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1   <u>TITLE</u>

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

3   A qualitative evaluation.

4   <u>ABSTRACT</u>

5   **Background:** Nurses, midwives and allied health professionals are integral to research, yet

6   rarely engage simultaneously in research and clinical practice. Clinical academic internships offer a

7   route to access academic research training. This study aimed to elucidate facilitators and barriers to

8   participation and engagement, and suggest improvements for future programmes. **Method:** The

9   experiences of 10 health professional research interns were explored, using a method based on a

10   synthesis between grounded theory and content analysis. **Findings:** Four categories emerged: 1)

11   integrating clinical and research aspirations; 2) Support – or lack of it; 3) The hidden curriculum; 4) The

12   legacy effect. Within these categories, respondents identified a variety of facilitators and barriers to

13   engagement, including unforeseen challenges. **Conclusion:** Formal support is necessary but not

14   sufficient to foster engagement and maximise benefits. Participation must be supported by colleagues

15   and enabled by institutional structures. The potential impact of internships on engagement with

16   research is considerable but requires collaboration between all stakeholders. **Implications for**

17   **Practice:** Deeper institutional engagement is needed so that internship opportunities are fully

18   supported by all colleagues and practically enabled by institutional structures. Future schemes should

19   attempt to promote opportunities to collaborate via group projects to reduce researcher isolation.

20   **Keywords:** Clinical Academic; Research; Education; Health Personnel; Interdisciplinary Education;

21   Qualitative Research

22

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   <u>Aim</u>

78   To explore NMAHPS' experiences of undertaking a clinical academic internship programme

79   and to identify facilitators and barriers to participants' engagement.

80   <u>METHODS</u>

81   <u>Participants and Setting</u>

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   <u>Recruitment</u>

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   <u>Data Collection</u>

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   <u>Data Analysis</u>

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   <u>Ethical considerations.</u>

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   <u>FINDINGS</u>

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   <u>Integrating clinical and research aspirations</u>

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   <u>Support – or lack of it</u>

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   <u>The hidden curriculum</u>

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   <u>The legacy effect</u>

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   <u>Limitations</u>

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 <u>CONCLUSION</u>

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

291 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.

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386 <u>TABLE 1</u>

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

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

Area of interest	Question
Background Information:	
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?
Course Content:	
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.
Individual Projects and Support:	
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?
Future Issues and Summary:	
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?

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