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## **Research engagement and research capacity building: a priority for healthcare organisations in the UK**

### **Abstract**

**Purpose** – To research involvement of healthcare staff in the UK and identify practical organisational and policy solutions to improve and boost capacity of the existing workforce to conduct research.

**Design** – A mixed method study presenting three work packages here: secondary analysis of levels of staff research activity, funding, academic outputs and workforce among healthcare organisations in the United Kingdom; 39 Research and Development lead and funder interviews; an online survey of 11 healthcare organisations across the UK, with 1,016 responses from healthcare staff included for analysis; and 51 interviews of healthcare staff in different roles from six UK healthcare organisations.

**Findings** – Interest in research involvement is strong and widespread but hampered by a lack of systematic organisational support despite national policies and strategies to increase staff engagement in research. While useful, these external strategies have limited universal success due to lack of organisational support. Healthcare organisations should embed research within organisational and human resources policies and increase the visibility of research through strategic organisational goals and governance processes. A systems-based approach is needed.

**Originality** – This is a large scale (UK-wide) study involving a broad range of healthcare staff, with good engagement of nurses, midwives and Allied Healthcare Professionals that has not been previously achieved. This allowed valuable analysis of under-researched groups and comparisons by professional groups. The findings highlight the need for tailored action to embed research reporting, skills, professional development and infrastructure into organisational policies, strategies and systems, along with broader system-wide development.

**Keywords:** Health services research, capacity building, health professionals, research engagement

## INTRODUCTION

Over the last decade there has been a growing emphasis on increasing healthcare staff capacity to support, undertake and use research and for healthcare organisations to be more research-active. The current COVID-19 pandemic has highlighted the importance of research, with research funders, industry, academic researchers and the National Health Service (NHS) all working collaboratively to develop treatments and vaccines. The benefits of undertaking research in healthcare organisations are well supported by studies showing improved clinical outcomes, better patient care and improved mortality rates (Clark and Loudon, 2011; Boaz *et al.*, 2015; Ozdemir *et al.*, 2015; Harding *et al.*, 2016; García-Romero, 2017; Jonker *et al.*, 2020). In the UK, research-active organisations also achieve better Care Quality Commission (CQC) ratings (Jonker *et al.*, 2018). Healthcare staff engagement in research can also enhance job satisfaction and professional confidence, with improved staff recruitment and retention as well as improved staff attitudes towards research (Boaz *et al.*, 2015; RCP, 2016a; KPMG, 2019). Supporting research is also critical to the delivery of high-quality healthcare and ensuring the continuing prominence of the UK in the medical research field.

The UK Government, devolved administrations in Scotland, Wales and Northern Ireland (Civil Service, n.d.), research funders and professional bodies have recommended various strategies for improving research and development infrastructure and supporting the development of research careers (Bloor, 2011; Bell, 2017; NHS Wales, 2019; NIHR, 2019; NIHR, 2021; HM Government, 2020; RCP, 2016a). However, ensuring the organisational capacity for healthcare staff to conduct or participate in research remains a significant problem (HM Government, 2020; Barret and Fulop, 2012; RCP 2016a; Dimova *et al.*, 2018; AMS, 2020). Healthcare staff continue to report having insufficient time, funding and skills support to undertake research; inadequate organisational support for research; and limited opportunities to engage with research (RCP, 2016b; Dimova *et al.*, 2018). Pressure on time is only increasing as clinical trials become ever more complex due to advances in scientific understanding (Malk and Lu, 2019; Markham *et al.*, 2019) and persistent staff shortages across the health service (Mickan *et al.*, 2017; Academy of Medical Sciences, 2020; Barratt and Fulop, 2016). Professionals report less and less time and opportunity to do research and some have reported that they must 'bend the rules to do research' (Brown *et al.*, 2015). This lack of, and uneven, organisational capacity has emerged as a main concern for sustaining current research activity and undertaking further research (Brown *et al.*, 2015).

More broadly, inequalities in funding and opportunity, variation in where studies are undertaken and their subject matter, and a lack of coordination between policy and practice compound and exacerbate these issues (RCP, 2016a; CRUK, 2017; Dimova *et al.*, 2018; Maben and King, 2019; Bower *et al.*, 2020; AMS 2020). For example, the most active healthcare providers are predominantly those linked to large medical schools, and providers with the most studies registered in a publicly accessible database (especially clinical trials) also have the highest number of principal investigators and research fellowships (NIHR, 2019). The Chief

Medical Officer of England's report in 2021 and the 2021 NIHR report *Best Research for Best Health: the Next Chapter* highlighted this mismatch between where research is undertaken and where health needs are greatest, calling for more research to be undertaken in these areas (CMO, 2021; NIHR, 2021). The persistence of variations in research activity and low research engagement amongst some healthcare organisations and professional groups further suggests that national policies have yet to have significant traction on many healthcare organisations (Bower *et al.*, 2020; CMO, 2021; NIHR, 2021). Clearly recent and current policy has done little to achieve substantial changes to the distribution of funding, staff and organisation research activity.

If we are to support the development of high-quality care across all healthcare organisations and ensure that research is undertaken where health needs are greatest, it is crucial to improve research capacity across all types of healthcare providers and for all staff groups. However, Boaz *et al.* (2015) concluded that many activities aimed at involving clinicians more fully in research were not easy to implement especially when such activity was not supported by changes at the organisational level to support the initiatives. Hanney *et al.* (2015) argued that attempts to increase the integration of research and healthcare systems require further empirical evidence, especially on the organisational determinants of how research engagement impact on practice. Boaz *et al.* (2015) found that organisations that have deliberately integrated the research function into organisational structures demonstrate how research engagement can, among other factors, contribute to improved healthcare performance. Studies particularly point to the importance of organisational and strategic leadership (Boaz *et al.*, 2015; Gee and Cooke, 2018; Hulcombe *et al.*, 2014). The evidence highlights the importance of interlinking different parts/layers of the organisation and building capacity at the team as well as organisational levels (Sarre and Cooke, 2009). Organisations that value research across their leadership body would therefore support greater research involvement, with these 'distributed leaders' enabling a more equitable spread of research interest and innovation throughout their organisation (Gee and Cooke, 2018). Proactive and permissive organisational cultures tend to be inspired by individuals and it is difficult to embed this from outside and therefore policies and strategies developed nationally without attending to local organisational contexts are more likely to fail. More targeted and nuanced action at this level is therefore necessary to develop this change.

To explore how greater research involvement and capacity can be achieved, Cancer Research UK (CRUK) commissioned a study to explore the fundamental system-wide barriers to research involvement experienced by healthcare staff in the UK and identify practical policy solutions to improve and boost the capacity of the existing workforce to conduct research. The objectives were to identify the views of healthcare staff, managers, research funders and Research and Development (R&D) policy leads and infrastructure representatives to understand what does, or could, enable staff to become more involved in healthcare research, with a specific focus on what drivers and incentives support research

activity and capacity in healthcare organisations. The report, *Creating Time for Research*, has been published by CRUK (Peckham *et al.*, 2021a). Despite confirming widespread support for government, NHS and other strategies at the national level to raise the profile of research, such as the Life Sciences Industrial Strategy (HM Government, 2020), national and local interview and survey participants of this study argued that these national strategies were not sufficiently joined up or rooted in local practice to be effective. Gaps remain between strategic statements about research and their delivery in practice, even among those health organisations with an explicit research strategy in place. In this paper, we focus on the organisational level, identifying:

- the barriers which limit the success of policies to increase staff research engagement
- the strategies and incentives organisations can use to promote, enable and sustain greater staff involvement in research.

Our discussion section considers how healthcare organisations can embed research engagement using this learning to strengthen the organisational context.

## **Methods**

We undertook a mixed methods study to examine how to support, enhance and sustain healthcare staff research engagement. The Scientific Review Committee (SRC) Ethics Committee of the University of Kent School of Social Policy, Sociology and Social Research (SRCEA id227) provided ethical approval. To ensure a broad perspective we engaged stakeholders from across the UK and from research-active and non-research active groups of staff, funders, regulators and research support infrastructure roles in our interviews and survey. We also worked closely with CRUK and the study's Steering Group who were drawn from the NHS, the public, academia, departments of health and social care, professional bodies, health regulators and research funders across the UK.

## **Study progression**

The wider study comprised five stages or 'work-packages', delivered between September 2019 and April 2020. We describe the three work packages relevant to this paper below (WP2-4) and summarise them in Figure 1. Work package one involved an initial scoping of the topic to focus the aims of the research and work package five involved approaches to dissemination of the main findings and are described elsewhere (Peckham *et al* 2021a).

*Figure 1: Overview of Work Packages 2-4*

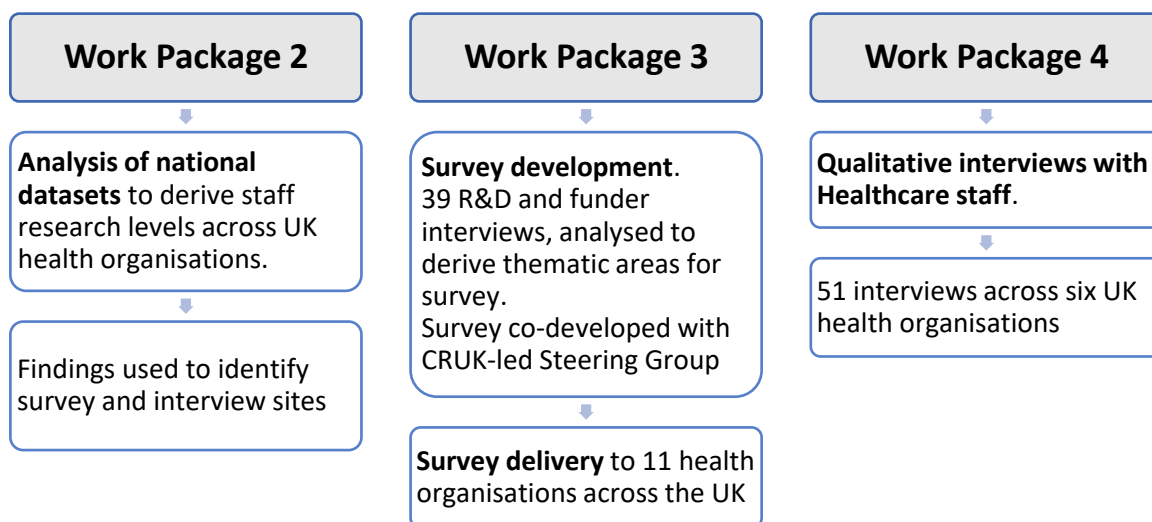


Figure 1 describes the activities in the three work packages

### *Work package 2 (WP2)*

We analysed the publicly available secondary data from the Clinical Research Network (CRN) Open Data Platform, NIHR (National Institute for Health and Care Research), and other funders (UK Clinical Research Collaboration, Medical Research Council) according to a specific framework to identify and compare levels of staff research activity across institutions, geographical areas, specialities, health service settings and by disease/demographic indicators. The findings informed the purposive selection of survey and interview sites for following two work packages, ensuring representation across different sizes and types of healthcare organisation (HO) and varying levels of research activity.

### *Work package 3 (WP3)*

In the first phase of this work package, we conducted qualitative interviews with 14 research funder representatives and 25 R&D leads, purposively selected with support from the CRUK Steering Group to represent a diversity of organisation types, sizes and locations. We analysed this data using framework analysis to derive key survey themes and questions.

The online survey was co-designed with our steering group members and piloted with staff in a non-sample NHS hospital. After amendments from the feedback, we distributed the Qualtrics survey link to a purposive sample of 11 NHS organisations, including five acute hospitals, one community healthcare provider and one mental health service in England; two Scottish Regional NHS Health Boards; one Welsh Local Health Board; and one Northern Ireland Health and Social Care provider. The survey sites were selected based on levels of research activity (low/high), size and type of provider. Organisations shared the survey link with all healthcare staff, research-active or otherwise, including

doctors, nurses, allied health professionals (AHPs) and managerial staff. We received 1235 responses of which 219 were only partially completed leaving 1,016 responses included for analysis. Full details are included in a separate survey report (Peckham *et al.*, 2021b).

#### *Work package 4 (WP4)*

We collected qualitative data through semi-structured interviews from six healthcare organisations across England (3 sites), Scotland (1 site), Wales (1 site) and Northern Ireland (1 site). Sites were selected by organisation size, whether acute or community providers and level of research activity, informed by WP2. Our contacts in R&D at each site publicised the interviews with research-active and non-research-active staff by circulating our invitation to take part and information forms through organisational channels. The 51 interview participants recruited across the six sites included key research support staff, active and inactive researchers/potential researchers, senior managers, other local research stakeholders, healthcare practitioners in different roles and staff on research development programmes (e.g. Integrated Clinical Academic Internship Programme/Pre-doctoral Clinical Academic Fellowships).

#### **Data management**

##### *Interview data collection*

We conducted WP3 interviews by telephone and the majority of those in WP4 in person, with the remainder by phone, according to the needs of the interviewee. Each interview was audio-recorded using secure equipment. All WP3 and WP4 interviewees received information sheets and provided written consent ahead of their interviews; recruitment ceased when no new information was forthcoming and data saturation was reached. We used semi-structured guides for the interviews which were later transcribed.

##### *Analysis and synthesis*

We approached the analysis by synthesising the data from our interviews with 25 R&D leads and 14 funder representatives (WP3a), 181 qualitative comments and quantitative data from 1097 responses to our online survey of 11 health organisations (WP3b), and 51 semi-structured interviews from the six interview sites (WP4). This provided a broad range of data sources and contextualised understandings from different perspectives, which contributed to our final analysis. Descriptive statistics, including cross tabulations, were used to describe and summarise the data for all survey items. Qualitative data was thematically analysed. Emerging themes were discussed within the research team and refined through discussion with external stakeholders and the study steering group. This paper focuses on the barriers and opportunities for healthcare organisations in supporting, enhancing and sustaining research engagement among their healthcare staff.

#### **Findings**

The Creating Time for Research study highlighted gaps between positive strategic statements about research at both national and organisational levels and their delivery in

practice across health organisations. We identify three thematic areas of organisational level recommendations to address persistent barriers to staff involvement in research: evidencing value to strengthen organisational research cultures; building equitable research active career pathways; and strengthening local resources to build research capacity. We discuss each of these issues in turn with reference to:

- a. the barriers which limit the success of policies to increase staff research engagement
- b. the strategies organisations can use to address these barriers and support staff research

### ***Theme One: Evidencing value to strengthen research cultures***

**The barriers:** The majority of our respondents voiced concerns that even within research active healthcare organisations, systems for promoting and enabling staff research were not comprehensively embedded. For example, our survey asked respondents about how their organisation uses and values research activities by their staff. Only 51% of respondents agreed that their organisation ‘has a supportive structure for research engagement’ and 52% agreed that their organisation ‘sees clinical research as part of clinical service delivery’. We also asked about the requirement to report research outcomes. Over half of respondents were unsure and most senior managers (n=43, 95%) were unsure how frequently research outcomes were presented directly to the organisation’s executive board while only one respondent said this occurs once every three months or more frequently and the other said never. Only five respondents reported that research issues were regularly reported at the organisation’s board meetings.

Interviewees felt that the well documented barriers to research involvement by staff, such as the lack of time and capacity, were “*compounded by limited research culture*” (Funder; WP3 interview). Weak research cultures featuring low communication and understanding of research value, respondents suggested, isolated and de-prioritised research so that rather than being seen as part of the solution for key priorities such as staff retention and resourcing/funding services, involvement was viewed as being conflict with them.

*“I think there’s a lot of professional fatigue out there and... to do something different can actually bring you back into a much better place but sometimes the perception is “oh that’s another thing to do”... I think that’s probably where the communication could be improved”* (Chief Nurse at one hospital; WP4 interview); *“finances matter, you know and that’s clear ... and evidence-based practice is so important in terms of financial efficiency but also the clinical effectiveness... it would be nice to see that sort of similar message coming from the top, from the Board* (R&D Lead; WP3 interview)

For many respondents the view was that organisations treated research as a separate activity to the provision of care, a “*nice to have*” feature or something that is delivered or accessed by specialists who “*did research*” rather than core to the way of working.

*“[health organisations] are only interested if you bring money in”* (Survey comment); *“managers don’t see research as a priority for clinical staff and actually see it as staff trying to skive off”* (Survey comment)



Too often, the lack of visibility of research was demoralising to those who did research with the possibility that the findings were less likely to be shared and used.

*“even if you do a successful project, unless it's well advertised and promoted by the managers and by your own health board saying, “look guys, this is what we've done and this is what conditions have achieved, and this is our outcome, and this is a really good thing”, nobody knows that you've done this good thing, so therefore, nobody's going to see it and say, ‘oh well, why should we do it?’”* (Nurse; WP4 interview)

**Recommended strategies:**

**Active strategies, monitored with meaningful metrics:** Recommendations focused on moving towards a position where *“research (is) part of everyday practice, everybody knows and has a sense of research importance, pride in involved in research hospital or organisation”* (R&D Manager; WP3 interview), and where there was *“a culture of ‘we’re going to use evidence as our starting point’”* (Pharmacist; WP4 interview) to solve organisational, clinical and operational issues. To do this, they wanted all healthcare organisations have a research strategy that is signed off and monitored by the executive board, with research as an actively lived and supported pillar of healthcare planning and delivery, and better communication of research value throughout the organisation. Research reporting needed to be a standard agenda item.

To build and maintain a position of prominence for research in the eyes of the health organisation executive board, respondents advocated the development of meaningful routine metrics that document, evaluate and demonstrate the value (including financial) of research. The quality of the metrics were important – *“not just the numbers!”* (Research Radiographer; WP4 interview) but evidence of the value of research to patient, practice, staff and service and promote a positive research environment.

*“we need to make sure we measure the things that matter to the service, not the things that are easy to measure”* (Pharmacist; WP4 interview)

Among the items our interview and survey respondents suggested to illustrate the breadth of research impact were: impact and value in terms of patient experience, outcomes, and perceptions; staff morale, retention, connectivity and development; systems improvements; and potential cost savings. There was opportunity to involve the public and patients in their development and ensure the metrics were appropriate for the breadth of the service rather than following an academic or medic-led model.

Respondents provided numerous examples of supportive line managers who may or may not be research active themselves, but who were open to or supportive of the (potential) value to their patients, team and specialty. To embed these metrics and strengthen their relevance and prominence across the organisation, respondents called for structured time built around these reports to examine the metrics and their meaning for services *“regular touch points with all of those operational leaders, so those middle management leaders, if*

*you like, it's trying to make sure that we create a space where they can think about this"* (Deputy Chief Nurse at one hospital; WP4 interview).

Annual audits of research activity were also recommended to highlight strengths and challenges in specialties or departments. It was important however that the audits and the collection of metrics were a positive tool and should be delivered in the spirit of whole team support for colleagues, research and service development: *"I think pressure can come from reviews and objectives set, but the how it's delivered needs to be through mentorship and support"* (Pharmacist; WP4 interview).

### **Theme two: Building equitable research active career pathways**

**The barriers: a) disparities in research access and activity:** Irrespective of profession, our interview respondents and the overwhelming majority of survey respondents (over 90% of research-active and 87% of non-research-active staff) saw 'improving outcomes for patients' as the top motivator for being research-active. However, they experienced different barriers to achieving this.

There was a clear gradient in the opportunities to get involved in research aligned with their professions, grade and the research activity of the health organisation, even among those who perceived research to be part of their role: *"I went to a Russell Group University, when I left, I considered a role in research as much as being a clinician. I have been REPEATEDLY told the research is for band 6 and above and to stick within my role"* (Survey comment). In the UK, the band system for nurses is linked to the payment and roles, which starts from Band 5 (e.g. newly qualified registered nurses), Band 6 (e.g. Senior Nurses and various specialist nurses), Band 7 (e.g. Emergency Nurses and clinical specialists), and reaches Band 8 or 9 (Chief Nurses and nursing consultants) as the highest band (NHS, 2022).

Doctors were more likely to be leading research and setting the research questions even in organisations with *"a very active R&D portfolio and nursing involvement in that. But... the nurses aren't the primary investigators and there is very little about a specific nursing practice"* (Deputy Chief Nurse at one hospital; WP4 interview). Respondents suggested that the competitive nature of some of the research programmes meant that (if they are not tailored for certain professions), they generally favour experienced research leaders and doctors due to their improved research training, exacerbating disparities: *"Depending on whether you are a clinician or AHP or nurse or any other professional, the funding is disproportionately skewed to doctors rather than anyone lower on the food chain"* (AHP Lead at one hospital; WP4 interview).

Such experiences acted as a brake on research active career development with nurse and AHP interviewees finding it difficult to progress in the face of a greater level of organisational barriers, such as access to training, funding, organisational opportunities, employment practices. There is a need for cultural change to develop a more sustainable system, *"you have to work doubly hard because something's not there"* (Service lead; WP4 interview). Some staff were becoming demoralised and less likely to re-engage with

research: *“I am losing my academic rigour and research skills alongside my enthusiasm and passion for research”* (Survey comment) while others were taking on research in their own time and sometimes at their own expense.

Some respondents noted an additional layer of barriers according to their specialty and/or the populations they worked with: *“experiences of formal research has highlighted a variety of barriers... for the populations we work with and nature of work we do with multiple variations and person centred outcomes in our practice not fitting as easily into a research paradigm. Longitudinal research studies... would be of interest but again within a pressured healthcare system this feels harder to access”* (Survey comment).

**b) disparities in job descriptions and contracts:** There were similar differences in the contracts between doctors and other healthcare staff. Doctors were most likely to report a role including research (68.1% of survey respondents compared to 50.7% in nurse/midwife and 45.6% in other health professions) although half the doctors had no contractual obligation to undertake research. In our survey, doctors with a contractual obligation to deliver research were also more likely to have time allocated in their job descriptions for research (37 out of 47; three-quarters). This compared to two-thirds (101 out of 149) of nurses and under half (49 out of 117) of other professionals, even though most of these staff were contractually required to do research.

With these figures in mind, nurses, midwives and other healthcare staff reported it could be harder to make the case for research within the existing hierarchical NHS frameworks: *“as nurses you’re viewed as why are you doing research? It’s not in your job description, you’re not on an academic job role, so all the priority goes to the doctors”* (Clinical Nurse Specialist; WP4 interview).

### **Recommended strategies:**

**Embed research at the human resources level:** Our findings highlight the importance and urgency in reducing the disparities in the current research involvement among disciplines and professions and providing tailored research support especially for healthcare staff at lower pay grades. Interviewees from all professional groups in all our sites supported the inclusion of meaningful research activity as part of promotion criteria. This will especially support frontline healthcare staff who are at lower pay grades to pursue their interests in research. The ‘meaningful research activity’ need to be inclusive and tailored for staff working in different roles and at different grades; for example, recognising the importance of supporting the recruitment of research participants. Our respondents wanted this visibly connected across the organisational system into Human Resources recruitment and retention planning as well as the research strategy (and budget). They highlighted the need to move away from a *“training and then get on with research”* model, towards a lifelong career development approach with meaningful and cumulative incremental steps. Career pathways should include a wider scope on how to develop roles and grant autonomy to be able to take patient care and research further, which *“allow us the ability to be able to do that and to have our skills recognised better”* (Research Nurse; WP4 interview).

As an example of good practice, in one of our NHS acute hospital interview sites, ‘research, audit, and quality of care improvement’ were included in job descriptions and work plans which had helped raise research’s profile amongst staff, including middle managers (e.g. Directorate and team leaders). We did not identify this as a widespread practice.

The barriers illustrate a clear need to be more targeted and equitable in the recommendations to redress the disparities shown. This R&D manager advocated early engagement with new staff, including those from less research active groups: *“I do think one of the ways forward really has to be to engage with our Band 5s and our newly qualified clinicians and encourage them to carry on that interest that they’ve got”* (WP4 interview). This Chief Nurse cited an example where a health organisation provided fellowships for Band 5 nurses both to build in research to their contract but also to present an enhanced offer with human resource benefits: *“[they] put out Band 5 fellowships (for nurses). And you can very clearly see ... that it’s a recruitment and retention initiative”* (Interview WP4).

However, keeping the pathway approach in mind, targeted activity should have multiple touch points. For example, this Service Lead advocated a proactive approach with AHPs approaching their ‘promotion ceiling’ at Band 7: *“people can’t really get beyond Band 7 unless they become managers. And, you know, it’s kind of, what happens a lot, I find, is ... there’s almost a bit of a burnout... if there was opportunity (for research support), I think that things would be very different (for) recruitment and retention and morale”* (Interview, WP4).

### **Theme three: Strengthening local resources to build research capacity**

**The barriers:** Confidence in research knowledge and accessing capacity development resources was important for research engagement among our respondents, with confidence levels affected by awareness of the support available or how to access it. For those new to research, it was difficult to know where to start.

*“I wouldn’t know where to start with a research project, however small”* (Survey comment); *“I’m sure most of the health [organisations] will have a research and development area, they’ll have a QI lead, (but) they’re not really out on the wards saying ‘this is what you’ve got, come and use this’”* (Clinician; WP4 interview); *“we struggle and just try and learn on our feet, rather than being coached or guided into it”* (Clinical Nurse Specialist; WP4 interview).

Perceptions of the difficulty and time-consuming nature of the research process were also off-putting: *“the process is so laborious and time consuming just to get going that it sometimes feels futile”* (Survey comment).

This lack of research support was mirrored in survey responses. Over a third of the survey respondents were unsure about what their organisation provided and only 25% of respondents reported that their organisation provided research training, with the most common being Good Clinical Practice and Informed Consent training (81.5%). Less emphasis

(32%) was placed on research skills/methods training or critically analysing research findings (21%) - the latter critical for the application of research evidence in practice.

Over a half of the survey respondents prioritised having access to research staff as the main form of support. However, our interviewees noted that the lack of visible, accessible local research in action by peers or mentor figures.

*“Consultants used to be fully trained before taking roles, but many of current consultants have no research background or research training”* (Research Director; WP3 interview); *“I’ve done what I can to help them but there is only so much research capacity”* (Pharmacist; WP4 interview). The situation was again exacerbated by having an uneven distribution of research role models across specialties and roles. In our survey, nurses, midwives and AHPs more likely to report that they lacked confidence in their research knowledge (33% of nurses and midwives and 38% of AHPs, compared to 25% of doctors).

### **Recommended strategies:**

**Localised, structured visibility and support:** To *“open up the opportunity across the organisation and for staff who never thought that they could do this kind of work”* (Deputy Chief Nurse at one hospital; WP4 interview), respondents advocated an emphasis on feasible, visible, accessible, supported research support which is *“more embedded, less exclusive”* (Medical Physicist; WP4 interview) and enabled healthcare staff to start small and provided supported incremental pathways and mentoring/training as appropriate via *“generous, judicious support and infrastructure”* (Head of service; WP3 interview). It was acknowledged that additional support was needed to address lower research confidence, exposure and leadership among professions such as nurses, midwives and AHPs.

Local access to national programmes such as Pathways to Portfolio (Health and Care Research Wales) which focus on small scale research development to build confidence, capacity and experience embrace this incremental pathway, however respondents noted that healthcare staff needed to be presented with a wide range of options for research involvement.

*“we’re missing a trick around research and evidence-based practice that we have this sense that everybody should be a well-rounded researcher and I think what we end up with is some higher level people and everybody else just disengaged, rather than bringing everybody up a little bit”* (Pharmacist; WP4 interview).

It was important to avoid healthcare staff becoming overwhelmed by research and while there was some push-back against a focus on Quality Improvement (QI) or audit initiatives over more rigorous research by some, respondents saw value in their accessibility.

*“I am now influencing, you know, the staff around me to start, bit by bit, building up, you know, sort of, so when people in the department, they talk about ideas and they go too big, too quick. And then they stop, you know... So what I’m doing is getting, you know, a lot of my team now doing small audit or QI projects and saying once you’ve got that, you need to*

*think, and then build. I'm sort of encouraging them to build up to bid for funding for research" (Service Lead Dietician; WP4 interview)*

Offering an alternative to a centralised model of R&D support, such as an outreach or local champion model was advised by some to avoid generating an additional layer with the perception that *"you're moving into a completely different team and a culture again"* (Service Lead Dietician; WP4 interview). The research champion model, active in some healthcare organisations, offered an opportunity to model research by staff in a range of healthcare roles, showing that they are *"permitted... to take a risk, take a chance, it's okay, you know, let's test it, and be given the confidence to do that... research champions (are) able to reach across the organisation and include others, in their day-to-day work... and creating interest in that way"* (Deputy Chief Nurse at one hospital; WP4 interview).

Respondents also suggested that the structures of research (e.g. research ethics committees) would benefit from following a research champion model, focusing on a constructive and enabling culture in order to reframe the narrative more positively.

There was evidence that individuals were already delivering this kind of support on an ad hoc basis, however respondents called for more structured mentoring and/or support models supported by a strategic package of training and scheduled events. Respondents recommended these include needs-led training such as key concerns at different stages of research interest from demystifying language through to more technical insights, as well as scheduled events with senior management support featuring competitions, ideas clinics and meet a mentor, to build confidence in research skills and publicity to celebrate the wide range of research entry points and possibilities.

*"Go beyond Comms emails [staff communications newsletter] to something more user-friendly and creative. Harness social media but also face to face contact"* (R&D Lead; WP4 interview).

### **Collaborative networks:**

While we recorded a wide range of developing strategies within organisations, respondents advocated outward thinking collaborative partnership between health organisations, academia and funders to strengthen infrastructure and improve the relevance of academic research and skills and capacity of healthcare staff. Charities saw this as essential to adding value and linking the different specialisms connected to diabetes to incentivise research and share case studies of success and the potential for change (Diabetes UK, Stroke Association). Universities were also championing career development and support through collaboration with healthcare organisations to deliver programmes such as the nationally funded 'Communities of Practice' which has the aim of developing the applied health research infrastructure (Facilitator; WP4 interview).

### **Delivering the recommendations: The perfect storm**

The factors raised by our respondents as limiting the success of policies and strategies to increase staff research aligned with the existing evidence. These issues were more marked among staff members who were not doctors, though doctors still experienced difficulties in setting aside research time and those in some less research active/less well funded specialties also noted the variation in funding and access to research-experienced colleagues for collaboration. However, nurses, AHPs and other non-doctor staff were less confident of their research capacity and had, or felt they had, less access to support, funding and capacity building opportunities.

These barriers were not mutually exclusive: *“it’s coming together in a perfect storm: less time, more work, greater complexity from all sides, weaker research culture, less exposure and understanding of how to do research and its value”* (Consultant; WP3 interview). The interconnectivity between the barriers described illustrated how singular actions to increase research among healthcare practitioners would ultimately prove inadequate in driving systemic change, rather a system-wide ‘triangulated’ approach is necessary.

*“I think it’s all the things we’ve said, isn’t it, it’s sharing people’s work, celebrating it, making people feel valued, protecting their time. And, actually linking our clinical priorities for the year with any research, the work that can be done, and vice versa. You know, so anything that we’re looking at, sores, pressure ulcers, any of those kind of things regarding, to patient care, will always have a thread of, ‘Could we do...?’ ‘Should we consider...?’ So it’s just, you know, really triangulating everything... with the national portfolio as well”* (Deputy chief nurse at one hospital; WP4 interview)

## **DISCUSSION**

Although there have been many national government policies and funder initiatives that have sought to support greater levels of research in healthcare organisations, our study found considerable persistent barriers to staff involvement in research. Most policies and strategies have focused on support and initiatives delivered in health-care organisations’ external environments, such as funding, training, support structures for research. While there is some support for organisations including research infrastructure funding (e.g. Research Capacity Funding in England), this is often linked to existing levels of research activity – with more support where more research is undertaken. The findings of this study suggests that more attention needs to be placed on internal organisational factors and strengthening organisational resources and culture (Ferlie *et al.*, 2015; Burton and Rycroft-Malone 2014).

Despite substantial evidence that research active organisations deliver significant patient and staff benefits (Ferlie *et al.*, 2015; Jonker *et al.*, 2020), variations persist in research activity between hospitals irrespective of local needs and between different staff. We found that the appetite and key motivations for being involved in research was similar for survey respondents and interviewees irrespective of their organisation type and their professional

role. Our analysis of activity data and the findings from interviews and the survey confirm previous research that acute hospitals are more research-active than community health providers, and teaching hospitals attached to universities are the most research-active acute providers. This leads to and exacerbates variations in activity, between professions and the topics being researched. This situation has continued to exist despite significant investment in research funding, training and infrastructure raising questions about why such initiatives appear to have had limited impact.

Burton and Rycroft-Malone (2014) suggest that having improved quality outcomes provides healthcare organisations with a competitive advantage in terms of staff recruitment, patient care, reputation, efficiency and value for money. They focus on the role of the organisational resources and using internal resources to maximise the benefits of the external environment. The findings from our study suggest that the same is true for research activity and the generation of evidence – a core component within a wider knowledge management strategy (Ferlie *et al.*, 2015) and relevant for quality improvement. As more research-active organisations attract more research resources in terms of infrastructure funding and research grants, and improve their performance on patient, staffing and organisational metrics, health-care organisations should maximise their opportunities to enhance research as an organisational resource.

While previous research has demonstrated the importance of organisational support (RCP, 2016a; NHSE, 2017; KPMG, 2019; Wise and Coombes, 2020; Mickan *et al.*, 2012; Markham-Jones *et al.*, 2020), none have explored how such organisational support should be mobilised or why. Our research findings support four core concepts identified within a resource-based view of organisational support (Burton and Rycroft-Malone, 2014; Ferlie *et al.*, 2015) and provide recommendations for organisations to develop. These four core concepts are:

- core competencies amongst team members or staff groups
- new resource configurations
- absorptive capacity
- organisational ambidexterity

By drawing on the idea of competitive advantage and organisational resources, this article provides a framework for demonstrating the value of ensuring internal investment in organisational support for research and increasing absorptive capacity.

The first of Burton and Rycroft-Malone (2014) and Ferlie *et al.* (2015)'s core concepts is the link between performance and ensuring the core competencies amongst team members or staff groups. Higher performance is attributed to co-ordinating skills and building networks across staff groups (different professions) and organisational levels (between front-line staff and senior management). We found significant inequalities in staff competencies for research. While skills can be built externally through professional training, organisations



need to ensure staff are linked into the development of core research competencies. Similarly, based on their study of health organisations in regional and rural Victoria, Australia, Gill et al. (2019, p.505) argue that opportunities to enable staff participation in research could be achieved by “supporting identified strengths, addressing barriers and providing ‘permission’ for staff to get involved in research”-Gill et al. (2019) also highlight the importance of addressing inequalities in research engagement pointing out the need to improve research capacity among women and nurses.-They argue that this could potentially “lead to the greatest overall improvement in organisations' research capacity and output - and translation of evidence into practice”. Building teams and developing core competencies are also key components of developing a research culture, which-was often raised by our interviewees as being a crucial factor in supporting research.

The second core concept focuses on how organisations achieve new resource configurations. Central to this is developing a learning organisation in order to support the organisation’s dynamic capability – the ability to exploit existing and new resources. Casebeer et al. (2010), in a study of Canadian primary care organisations, found that it was important to adapt by learning through experimentation to achieve improved performance and to sustain developmental work. Our findings support this with interviewees and survey respondents calling for continuing opportunities for development within organisations available for all staff and engaging staff at all levels. We also found a disjuncture between research activity being undertaken and how it was valued in organisational governance processes. The performance of an organisation – and its competitive advantage – is linked to its ability to maximise its organisational resources, with research and evidence being important resources within healthcare organisations. Recognising research or knowledge as a resource needs to be supported by an organisation’s ability to make use of such knowledge.

Thus, a third important factor is absorptive capacity, the ability of organisations to recognise new, valuable and relevant knowledge, assimilate it and maximise its potential to improve performance. This places knowledge management at the heart of an organisation. Our study suggests that staff that are more research aware and active are more likely to increase the absorptive capacity of the organisation and effectively translate evidence into practice benefitting patients, staff and the organisation. This supports the argument that developing absorptive capacity is important to improve the mobilisation and translation of evidence into front-line practice (Currie, 2020).

Finally, health-care organisations need to develop organisational ambidexterity – the ability to pursue exploitation and exploration strategies at the same time. Key organisational factors include developing leadership within organisations, collaboration, mentorship and resources (Slade et al., 2018; Oulton et al., 2022; D’Arrietta et al., 2022). Thus organisations need to focus on developing research leadership and mentorship and provide resources in

order to maximise their chances of exploring new ways of working, adopting new evidence-based approaches, but also exploit the acquisition of new resources such as research funding, attracting higher quality staff, building collaborations with academia, patients and other key stakeholders.

Incorporating these concepts into organisational activity will be important to support research engagement. However, Oulton *et al.* (2022) stress the importance of aligning individual and organisational factors to achieve increased research engagement because without these, it is likely that external initiatives will fail. This is not to dismiss external initiatives since achieving and maintaining core competencies will be reliant on professional training programmes and other specialist research training, but addressing inequalities will be important if the benefit of such initiatives is to be maximised within organisations. In addition, an organisation's ability to utilise external resources is crucial in its ability to support performance, with organisational leadership a key factor in developing common values.

The central message from this study is that internal organisational policies need to value research and make engagement feasible, which would then enable organisations to maximise their ability to "exploit" the opportunities developed externally through national policies and funding. Research needs to be championed and supported within organisations at all levels, and within professional networks as "normal business" recognising research as a valuable organisational resource. Respondents in our study consistently referred to the need for research support and development to be embedded in their organisation's wider human resources and organisational policies. Healthcare organisations need to support staff and resource research infrastructure on a practical level, through action to publicise, streamline and support research processes and infrastructure.

Organisations also need to develop pathways to research, where opportunities to conduct and improve research capacity should exist for staff at all career stages, along the career pathway in a cumulative way rather than as one-off opportunities. It was clear across the organisations we surveyed that at both the organisation executive board and middle management levels, there is a need to provide structured and meaningful insight into the value of research. Our study respondents generally reported that their organisations lacked commitment to, and provision of, support for research. Policy-makers and funders need to support healthcare organisations to address these core organisational issues – to enable healthcare organisations to embed research within contracts, career progression policies, staff planning and as part of standard practice. By only focusing on the external research environment, it is likely that we would continue to identify the same disparities in lack of engagement and for many organisations to remain non, or less research-active.

Meanwhile, internal organisational support has to be matched by the supportive external environment (Davies *et al.*, 2000). To adopt whole organisation policies and strategies is as necessary as external research support. This is supported by Gee and Cooke (2018) who refer to the need for whole systems approaches. As Boaz *et al.* (2015: 12) have noted *“...there is no single magic bullet and that there is a need for multiple parallel strategies to encourage engagement both with and in research in order to improve healthcare performance.”* Additional initiatives in the external environment identified in our study include strengthening infrastructure support, providing more opportunities for education and training especially for under-represented staff groups (including pathways for those new to research), funding opportunities and organisational collaboration between research-active and non-research-active organisations.

## **CONCLUSION**

Our study findings demonstrate that interest in being involved in research is widespread among different staff groups in different types of healthcare providers, but persistent issues remain in the mobilisation and embedding of organisational resources and support. A lack of organisational support – in terms of human resources policies supporting research, rewarding research and organisational prioritisation of research – are key areas limiting more widespread engagement and the development of research capacity. The findings from this study suggest that such aspirations will only be possible by focusing more on how healthcare organisations embed and support research activity through organisational policies which are supported by the wider research support and funding infrastructure. This is an essential part of a system-based approach to developing and supporting research engagement.

In a strong research culture, research is valued, normalised, and supported through connected bottom-up and top-down approaches. Research is recognised at the societal, organisational and team and individual level. Research must be better connected to practice, with better illustration of the positive impact of research on patient care, especially as improving outcomes for patients is a key motivator for engaging in research. The connection between research and clinical reality must start at under- and post-graduate levels, but it is important for all staff. Actions to resource research infrastructure, target variations and develop research pathways will in themselves contribute to building a stronger research culture. However, there are also actions which can be taken now to support the development of this culture such as developing metrics to assess local engagement across organisations and by professions and for local research offices to undertake periodic reviews or research awareness and activity. Closer integration of academic and healthcare research offices would also help to support greater collaboration

and capacity building. Healthcare services should take steps to make research a part of normal working rather than separate from other clinical and specialist research activities.

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