the Netherlands (Van
254 Oostveen et al. 2017).

255 Clinical academic internship programmes in the UK adopt heterogenous approaches to design
256 and delivery, yet comparable themes emerge when they are evaluated. Hiley and Swift’s findings

257 (2016), also included the participants' general motivations to find out more about research, and the
258 importance of good supervision during the programme. A further evaluation reported interviews with
259 seven senior clinicians on a clinical academic career programme. It concluded that barriers are
260 generated by mainly institutional concepts; '*managers must provide systems and strategies to support*
261 *the leadership and research opportunities*' (Kane et al., 2016).

262 The findings from our study, that prospective interns are not always motivated by career
263 development, and experience a range of challenges from their colleagues and senior staff, offer a
264 richer understanding of both the internal and external barriers to NMAHPs accessing clinical academic
265 routes. The design and delivery of future programmes may be improved by recognising that not all
266 participants may yet have committed to research as a career pathway.

267 We suggest that such bespoke training programmes can be accessible and empowering,
268 raising the aspirations of staff from non-traditional research roles, and contributing to widening
269 participation and enhancing diversity (The Association of UK University Hospitals, 2016 p21).
270 Westwood et al. (2018) recommend an incremental approach to academic and clinical leadership, and
271 describe key features for developing clinical academic capacity and capability. Further research is
272 needed to explore the longer-term outcomes of such programmes, and how these may differ
273 internationally.

274

275 Limitations

276 This evaluation was based on a small cohort, employed by healthcare organisations in the
277 North of England, who completed one internship programme. The results may not be representative
278 of other programmes and/or cohorts either in the UK or elsewhere. The evaluation included only the
279 interns, and the impact on their colleagues, managers, and institutions is unknown. Interviews were
280 undertaken within three months of the conclusion of the programme, and do not capture long-term
281 impact.

282

CONCLUSION

283

The findings from this study resonate with similar approaches in international settings.

284

Formal support from the interns' manager and organisation is necessary, but not itself sufficient to

285

maximise the benefits to individuals, organisations and patient care. Deeper institutional engagement

286

is needed so that the opportunity is fully supported by all colleagues and enabled by institutional

287

structures.

288

There appear to be profound benefits from intern-intern engagement. The isolation that

289

researchers feel, perhaps especially as novices, can be ameliorated by this type of collaborative

290

programme. Future programmes could take this further, for example by supporting small teams of

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practitioners to collaborate on co-designed projects. This would more closely mirror the reality of

292

research in health care, which is rarely the work of one person but entails collaboration within and

293

between healthcare organisations.

294

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387 **Table 1:** Clinical Academic Internship Programme – Taught Curriculum**Research Methods Training Schedule****Training Day 1**

Designing a research question
Qualitative and quantitative research

Training Day 2

Literature searching and on-line databases
Critical appraisal
Roles and responsibilities

Training Day 3

Ethics in research
NHS ethical permissions and procedures
Academic institution ethics committees
Informed consent

Training Day 4

Good Clinical Practice (GCP) training

Training Day 5

Research proposal presentations, peer support, and formative feedback

Training Day 6

Introduction to statistics and relevant software

Training Day 7

Introduction to qualitative analysis and relevant software

Training Day 8

Principles of research dissemination

Training Day 9

Practical research skills workshops
Research funding
Research careers

Training Day 10

Research Showcase

390 **Table 2:** Main questions from the Interview Guide

<i>Area of interest</i>	<i>Question</i>
<i>Background Information:</i>	
1	a) What was the main reason for you applying for the internship? b) What were your experiences of completing the application form, and the shortlisting and interview process?
2	Please describe any encouragement (or otherwise) that you received from your manager(s) to apply?
3	How did your colleagues react to your successful appointment?
<i>Course Content:</i>	
1	Which aspects of the training programme did you find most/least useful? Why?
2	In your experience of the overall programme so far what have been the worst aspects and please give any suggestions for improvements.
<i>Individual Projects and Support:</i>	
1	How do you feel about the support you have received from University during the internship?
2	How do you feel about the support you have received from your NHS Trust during the internship?
<i>Future Issues and Summary:</i>	
1	In what ways do you feel the programme and/or facilitation could be improved for future intakes?
2	How would you sum up your personal experience of undertaking the programme so far?