

Embedding Research Activity into Routine Clinical Workflows to Support Inclusive and Interdisciplinary Research Culture in Healthcare Settings: A Systematic Review

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1 Abstract

Background

Embedding research activity within clinical practice is widely recognised as an indicator of high-quality healthcare organisations. Growing policy emphasis has been placed on fostering research-active clinical environments that are inclusive, interdisciplinary, and operationally sustainable, both within the NHS in England and across comparable international health systems. Despite this momentum, a significant gap remains in understanding how research participation can be practically integrated into routine clinical workflows without compromising patient care or staff wellbeing.

Objective

This systematic review aimed to synthesise evidence from primary peer-reviewed studies on approaches used to embed research activity into routine clinical workflows. Secondary objectives were to identify facilitators and barriers to integration, and to develop a practical framework for implementation across healthcare settings.

2 Methodology



Design

Systematic review conducted in accordance with PRISMA guidelines (Moher et al., 2009).



Databases searched

PubMed, Scopus, Web of Science, Ovid MEDLINE and Google Scholar.



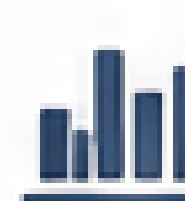
Search and study selection

Literature was identified across the selected databases, followed by removal of duplicate records, title/abstract screening, full-text eligibility assessment and final study inclusion.



Quality appraisal

Methodological quality was assessed using the Critical Appraisal Skills Programme (CASP) tools and the Mixed Methods Appraisal Tool (MMAT), according to study design.



Data extraction and synthesis

Relevant study characteristics, findings, facilitators and barriers to research participation were extracted and compared across studies. Findings were synthesised using thematic synthesis following Thomas and Harden (2008).

Inclusion criteria

Primary peer-reviewed research studies examining research participation/activity or the integration of research into healthcare/clinical practice. Eligible study designs included:

- qualitative studies
- quantitative studies
- mixed-methods studies
- surveys
- cohort studies
- case studies
- service evaluations

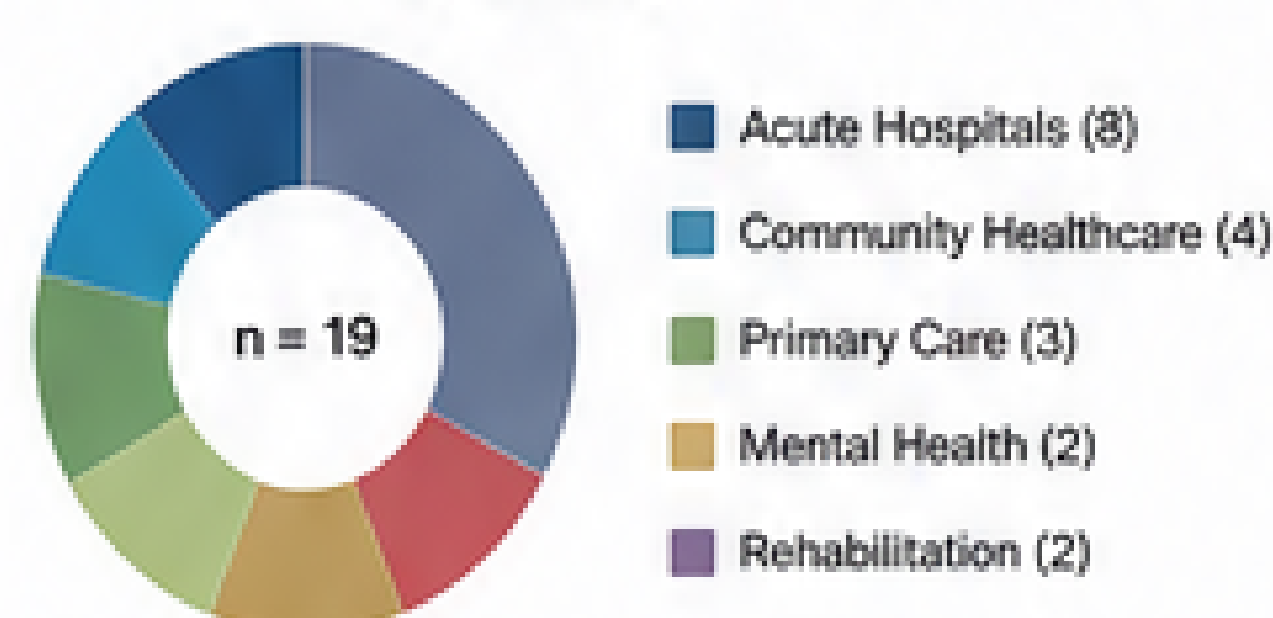
Exclusion criteria

Systematic reviews and studies that did not meet the focus on primary research, research participation, or integration of research within clinical/healthcare settings.

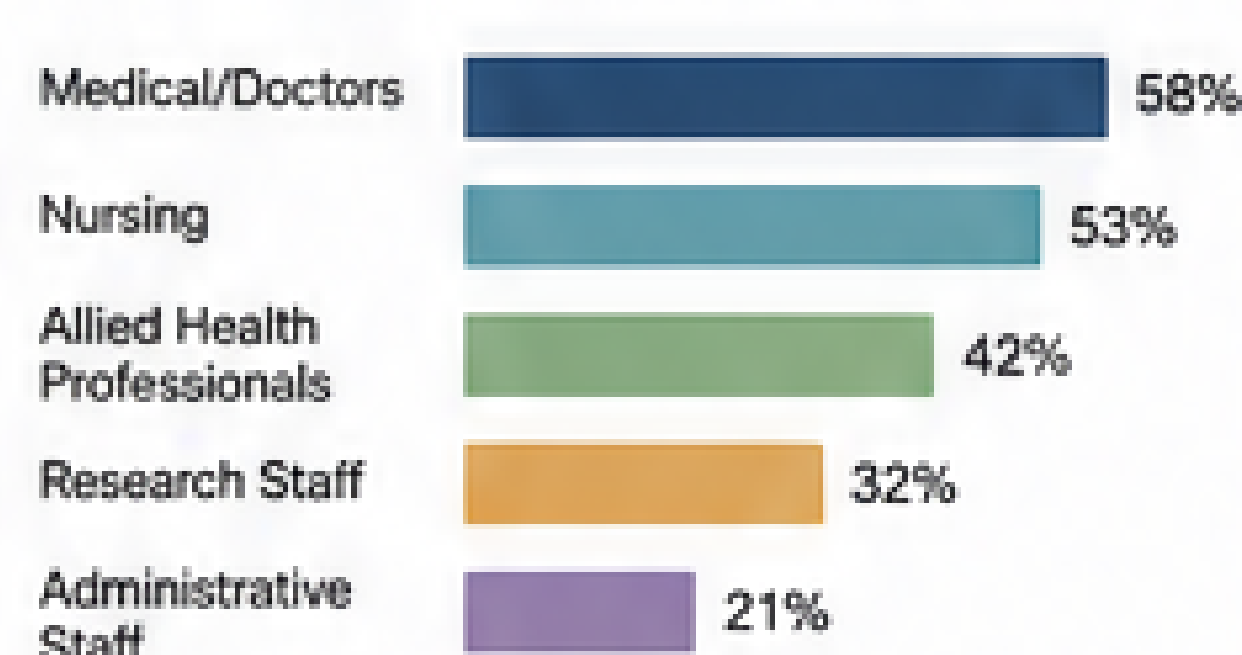
3 Results

Nineteen primary studies met the inclusion criteria. Five major themes emerged: (1) structural and governance processes for accessing research in clinical settings; (2) protected time, career pathways, and capacity building; (3) interdisciplinary and clinician-researcher collaboration; (4) inclusive and participatory research engagement; and (5) operational and attitudinal barriers. Studies consistently demonstrated that embedding research requires multilevel structural action and cannot be achieved through individual motivation alone. Disparities in research access between medical and non-medical staff were a persistent finding across settings.

Distribution of Included Studies by Setting



Professional Group of Participants Across Studies



Five Major Themes Identified



4 Discussion

Multilevel Enablers

Successful integration requires support at organisational, team and individual levels with aligned objectives and resources.

Workflow Integration

Embedding research within existing clinical processes minimises disruption and maximises relevance to patient care.

Equity of Access

Persistent disparities between medical and non-medical staff highlight the need for fair and transparent opportunities.

Culture and Attitudes

A supportive culture, leadership endorsement and recognition of contributions are critical for sustainable engagement.

Capacity and Support

Protected time, training, mentoring and infrastructure underpin meaningful participation and research capability.

Embedding Research in Clinical Workflows

5 Conclusion

Embedding research into clinical workflows is achievable but requires deliberate, multilevel investment across five domains: workflow integration, access, support, incentives, and participation — collectively the WASIP framework.



Policy implications for the NHS and equivalent international health systems are discussed, with particular relevance for healthcare operational management and workforce strategy.

6 References

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