

RESEARCH

Open Access



Are Allied Health Professionals (AHPs) research ready? A regional evaluation in England: the Research ABC project (AHPs Building Research Capacity Across the Black Country)

Ali Aries^{1,4*} , Roanna Burgess^{3,4} , Louise Wallace² , Tina Hadley-Barrows^{1,4} , Amy Palmer¹ and Rosalind Leslie¹

Abstract

Background Research active organisations achieve better healthcare outcomes. The Research ABC Project (Allied Health Professions (AHPs) Building Research Capacity Across the Black Country), funded from 1/8/23–31/3/24 by a Clinical Research Network West Midlands Improvement and Innovation grant, was commissioned to facilitate the Black Country Integrated Care System to address the four domains of Health Education England's AHPs' Research and Innovation Strategy for England (capacity, capability, context and culture). This evaluation aimed to understand research-readiness, initiate research skills development through bespoke training, increase research capacity of the local AHP Community and inform the Integrated Care Board of future requirements.

Methods AHPs in six Black Country NHS Trusts, West Midlands, United Kingdom ($n = 2396$) were invited to participate in a cross-sectional survey via Microsoft forms (October–November 2023). Baseline levels of engagement in research activities, existing research skills, barriers to engagement, and training needs were explored. Descriptive analysis and thematic analysis for free text answers were undertaken. Project outputs included bespoke training, shared digital space, and Research Champions identification and support; success of the project was evaluated.

Results There were 440 eligible responses from 11 of 14 professions (response rate 18.4%) with over half qualified > 10 years. Qualifications ranged from diploma (5.9%), degree/BSc (40.2%), postgraduate credits (27.0%), and MSc (24.6%) to PhD (0.9%). Research outputs were limited: 85.9% had no publications, 83.8% no abstract submissions; only 6.8% had Chief/Principal Investigator experience. However, audit (83.6%), service evaluation (75.9%), and quality improvement (78.9%) activities were common. Main barriers to research engagement were work pressures (42%), commitments outside work (22%), deemed not applicable (14%), not supported (8%), and not interested (7%). Training needs and Research Champions ($n = 93$) were identified. Training sessions ($n = 23$) were attended by 169 AHPs and well-evaluated. The digital space facilitated networking (285 AHPs signed-up).

Conclusions The Research ABC project identified baseline research levels for AHPs across the Black Country, and delivered training, with potential to develop research capability and capacity. Research Champions enable

*Correspondence:

Ali Aries

alison.aries@nhs.net

Full list of author information is available at the end of the article



© The Author(s) 2025. **Open Access** This article is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License, which permits any non-commercial use, sharing, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if you modified the licensed material. You do not have permission under this licence to share adapted material derived from this article or parts of it. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

research, creating a supportive environment (context) and changing culture, addressing the AHP Research Strategy vision. The Research ABC model and GO-RESEARCH recommendations (developed from the project findings) could be adopted more widely to help drive AHP research forward; appropriate infrastructure and raising the importance of research is essential to achieve this in the future.

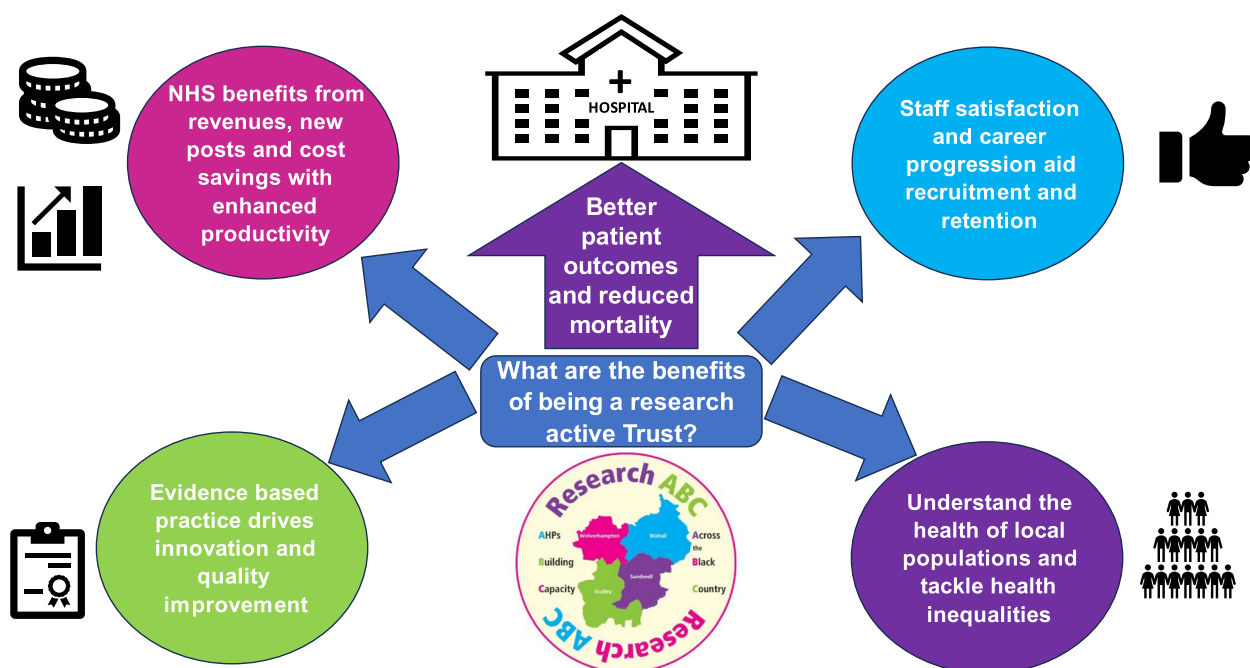
Keywords Research, Allied health occupations or professions, Professional competence (capability), Capacity building, Culture

Background

Allied Health Professionals (AHPs) are the third largest clinical workforce in the United Kingdom's (UK's) National Health Service (NHS), with 185,000 qualified AHP staff working across 14 professions (NHS [30]). The Health and Care Professions Council (HCPC) regulates 13 of the 14 AHP groups in the UK and sets standards that form the basis for this regulation. The updated standards of proficiency came into effect on the 1st of September 2023 and place greater emphasis on research proficiency. They clearly define the need to engage in evidence-based practice and recognise the value of research in the critical evaluation of care provision [14]. There are benefits for organisations when staff are research-active (NHS [6, 31]) including better outcomes for patients [36], and reduced mortality [5]. There is improved staff recruitment and retention [35] associated with academic output, with satisfaction increased when clinicians are engaged in research [19], and delivery of evidence-based

practice allowing cost savings [32]. These benefits are summarised in the infographic below (Fig. 1).

Research is one of the four essential pillars of multi-professional practice [15, 21], essential for embedding evidence-based practice within healthcare systems [16]. However, AHPs report a lack of time to do research [9], so developing the research pillar is challenging. The evolution of multi-professional consultant practitioner roles is deemed essential to facilitate embedding research into clinical practice by driving system level change relating to context, culture and leadership in the UK [22]. It is estimated that the proportion of non-medics including nurses, midwives, and AHPs, working in clinical academic roles is only 0.1% [4, 26] of the total non-medical healthcare population. However, recommendations for clinical academics in the medical workforce are as high as 6% [39]. The National Institute for Health Research (NIHR) is commissioned by NHS England to drive research initiatives, one of which is a non-medical clinical



The benefits of being a research active Trust

Fig. 1 Infographic summarising benefits of research-active organisations

academic pathway via its academy to facilitate the development of clinical academic roles [12]. AHPs successfully secure early research career awards and training through schemes such as the Integrated Clinical Academic programmes, but progression into doctoral and post-doctoral level fellowships remains low [33]. This indicates that although there is research interest and engagement from some AHPs, the infrastructure, culture, and capabilities to progress research careers is lacking, with limited opportunities for substantive research positions, resulting in poor impact of AHP research activities.

Health Education England's Research and Innovation Strategy for Allied Health Professions (AHPs) published in January 2022, provides an opportunity for transformational change in AHP research and innovation, reputation, influence, and impact on services [17]. The vision statements within the strategy include transformation of AHP professional identities, culture, and roles, delivery of excellence in evidence-based allied health practice, and the formation of national strategic research agendas and priorities that are explicitly inclusive of allied health research and innovation [17].

Comer et al. [9] undertook a national survey, which was completed by 3,145 AHPs, aiming to understand AHP research capacity and culture across the UK. The validated Research Capacity and Culture tool was modified and used to measure perceived research success. Key findings for individuals were the ability to source, translate, and analyse research data but there was less ability to produce research including writing research protocols, gaining funding, writing for publication, and supporting others with research. Research capabilities at a 'team level' were even lower. This included supporting applications for research scholarships, involvement in research activities and planning, ensuring staff involvement in research, and having adequate equipment and administrative support. At an organisational level, there were also key areas for improvement which included support for research career pathways and availability of research software programmes to analyse research data [9].

Other tools available to measure research-readiness include the Clinicians' Skills, Capability, and Organisational Research Readiness (SCORR) tool, at an individual level [18] and the Clinical Academic Roles Implementation Network (CARIN) survey, at an organisational level [8]. The SCORR tool was developed as a mechanism to promote the use of evidence-based practice and encourage research activity as part of professional development review discussions. It allows for individuals to identify levels of competency and proficiency in research using a systematic measurable tool [18]. CARIN have led a research survey for the last three years to gather metrics on clinical

research activity of Nurses, Midwives, AHPs, Healthcare Scientists, Pharmacists and Psychologists across member organisations. The survey evaluates research infrastructure and explores barriers nationally to academic research careers. Recent findings show progress with specific research strategies for staff in these professional groups and organisational commitments to research, but barriers remain and include, workforce pressures leading to prioritisation of clinical work, difficulty backfilling posts for research secondments, lack of clarity around research roles, and limited and varied success in developing clinical academic posts [8].

There are common themes emerging around capabilities and culture for AHP research in published literature. Research capacity building requires the development of skills and sustainable strategies at both an individual and organisational level to enable high quality research and is key to AHP success in research [23]. It is necessary to grow capabilities to not only practice in an evidence-informed way but also to deliver and lead high-quality research in practice, which this project, named Research ABC, looked to explore.

The Black Country is an urban area of the West Midlands, UK; the Black Country Integrated Care System (ICS) comprises of Dudley, Sandwell, Wolverhampton and Walsall. The project was necessary to enable the Black Country ICS to evaluate the four domains of Health Education England's AHP Research and Innovation Strategy for England: capacity, capability, context, and culture [17] within six ICS NHS organisations and their respective AHP workforce. It was deemed important to identify any gaps relating to AHP research activity and skills and to use the findings to develop a local training plan and support structure, addressing any issues and embedding relevant findings into the strategy within the Black Country. One of the strategies was to identify Research Champions, which have been defined as: "staff who have an interest in research and want to promote research awareness, engagement and delivery within their own team and their own clinical area" [24]. These Research Champions would be supported to drive the research agenda forward in the Black Country meeting the Research and Innovation strategy vision.

The aim of the Research ABC project, funded by a Clinical Research Network (CRN) West Midlands Improvement and Innovation grant, was to collect relevant information locally, undertake a training needs analysis and develop tailored, specific, system level strategies for improving research engagement, culture, and capabilities across the Black Country to create a more integrated supportive research infrastructure for building research capacity.

Methods

Design

A cross-sectional survey using a Microsoft form was completed between October and November 2023 to gain a baseline understanding of research skills, capability, culture, and engagement across the Black Country ICS. The findings of the survey informed the development of a training plan for AHP staff and identified people wanting to be a Research Champion. A digital network was created to enhance communications.

Ethics

The proposal for the Research ABC project was reviewed by The Royal Wolverhampton NHS Trust Research and Development team who confirmed that the project was service evaluation and not classed as research, therefore, Health Research Authority or other research ethics committee approval was not required.

Setting

This evaluation was set within the Black Country, West Midlands, UK. AHPs working across six NHS Trusts: The Royal Wolverhampton NHS Trust, Sandwell and West Birmingham NHS Trust, The Dudley Group NHS Foundation Trust, Dudley Integrated Health and Care Trust, Walsall Healthcare NHS Trust, and Black Country Healthcare NHS Foundation Trust (one Mental Health Trust, four Acute and Community Trusts and one Integrated Health and Primary Care Trust) were invited to participate.

Participants

AHPs employed or hosted by one of the six NHS Trusts were eligible and invited to participate via an invitation sent out on each organisation's trust-level communications to all staff, and additional email communications through AHP networks, professional leads, and posters displayed by professional groups e.g., in staff rooms. The following professional groups were included: art therapists, dietitians, occupational therapists, operating department practitioners, orthoptists, music therapists, paramedics, physiotherapists, podiatrists and chiropodists, prosthetists and orthotists, diagnostic radiographers and therapeutic radiographers. There were no drama therapists or osteopaths employed in the Trusts at the time of the survey.

Survey development and piloting

The survey (Additional file 1), delivered through Microsoft Forms was developed by three of the authors (AA, RL and LW) using validated surveys [8, 9, 18] as a foundation to address local needs, was reviewed by a fourth author (RB) and piloted by AHPs who were not employed in the Black Country ICS (n=4). Minor changes to the wording of the questions were made following piloting

to enable multiple answers for two of the questions and a 'not required' status was instigated for all questions requiring additional information, so people could choose whether to complete these or not. The survey data was stored in a password protected file, on an encrypted NHS server with only the project team able to access the documents. The introductory questions for the survey included information about the project and consent to participate. Anonymous responses were accepted; however, AHPs interested in being Research Champions were invited to offer their contact details.

Survey distribution

The survey link was distributed via Chief AHPs and senior AHP leads and also in Trust communications at all six Trusts. Chief AHPs and the AHP Research Lead sent reminders after the survey had been open three weeks. AHPs were also offered an opportunity to complete the survey during the AHP system summit in October 2023.

Analysis

Working with the Digital Projects Business Intelligence Manager (AP), who was independent from the project team, descriptive analysis was undertaken; this included ranges, proportions, and percentages. Thematic analysis, based upon Braun and Clarke's [7] six stage process and word clouds were also used for free text answers. The survey responses were analysed in relation to population parameters to ensure the results were representative of AHP populations in the UK. All data, both quantitative and qualitative was analysed and checked by two members of the project team independently, in addition to the input from the Digital Projects Business Intelligence Manager.

Facilitation of research activities within the Research ABC project

Following analysis and understanding of training needs, bespoke training sessions were developed and delivered online between January and March 2024. All training sessions were recorded and placed on the shared digital space as a resource for people unable to attend the session or for future review. Research Champions identified from the survey were supported so they could facilitate research activities in their own area of practice.

Two third year MSc physiotherapy students took up the opportunity to undertake a six-week student placement to support the Research ABC project work.

Patient and public involvement

Although patient and public involvement (PPI) was not possible to inform the design of the Research ABC project,

due to the need for quick set up and short time frame of the project (eight months), a PPI advisor was involved and co-designed and delivered, with one of the authors (AA), the PPI training session. However, the value of PPI is acknowledged by the authors, one of whom (AA) has published papers relating to the importance of PPI [3, 25].

Evaluation of Research ABC project outputs

The Research ABC project was evaluated in several ways:

- 1) For the baseline survey itself, quantitative data analysis was supported by qualitative analysis for free text answers.
- 2) The training sessions were individually evaluated, using a questionnaire via Microsoft Forms, Mentimeter polls, comments in the Teams chat and collation of follow-up emails, and a full day of training on the 16th of January 2024 was evaluated in the same way and thematic analysis undertaken using Braun and Clarke's six stage process to analyse the findings [25].
- 3) The students on placement completed an evaluation of the placement.
- 4) Organised and conducted by the students on placement, the perspectives of the Research ABC team members were captured and evaluated via a focus group ($n=4$ participants) and a one-to-one interview for the one member unable to attend the focus group. The aim of this was to capture the Research ABC team's perspectives of the value of the Research ABC project. Thematic analysis using Braun and Clarke's six stage process was used to analyse the findings [7].
- 5) Feedback was sought from Research Champions via MS forms, email and verbally.

It is not possible to report all the evaluation findings in this paper. The focus of this paper is the baseline survey and training delivered as part of the Research ABC project. A future publication is planned to disseminate the findings of other aspects of the project that were evaluated.

Dissemination of Research ABC findings

Sharing of the findings of the Research ABC project was planned for many different forums at Trust level, Black Country Integrated Care Board level, at a national conference and via a publication. Clinical illustration at The Royal Wolverhampton NHS Trust also worked with the Research ABC team to develop an animation to facilitate sharing of the findings from the Research ABC project.

Results

Survey results

There were 2,396 AHPs in post working across the six NHS Trusts at the time the survey was launched. In total, 489 AHPs from 11 of the 12 AHP professions employed within the six NHS organisations responded to the survey, with 440 eligible responses (consenting, registered AHPs); employed music therapists did not respond. The response rate from all eligible AHPs was 18.4%.

The highest uptake of the survey was from physiotherapists (34.3%), occupational therapists (20.7%) and speech and language therapists (13.6%) respectively but when broken down by completion rates per professional group taking into consideration the different AHP population sizes, the highest completion rates were within the smaller AHP groups including art therapists (50%) and orthoptists (45.4%) (see Fig. 2).

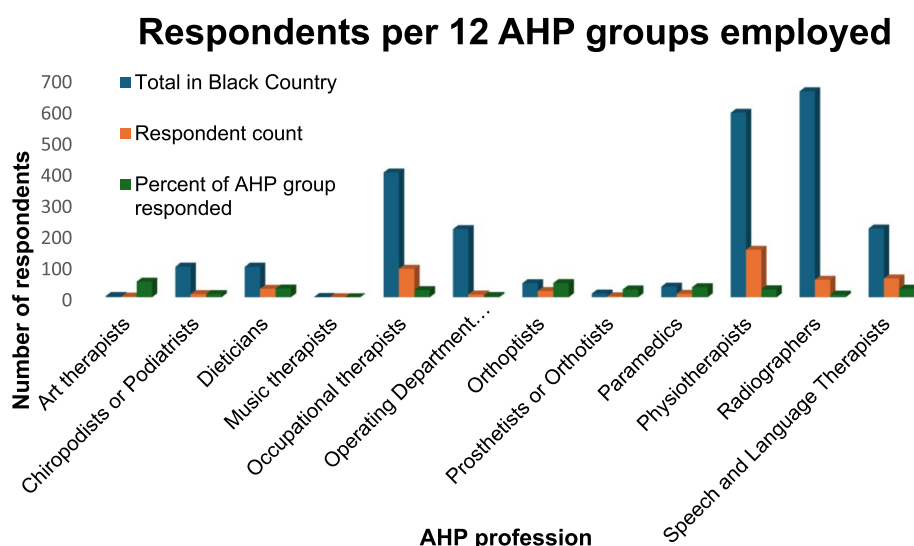


Fig. 2 Number of respondents from each allied health profession responding to the survey

Table 1 summarises ethnicity data, time since registration and highest level of qualification. Ethnicity data showed that Black, Asian, and Minority Ethnic group representation from respondents (20.9%) was very close

Table 1 Baseline respondent characteristics

Baseline Characteristics	N	Percentage
Ethnicity	Total: 440	
White	348	79.09
Asian or Asian British	43	9.77
Black or Black British	24	5.45
Prefer not to say	13	2.95
Mixed	9	2.05
Other ethnic groups	3	0.68
Time registered	Total: 440	
More than 20 years	127	28.86
15–19 years 11 months	70	15.91
10–14 years 11 months	73	16.59
5–9 years 11 months	70	15.91
2–4 years 11 months	48	10.91
Less than 2 years	52	11.82
Qualification level	Total: 440	
BSc	177	40.23
Masters (e.g., MSc or MRes)	108	24.55
BSc + some postgraduate credits	70	15.91
Diploma	26	5.91
Postgraduate certificate	25	5.68
Postgraduate diploma	24	5.45
Other	6	1.36
PhD	4	0.91

to the 2021 census information ethnicity report for the West Midlands of 20.8% [34].

Over half of respondents were qualified for more than 10 years. Highest qualifications ranged from diploma (5.9%), degree/BSc (40.2%), postgraduate credits (27.0%), and Master of Science (MSc) (24.6%) to PhD (0.9%).

Research outputs

Research outputs were generally limited (See Table 2). In total, 86% of AHPs had no publications, 84% no abstract submissions, and only 10% of AHPs had been involved in Critically Appraised Topic (CAT) Groups. In the open text question seven people put MSc or MBA dissertations as research outputs; however, it is assumed these were not published.

Involvement in research activities

Table 3 shows an overview of respondents' involvement in research activities including formal training and research delivery. Involvement in journal clubs was high with 97.3% either participating in, or leading journal clubs. Involvement in Community of Research Practice (CoRP) groups was far lower, however, with only 1.1% involved.

Involvement with formal research training was very low ranging from 2.5% with pre-doctoral fellowships to 0.2% with post-doctoral fellowships. Experience leading research delivery was also low, with 15 (3.4%) of AHPs reporting they had experience as a Chief Investigator and 15 (3.4%) as a Principal Investigator. Involvement in supporting research delivery (including data collection or recruitment), was much higher at 41.1%, however, the details relating to the level of this support were not explored (see Table 3). Qualitative analysis of open text

Table 2 Number of AHPs and percentage of each profession responding with research outputs (last 5 years)

AHP Profession	≥ 1 Publication Number (%)	≥ 1 Abstract Number (%)	≥ 1 Oral Presentation Number (%)	≥ 1 Poster Presentation Number (%)	≥ 1 CAT Group Involvement Number (%)
Art Therapists	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Diagnostic Radiographers	6 (13.0)	4 (8.7)	10 (21.7)	6 (13.0)	2 (4.3)
Dieticians	4 (14.8)	7 (25.9)	10 (37.0)	5 (18.5)	4 (14.8)
Occupational Therapists	7 (7.7)	14 (15.4)	18 (19.8)	17 (18.7)	7 (7.7)
Operating Department Practitioners	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Orthoptists	5 (25.0)	2 (10.0)	9 (45.0)	6 (30.0)	1 (5.0)
Paramedics	3 (25.0)	2 (16.7)	4 (33.3)	4 (33.3)	1 (8.3)
Physiotherapists	30 (19.9)	28 (18.5)	29 (19.2)	39 (25.8)	27 (17.9)
Podiatrists/ Chiropractists	2 (20.0)	7 (70.0)	7 (70.0)	8 (80.0)	1 (10.0)
Prosthetists and Orthotists	0 (0.0)	1 (33.3)	2 (66.7)	2 (66.7)	0 (0.0)
Speech and Language Therapists	2 (3.3)	6 (10.0)	8 (13.3)	10 (16.7)	5 (8.3)
Therapeutic Radiographers	3 (10.0)	2 (20.0)	3 (30.0)	5 (50.0)	1 (10)
Total	62 (14.09)	73 (16.59)	100 (22.73)	102 (23.18)	49 (11.14)

CAT Critically Appraised Topic

Table 3 Involvement in research activities, training, and delivery

Research Type	Count	%
Involvement in research activities		
Journal clubs: I have participated in	308	70.00
Journal clubs: I have led sessions	120	27.27
Community of Research Practice (CoRP): I have attended sessions	0	0.00
Community of Research Practice (CoRP): I have presented at sessions	5	1.14
Research discussions: I have attended research discussions for my own development	169	38.41
Research discussions: I have led research discussions with staff	40	9.09
I learn about research from a professional network	211	47.95
I deliver research activities through a professional network	15	3.41
Critically Appraised Topic (CAT) groups: I attend these sessions	35	7.95
Critically Appraised Topic (CAT) groups: I have written CATs	9	2.05
Involvement with formal research training		
An internship programme	9	2.05
A pre-doctoral programme	11	2.50
A doctoral programme	4	0.91
A post-doctoral programme	1	0.23
Other	45	10.23
Involvement/experience of research delivery		
I have experience of leading research, as a Chief Investigator (CI)	15	3.41
I have experience of leading research, as a Principal Investigator (PI)	15	3.41
I have experience of supporting delivery of research (e.g. data collection, recruitment of participants)	181	41.14
None	229	52.05

Table 4 Involvement in other activities requiring similar skills to research activities

Research Involvement	Leading (%)	Involved (%)	None (%)
Attend or deliver in-service training	213 (48.41)	194 (44.09)	33 (7.50)
Involvement in audit	150 (34.09)	218 (49.55)	72 (16.36)
Involvement in quality improvement	125 (28.41)	222 (50.45)	93 (21.14)
Involvement in service evaluation	111 (25.23)	223 (50.68)	106 (24.09)

findings supported these findings with previous research consisting of master's level study, involvement in clinical research, and learning from continuous professional development sessions, journal clubs or special interest groups. No open text answers related to formal Clinical Academic training, but several AHPs discussed undertaking master's modules, including Master's in Business Administration (MBA) and Advanced Clinical Practice (ACP) training.

Table 4 details respondents' involvement in activities which require skills similar to those needed to undertake research activities e.g., an ability to search for, and critique literature. These other activities: in-service training (93%), audit (84%), quality improvement (79%), and service evaluation (76%), were common in contrast to formal research activities.

Barriers to research

Barriers to research engagement were explored both quantitatively and qualitatively using a multiple-choice question (Table 5) alongside a free text question. The main barriers to research engagement were time pressures of work (65.2%), and commitments outside of work (34.3%). Also, 12.3% of AHPs did not feel supported by their managers to engage in research, and 11.1% were not currently interested in research. Qualitative data identified themes including barriers; lack of opportunities; being new to role, or nearing retirement; and lack of awareness of research or how to start doing research. Indeed, as visually displayed in Fig. 3, 30 of the 50 open text comments related to a lack of accessible research opportunities in their roles; workload/time restraints were also cited as a major barrier.

Table 5 Barriers to research

Barriers	Count	Percentage
Time pressures within work are a barrier	287	65.23
Too many commitments outside of work	151	34.32
Not applicable	91	20.68
I don't feel supported by my manager to engage in research activities	54	12.27
I am not currently interested in research	49	11.14

Education and training

The survey was used to identify training needs of respondents. The most frequently requested training was for, journal clubs, patient and public involvement, developing posters/outputs, opportunities for networking between clinicians, and CAT groups, respectively (Fig. 4).

In total 23 training sessions were delivered between January and March 2024, addressing the identified training needs, with 169 AHP attendees from a range of professions. These sessions were well evaluated. The inclusion of practical examples and sharing of experiences were particularly valued by attendees. Qualitative themes developed were:

- 1) Interactive, engaging sessions, facilitating networking.
- 2) Delivery of constructive information in an easy-to-follow format meeting everyone's needs.
- 3) Motivating and inspiring for own career and developing others.

A total of 93 AHPs volunteered to be Research Champions when answering the survey (21.1%); they will be

trained and facilitated to help support research communications, networking, training, and education within their organisations. Initial evaluation of the research champions indicates that the Research ABC training was appropriate to help them develop and build their confidence in relation to research activities, for example some have set up new journal clubs. Another research champion has developed a radiography research newsletter since participating in the Research ABC project. Evaluation of the research champion role is ongoing and will be reported in a further publication along with the success of the student placement within the Research ABC project, and the team's perspectives of the Research ABC project which were captured in a focus group and one-to-one interview.

Dissemination of Research ABC findings

The findings of the Research ABC project were shared in many different forums: at Research Champions meetings, a Community of Research Practice meeting, AHP Leads meeting, Midlands AHP network, Integrated Care Board Clinical Leaders Group, to the Group Director of Research and Development, to representatives of the Chartered Society of Physiotherapy and the Council of Allied Health Professions Research (CAHPR) at the 2024 Physiotherapy Research Society Conference and a Black Country Research celebration day. The students also submitted an abstract to the Physiotherapy Research Society and a poster was presented at the conference. Also, this publication is important to widely share the findings of this successful project. In addition, an animation (https://bit.ly/Research_ABC) made the findings of the project more accessible for all AHPs. The stages of the Research ABC

**Fig. 3** Word cloud showing barriers to research engagement from free text responses



Fig. 4 Respondent training needs

project, findings and future plans for driving AHP research are summarised in the infographic below (Fig. 5).

Discussion

The research-readiness survey identified baseline levels of research skills, capability, capacity, and training needs across six NHS trusts in the Black Country ICS. The survey completion rate (18.4%) was lower than

other similar published surveys [11, 20], which were 33% and 24% respectively; however, the Research ABC evaluation involved a larger AHP population capturing responses across an ICS rather than a single AHP department or NHS Trust. The highest uptake was within physiotherapy and occupational therapy professional groups respectively as two of the three largest AHP groups within the Black Country behind

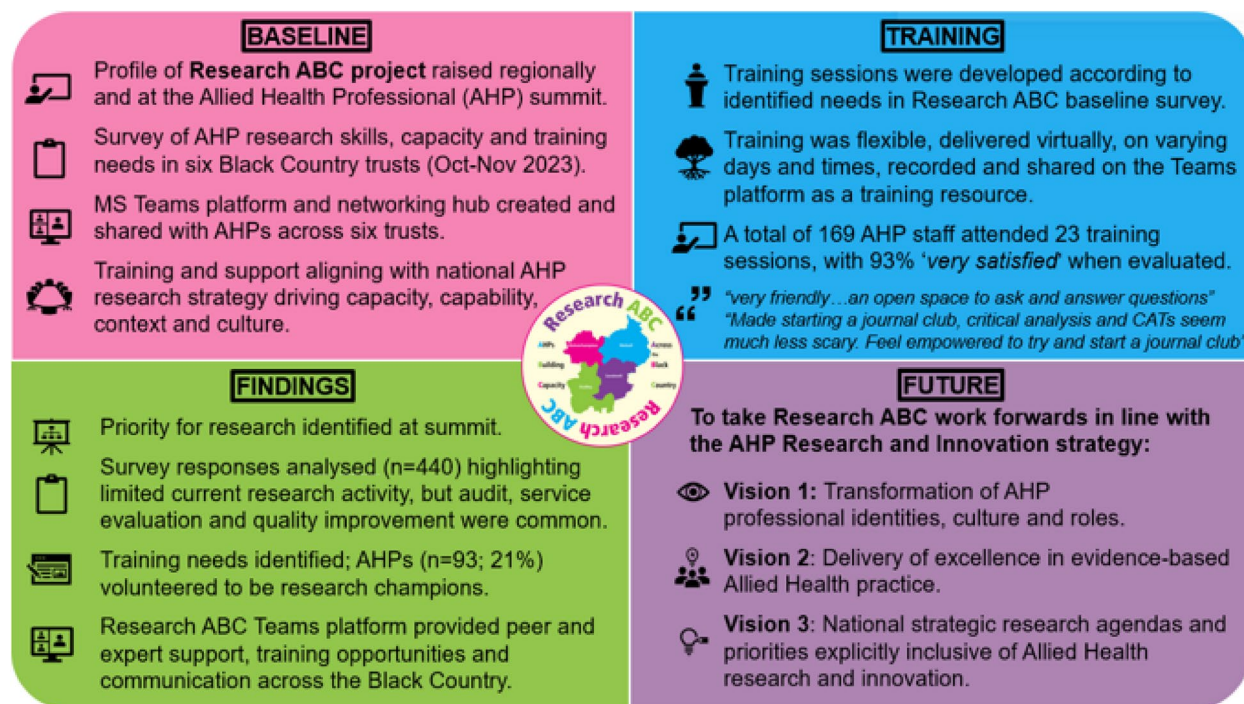


Fig. 5 Stages of the Research ABC project, findings and future plans

radiographers. When broken down to completion rates per professional population, some of the smaller groups had far higher uptake such as art therapists with two of four completing the survey (50%). Other groups such as orthoptists (46%), dietitians (31%), and speech and language therapists (29%), had high uptake, in contrast to radiographers (9%), and operating department practitioners (4%). These findings are in keeping with other published studies including Cordrey et al. [11], who showed highest completion rates within speech and language therapists, physiotherapists and dietitians, although their survey did not include all AHP groups (e.g., radiographers). Comer et al. [9], found a higher uptake for their national survey from physiotherapists, occupational therapists, dietitians, and speech and language therapists and lower uptake from radiographers and podiatrists/chiropractors alongside the smaller AHP groups, although their survey did not take into account the professions' population size.

It was especially encouraging to see that the degree of representation of Black, Asian and Mixed-race results within the Research ABC was comparable to the 2021 census reported levels, because the demographic composition of the AHP workforce in the Black Country does lack diversity. A recent deep dive sharing information with the Black Country Integrated Care Board People Programme Delivery Group (unpublished) reported 82.3% of the Black Country AHP workforce as identifying as white (our survey percentage was 79.1%), and it showed Asian or Asian British particularly under-represented at 9.6% in the Black Country; our survey results aligned with this percentage at 9.8%.

Most survey respondents had more than 10 year's post-qualification experience (61%). Engaging AHPs in research earlier within their careers is key to increasing research capabilities and involvement, and to increasing the numbers of AHPs completing clinical academic fellowships and developing clinical academic roles and careers. This has been recognised by the Department of Health and Social Care and is reflected in the launch of new research awards in 2023, such as the INSIGHT Programme to inspire students and newly qualified AHPs into research [27]. Supporting AHPs into research pathways earlier in their careers will be a key objective for the Black Country ICS to embed research capabilities and increase research capacity.

The highest qualifications obtained by respondents ranged from diploma (5.9%), degree/BSc (40.2%), post-graduate credits (27.0%), and MSc (24.6%) to PhD (0.9%) showing a low percentage of respondents reporting the highest level of PhD research training. The number of people reporting they had a PhD is far lower than the

5.3% reported in the study by Comer et al. [9]. This may be due to Comer's national survey biasing those with higher levels of research attainment as they were more likely to have completed the survey if they were interested in research. Our results are also, however, lower than those reported by Cordrey et al. [11], who reported 3.2% were enrolled on a research training degree. However, the results in the Research ABC survey were higher than the estimated proportion of non-medics working in clinical academic roles at 0.1% [4, 26]. We did not, however, capture whether those with PhD training had gone on to secure substantive clinical academic roles. Changes at a system level are required, supporting careers which amalgamate both clinical practice and research [40], with mentorship and peer support key for developing post-doctoral research careers [33]. Within the Black Country area it is apparent that stronger collaborations with local Higher Education Institutes, increased awareness around funded programmes such as NIHR training fellowships, and strategies to overcome barriers to backfilling and releasing staff from clinical roles are all necessary to increase formal research training across the Black Country AHP population. This will enable us to work towards developing opportunities like the 'Embedded Researcher' module developed by Whitehouse et al. [41], enabling training of Research Champions more formally, similar to the work undertaken by Abrahamson et al. [1]. Implementing these suggested changes in the Black Country will facilitate development of substantive clinical academic pathways [40] and multi-professional consultant level positions [22] in the future.

Following completion of the Research ABC project, which included delivery of the bespoke training, there has been greater interest and engagement with the Community of Research Practice, CAT groups and the newly developed Research Engagement And CHat (REACH) sessions, renewed interest in progressing to masters level training, and AHPs new to the Principal Investigator role have come forward to support studies.

The most common route to developing research capacity has been reported to be through informal support such as in-service training sessions and peer review of journals [29]. This is echoed within our evaluation, with involvement in in-service training (93%), audit (84%), and service evaluation (76%), being high across AHP groups. In total, 97% of respondents also reported having participated in journal clubs, but far less reported attending more formal CAT groups (10%). Evidence into practice or CAT groups were developed locally with support from Keele University Impact Accelerator Unit. They follow a 'community of practice' (CoP) approach and are being adopted across the

region. Stevenson et al. [37] outlined how CAT groups using a CoP approach can support rapid translation of evidence into practice. Stevenson et al. [37] suggest that this active mobilisation of knowledge from research into clinical practice is achieved by creating a social learning environment, where research evidence can be critically appraised, understood, and applied to clinical practice by those who use it. Increasing the number of CAT groups across the Black Country should support AHPs to reduce the commonly reported 17-year research to practice gap [13].

Research outputs including, peer-reviewed publications, abstract submissions, and oral and poster presentations at conferences, were limited across the AHP respondents. Fourteen percent of respondents, however, have published research papers in the last five years, and 23% have presented their work at local or national conferences, showing that we have skilled AHPs across the Black Country that could share knowledge, mentor and educate others to develop research capabilities across the wider group if we develop an integrated approach. This can be facilitated by shared training opportunities with the aim of supporting more AHPs to develop their work into tangible research outputs. An example of this is moving from participating in journal clubs to developing CAT groups to produce a clear research output that can be disseminated more widely for quality improvement both across the Black Country and beyond.

A total of 48% of respondents reported being involved with research delivery, with 7% of these AHPs actively leading research delivery in practice as a Chief (3.4%) or Principal (3.4%) Investigator. Comer et al. [9] in their national survey reported 7% and 8% of AHPs reported experience leading research as a Chief Investigator and Principal Investigator respectively. However, Comer et al.'s [13] national study is likely to have biased those interested and working in research roles with regards to participation. A key objective for the Black Country ICS will be providing training and support to those AHPs already involved in research delivery to progress their confidence and skills to take on more formal leadership roles. Schemes such as the NIHR's Associate Principal Investigator programme, aimed at supporting professionals to become Principal Investigators for the future will help facilitate and support this objective [28], and encourage AHPs new to research to start taking on these roles.

Within the baseline survey 20 respondents (5%) reported undertaking either an internship or pre-doctoral programme, whilst only four (1%) reported undertaking a doctoral and one (0.2%) a post-doctoral programme. The degree of uptake of formal training

in the Black Country is low, particularly at doctoral or post-doctoral level. It is important to support AHPs to undertake formal research training and improve research career pathways, opportunities, capabilities, and outputs, taking clinicians from a situation where they are not only capable of doing research to one in which they are appropriately supported and actively increase research productivity [33]. The activities within the Research ABC project supported strategies to develop AHP research, aligning with the AHP Research and Innovation Strategy for England [30]. Signposting and mentoring AHPs and sharing information regarding funding opportunities for them to develop their research pillar has been effective in motivating AHPs and driving evidence based clinical research.

Analysis of quantitative data found that, 65.2% of respondents reported time pressures of work as the main barrier to research and 12.3% of AHPs felt they were not supported by their managers to engage in research. This was further supported by the qualitative findings showing workload restraints, time restraints, and a lack of opportunities as key barriers to involvement in research. This is echoed by other similar evaluations with Comer et al. [9] finding reports of other work priorities and lack of time as the most common barriers reported by over 80% of their respondents. Cordrey et al. [11] also found barriers to participation in research including, time restrictions, funding, appropriate backfill for roles, administrative support, priority of other work, alongside lack of individual skill, fear of being wrong and a wish for a better work/life balance. The restrictive clinical academic career pathway for AHPs, with limited job roles created results in a further system-wide barrier [38]. The evaluation survey has allowed us to understand the priority for training needs for the local Black Country AHP population. These included journal clubs, critical appraisal skills and CAT groups, alongside developing knowledge and skills in patient and public engagement, developing research outputs such as poster presentations, and networking opportunities with other clinicians to develop research ideas and collaborations. These common training needs have started to be addressed as part of the Research ABC project, using a combination of taught sessions linked to the project and the creation of the newly developed AHP network, and infrastructure set up for future training through Community of Research Practice (CoRP) groups across the partner organisations, with access open to all AHPs and other disciplines.

It is clear, that barriers are common across organisations and AHP professional groups, however, it is unclear how at a national level and ICS level culture and behaviours around prioritisation of research will be changed, so wider opportunities for AHPs in research are developed,

facilitating clinical academic career pathways. It will be necessary to change individual beliefs of clinicians and managers and find a way to embed research into clinical practice. One possible way to help drive research would be to use the SCORR tool, developed by Iles-Smith et al. [18], embedded into the annual appraisal process. This tool can be used by individuals alongside their manager to assess their level of research attainment rating themselves from 0 (requires support to gain knowledge from evidence-based practice/research) to 5 (leads the generation of new knowledge through research). By evaluating themselves against the tool, alongside their line managers, as part of the review process, specific areas for development will be highlighted. Making this process integral to the personal development review would facilitate conversations around research activity and the writing of specific research objectives. For objectives to be met, appropriate support would be discussed, for example, protected research time, and this could then be written into job plans.

Comer et al. [9] found that 6.4% of their AHP respondents mapped themselves against the level 5 SCORR attainment level. With only 3.4% of respondents having Chief Investigator experience within our Black Country evaluation and just 14% having disseminated their research in the form of a peer reviewed publication, this figure at the highest SCORR tool level of 5, is likely to be lower within our Black Country AHP population.

Comer et al. [9] in their national evaluation conclude that AHPs lack the full range of skills, available support, and career infrastructure to undertake research effectively. Comer et al.'s [9] findings were unique amongst AHP research studies in interpreting individual and organisational research success and/or skill level to be adequate. The absence of evidence and objective validated measures to determine an adequate skill and success level in AHP research capacity, however, arguably limits these conclusions [10] and shows that more research is needed to explore these themes and make recommendations for clinical practice. Within the Black Country we have shown that we have gaps with regards to research capabilities across key research areas including leading research delivery and developing formal research outputs, additionally, we have limited success of achieving or uptake of formal research training schemes which becomes more pronounced at the post-doctoral level. Through the Research ABC project, which included a cross-sectional survey, we now understand our baseline position and have clearly identified training needs and immediate barriers and commenced strategies to overcome these and facilitate improved culture and capabilities for the future. These findings will be used to develop the next steps locally. This will include an integrated research and training hub that unites our network

of AHPs to drive forward the national research agenda. Developing a formal Research Champion programme comparable to the one described by Abrahamson et al. [1] is an aspiration in our area, building an infrastructure to support these activities to take this work forward is a priority. The findings of the Research ABC project have been used to develop "GO-RESEARCH" recommendations for enhancing AHP research engagement; these are presented in Fig. 6.

Strengths and limitations of the Research ABC project

There were several strengths to the Research ABC project. The survey was developed based on evidence in the literature by three of the team members who carefully worded the questions. It was also piloted and the small, required adjustments made. The analysis was undertaken by an independent person (AP), reducing bias, then checked by team members (RB, AA, RL). One potential limitation relates to the way the survey was communicated to AHPs across the Black Country. Many AHPs do not read the Trusts' communications, and dissemination via AHP leads may be ineffective in reaching people working at Band 5 and 6 levels. This could explain why there were more people answering the survey who had been registered for a long period of time. Due to the time constraints of the project, it was not possible to communicate the information about the Research ABC project more widely. The minimal PPI input is also acknowledged as a limitation of the Research ABC project. It is planned that PPI input will be integral when taking this work forward offering patients' perspectives for informing the design, analysis and dissemination of future Research ABC work.

Conclusions

The Black Country Research ABC project identified baseline levels of research skills, capacity and training needs. A large cohort of AHPs (21% of those answering the survey) were identified who are keen to facilitate research activity as Research Champions. Training and a digital space with 285 AHPs, across the six organisations, signed up, helped to facilitate a targeted and integrated approach to increasing research capabilities and capacity, changing culture across the ICS. Appropriate strategies have been suggested by following 'GO-RESEARCH' recommendations to facilitate AHP research locally.

Impact

Research active organisations offer higher standards of healthcare. The Research ABC project has demonstrated the potential to improve research skills by creating a supportive environment (context), developing capability

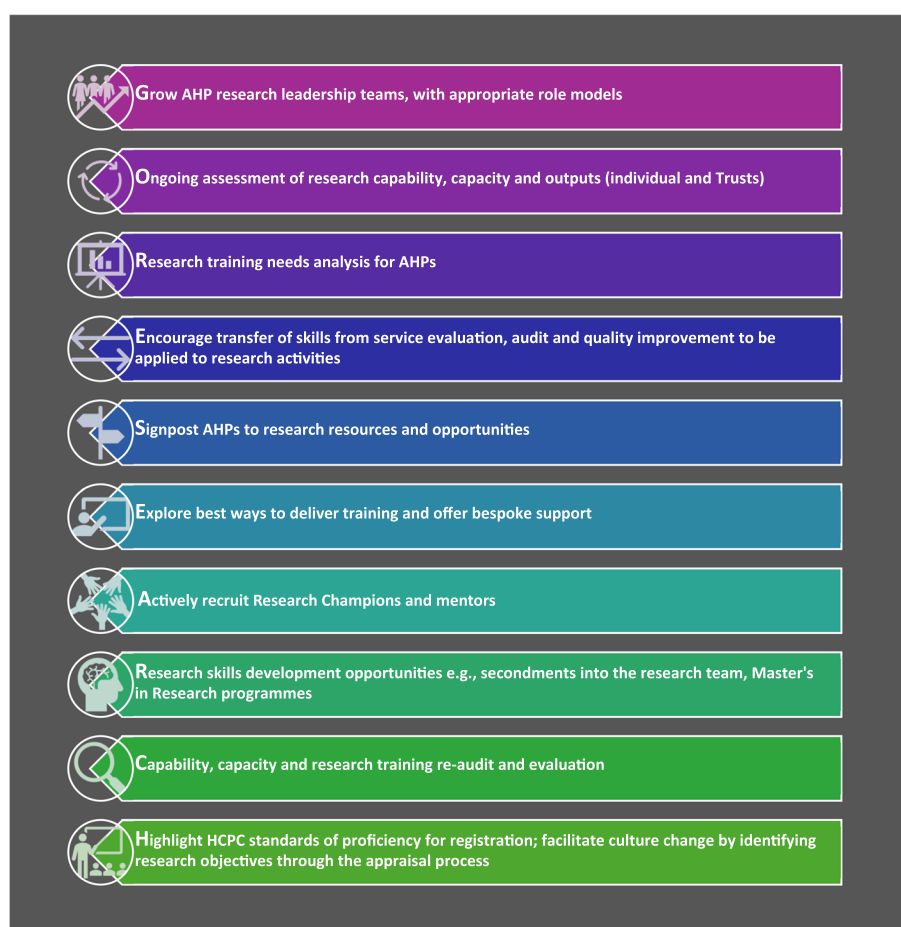


Fig. 6 Recommendations for enhancing AHP research engagement (GO-RESEARCH)

and capacity, and changing culture, meeting the AHP Research Strategy vision statements. The Research ABC project approach is appropriate to be taken forward more widely to support an increase in AHPs engagement in research activities.

Abbreviations

ABC	Allied Health Professions Building Research Capacity Across the Black Country
AHP	Allied Health Professions
BSc	Bachelor of Science
CAHPR	Community for Allied Health Professions Research
CARIN	Clinical Academic Roles Implementation Network
CAT	Critically Appraised Topic
CI	Chief Investigator
CoRP	Community of Research Practice
CRN	Clinical Research Network
HCPC	Health and Care Professions Council
ICS	Integrated Care System
MSc	Master of Science
NHS	National Health Service
NIHR	National Institute for Health and Care Research
PhD	Doctor of Philosophy
PI	Principal Investigator
REACH	Research Engagement And CHat
SCORR	Clinicians' Skills, Capability, and Organisational Research Readiness
UK	United Kingdom

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12909-025-06931-3>.

Supplementary Material 1.

Acknowledgements

We would like to acknowledge that this work was supported by the National Institute for Health and Social Care Research, Clinical Research Delivery Network West Midlands Improvement and Innovation Strategic Funding. The Research ABC team would also like to acknowledge the support of our two students who were on a Research ABC placement, Jake Hughes and Christine Wan and Sharon Evans for administrative support during the project.

Authors' contributions

RL oversaw the Research ABC project, which was led by AA. AA and RL conceived the plans for the Research ABC project with input from LW, RB and TH-B. AA, RL and LW were all integral to the collecting of the data. AA, RL and LW developed the Research ABC survey, which was reviewed by RB. AP analysed and interpreted the data. RB interpreted the data and led this aspect of the manuscript. AA, LW, RB and TH-B all delivered the training for the project and were involved in the evaluation of the work. All authors read and approved the final manuscript.

Funding

The Research ABC project was funded by the West Midlands Clinical Research Network as part of an Improvement and Innovation fund.

Data availability

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request. alison.aries@nhs.net.

Declarations**Ethics approval and consent to participate**

The proposal for the Research ABC project was reviewed by The Royal Wolverhampton NHS Trust Research and Development team who confirmed that the project was service evaluation and not classed as research, therefore, HRA / Research Ethics Committee approval was not required.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Author details

¹The Royal Wolverhampton NHS Trust, Wolverhampton, England. ²The Dudley Group NHS Foundation Trust, Dudley, England. ³Sandwell and West Birmingham NHS Trust, Birmingham, England. ⁴Keele University, Keele, England.

Received: 13 August 2024 Accepted: 2 March 2025

Published online: 08 April 2025

References

- Abrahamson V, Baldock B, Tomlinson L, Jackson C, Manley K, Wilson P. Research Champions: mixed methods evaluation of an interdisciplinary programme for community nurses and allied health professionals to build research capacity. *Adv J Prof Pract*. 2023;4(1). <https://doi.org/10.22024/UniKent/03/ajpp.1166>.
- Al-Nawafleh A, Zeilani RS, Evans C. After the doctorate: A qualitative study investigating nursing research career development in Jordan. *Nurs Health Sci*. 2013;15:423–9. <https://doi.org/10.1111/nhs.12035>.
- Aries AM, Bailey P, Hunter SM. The mutual benefits of patient and public involvement in research: an example from a feasibility study (MoTaStim-Foot). *Research Involvement and Engagement*. 2021;7:87. <https://doi.org/10.1186/s40900-021-00330-w>.
- Aukuh Clinical Academic Roles Development group 2016. Transforming healthcare through clinical academic roles in nursing, midwifery and allied health professions. A practical resource for healthcare provider organisations. [Accessed 21st December 2024].
- Bennett WQ, Bird JH, Burrows SA, Counter PR, Reddy VM. Does academic output correlate with better mortality rates in NHS trusts in England? *Public Health*. 2012;126:S40–3. <https://doi.org/10.1016/j.puhe.2012.05.021>.
- Boaz A, Hanney S, Jones T, Soper B. Does the engagement of clinicians and organisations in research improve healthcare performance: a three-stage review. *BMJ Open*. 2015;5: e009415. <https://doi.org/10.1136/bmjopen-2015-009415>.
- Braun V, Clarke V. *Thematic Analysis A practical guide*. London: Sage Publications; 2022.
- CARIN. 2023. *The impact of metrics, CARIN annual survey – Research Month Blog 2023*. Blog by Professor Jane Coad, Chair of CARIN (Clinical Academic Roles Implementation Network), Professor Mary Wells Metrics and Impact Lead for CARIN, and Robyn Cooke. [Online]. Available: <https://www.councilofdeans.org.uk/2023/02/the-impact-of-metrics-carin-annual-survey-research-month-blog-2023/> [Accessed 23rd July 2024].
- Comer C, Collings R, McCracken A, Payne C, Moore A. Allied health professionals' perceptions of research in the United Kingdom national health service: a survey of research capacity and culture. *BMC Health Serv Res*. 2022;22:1–13. <https://doi.org/10.1186/s12913-022-08465-6>.
- Cordrey T, King E, Gustafson O. Allied health professionals' research capacity: open to interpretation? *BMC Health Serv Res*. 2023;23:1–5. <https://doi.org/10.1186/s12913-023-09678-z>.
- Cordrey T, King E, Pilkington E, Gore K, Gustafson O. Exploring research capacity and culture of allied health professionals: a mixed methods evaluation. *BMC Health Serv Res*. 2022;22:1–10. <https://doi.org/10.1186/s12913-022-07480-x>.
- Cowley A, Diver C, Edgley A, Cooper J. Capitalising on the transformational opportunities of early clinical academic career training for nurses, midwives and allied health professionals. *BMC Med Educ*. 2020;20:418. <https://doi.org/10.1186/s12909-020-02348-2>.
- Grant J, Cottrell R, Cluzeau F, Fawcett G. Evaluating “payback” on biomedical research from papers cited in clinical guidelines: applied bibliometric study. *BMJ*. 2000;320:1107–11.
- Health and Care Professions Council. 2023. *HPCP Standards of proficiency* [Online]. Available: <https://www.hcpc-uk.org/standards/standards-of-proficiency/revisions-to-the-standards-of-proficiency/comparison-tables/> [Accessed 23rd July 2024].
- Health Education England. 2017. *Multi-professional framework for advanced clinical practice in England* [Online]. Available: <https://www.hee.nhs.uk/sites/default/files/documents/multi-professional-framework-for-advanced-clinical-practice-in-england.pdf> [Accessed 23rd July 2024].
- Health Education England. 2020. *Multi-professional consultant-level practice capability and impact framework* [Online]. Available: <http://tinyurl.com/36ketbxy> [Accessed 18th December 2024].
- Health Education England. 2022. *Allied Health Professions' Research and Innovation Strategy for England* [Online]. Available: <https://www.hee.nhs.uk/our-work/allied-health-professions/enable-workforce/allied-health-professions%E2%80%99-research-innovation-strategy-england> [Accessed 23rd July 2024].
- Iles-Smith H, Burnett C, Ross DH, Siddle HJ. The Clinicians' Skills, Capability, and Organisational Research Readiness (SCORR) Tool. *International Journal of Practice-based Learning in Health and Social Care*. 2019;7:57–68. <https://doi.org/10.18552/ijpbhlsc.v7i2.644>.
- JARMAN, H. Clinical research: how getting involved gives your professional development a boost: Why becoming a research-active nurse offers opportunities for exciting and rewarding work that can run in tandem with your clinical practice. *Nurse Res*. 2021;29:9–10. <https://doi.org/10.7748/nr.29.4.9.s3>.
- Luckson M, Duncan F, Rajai A, Haigh C. Exploring the research culture of nurses and allied health professionals (AHPs) in a research-focused and a non-research-focused healthcare organisation in the UK. *J Clin Nurs*. 2018;27:e1462–76. <https://doi.org/10.1111/jocn.14264>.
- MANLEY, K. A conceptual framework for advanced practice: an action research project operationalizing an advanced practitioner/consultant nurse role. *J Clin Nurs*. 1997;6:179–90. <https://doi.org/10.1111/j.1365-2702.1997.tb00303.x>.
- Manley, K., Crouch, R., Ward, R., Cliff, E., Jackson, C., Christie, J., Williams, H. & Harden, B. 2022. The role of the multi-professional consultant practitioner in supporting workforce transformation in the UK. *Advanced Journal of Professional Practice*, 3, 1–26 <https://doi.org/10.22024/UniKent/03/ajpp.1057>.
- Matus J, Walker A, Mickan S. Research capacity building frameworks for allied health professionals - a systematic review. *BMC Health Serv Res*. 2018;18:716. <https://doi.org/10.1186/s12913-018-3518-7>.
- Midlands Partnership University NHS Foundation Trust. n.d. *Research and Innovation - Become a Research Champion* [Online]. Available: <https://research.mpft.nhs.uk/research-delivery/become-research-champion#:~:text=Research%20Champions%20are%20staff%20who,and%20their%20own%20clinical%20area>, [Accessed 23rd July 2024].
- Moult A, Aries A, Bailey P, Paskins Z. Reflecting on activities which support public involvement within an evaluation of public involvement reports from facilities funded by the national institute for health and care research: a co-produced commentary. *Research Involvement and Engagement*. 2024;10:46. <https://doi.org/10.1186/s40900-024-00579-x>.
- National Institute for Health and Care Research. 2023a. *Extra £30m a year to boost research careers for healthcare professionals* [Online]. Available: <https://www.nihr.ac.uk/news/extra-30m-a-year-to-boost-research-careers-for-healthcare-professionals/34213> [Accessed 23rd July 2024].
- National Institute for Health and Care Research. 2023b. *INSIGHT: Inspiring Students into Research* [Online]. Available: <https://www.nihr.ac.uk/documents/insight-inspiring-students-into-research-round-1-guidance-notes/33665> [Accessed 23rd July 2024].
- National Institute for Health and Care Research. 2024. *Associate Principal Investigator (PI) Scheme* [Online]. Available: <https://www.nihr.ac.uk/health-and-care-professionals/training/associate-principal-investigator-scheme.htm> [Accessed 23rd July 2024].

29. Newington L, Wells M, Begum S, Lavender AJ, Markham S, Tracy O, Alexander CM. Development of a framework and research impact capture tool for nursing, midwifery, allied health professions, healthcare science, pharmacy and psychology (NMAHPPs). *BMC Health Serv Res.* 2023;23:1–15. <https://doi.org/10.1186/s12913-023-09451-2>.
30. NHS England. 2022. *The Allied Health Professions (AHPs) Strategy for England: 2022 – 2027 AHPs Deliver* [Online]. Available: <https://www.england.nhs.uk/long-read/the-allied-health-professions-ahps-strategy-for-england-ahps-deliver/> [Accessed 23rd July 2024].
31. NHS England. 2024. *Research in the NHS* [Online]. Available: <https://www.england.nhs.uk/long-read/research-in-the-nhs/> [Accessed 23rd July 2024].
32. NIHR. 2019. *National Institute for Health and Care Research - Impact and Value Report* [Online]. Available: <https://www.nihr.ac.uk/documents/impact-and-value-report/21427> [Accessed 22nd July 2024].
33. NIHR Trainees Coordinating Centre 2017. Ten years on: Adapting and evolving to new challenges in developing tomorrow's health research leaders.
34. Office for National Statistics. 2022. *Regional Ethnic Diversity* [Online]. Available: <https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/national-and-regional-populations/regional-ethnic-diversity/latest/> [Accessed 26th July 2024].
35. Rees MR, Bracewell M. Academic factors in medical recruitment: evidence to support improvements in medical recruitment and retention by improving the academic content in medical posts. *Postgrad Med J.* 2019;95:323–7. <https://doi.org/10.1136/postgradmedj-2019-136501>.
36. Shepherd M, Endacott R, Quinn H. Bridging the gap between research and clinical care: strategies to increase staff awareness and engagement in clinical research. *J Res Nurs.* 2022;27:168–81. <https://doi.org/10.1177/17449871211034545>.
37. Stevenson K, Sarigiannis P, Finney AG, Cottrell E, Lewis R, Edwards JJ, Hadley-Barrows T, Thomson K, Reay H, Dziedzic KS. Development, spread and impact of primary care and musculoskeletal communities of practice to assist rapid translation of evidence into practice. *Musculoskeletal Care.* 2021;19:564–9. <https://doi.org/10.1002/msc.1552>.
38. Trusson D, Rowley E, Barratt J. Multimethods study comparing the experiences of medical clinical academics with nurses, midwives and allied health professionals pursuing a clinical academic career. *BMJ Open.* 2021;11:e043270. <https://doi.org/10.1136/bmjopen-2020-043270>.
39. University Hospitals Association. 2023. *University Hospital Status* [Online]. Available: <https://www.universityhospitals.org.uk/wp-content/uploads/2023/05/University-Hospital-Status-2023.pdf> [Accessed 23rd July 2024].
40. Watson J, Robertson S, Ryan T, Wood E, Cooke J, Hampshaw S, Roddam H. Understanding the value of a doctorate for allied health professionals in practice in the UK: a survey. *BMC Health Serv Res.* 2024;24:566. <https://doi.org/10.1186/s12913-024-11035-7>.
41. Whitehouse CL, Tinkler L, Jackson C, Hall H, Webster J, Hardy S, Copping J, Morris P, Manley K. Embedding research (ER) led by nurses, midwives and allied health professionals (NMAHPs): the NMAHP-ER model. *BMJ leader.* 2022;6:323–6. <https://doi.org/10.1136/leader-2021-000578>.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.