

Engagement in research during specialist geriatric medicine training: results of a national trainee survey

Authors: Stephen Lim,^A Natalie Cox,^B Matthew Hale,^C Lauren White,^D Carly Welch,^E Mary Ni Lochlainn,^F Jennifer K Burton,^G Sarah J Richardson,^H Katherine Walesby,^I Ruth Willott,^J Stephen Makin^K and Joanne Taylor^L

ABSTRACT

Introduction

Meaningful ageing research across the UK is dependent on a network of engaged geriatricians. The research in geriatric specialty training (RGST) survey aimed to establish current research opportunities available to geriatric medicine specialty trainees in the UK.

Methods

The RGST survey was disseminated to UK higher specialist trainees in geriatric medicine in 2019 via the Geriatric Medicine Research Collaborative network.

Results

Among the 36.9% (192/521) of respondents, 44% (83/188) reported previous research involvement and 7% (n=8) held a PhD or MD. Of the respondents with no research experience to date, 59.0% (n=49) reported a desire to undertake a period of research. One-third (31%) of geriatric registrars surveyed felt that they had gained sufficient research experience during their training. Perceived encouragement and support to undertake research was low (30.7%). Enablers and barriers to research engagement were identified.

Conclusion

Research opportunity and engagement in geriatric medicine training is lacking. This could jeopardise the future workforce of research-active geriatricians in the UK and limit patient access to emerging research and innovation. Interventions

to promote research engagement among geriatric medicine trainees are needed to facilitate integration of research into routine clinical practice to improve the health and care of older people.

KEYWORDS: research, geriatric medicine, training

DOI: 10.7861/clinmed.2022-0283

Introduction

A network of research active geriatricians is essential to tackle the healthcare challenges created by an ageing population. Despite some progress, older adults and those living with frailty remain poorly represented within clinical trials and embody an under-served group within health research.^{1–3} These inequalities have been laid bare during the COVID-19 pandemic.^{4,5} In addition to the academic geriatricians who devise and lead research, a workforce of ‘research able’ clinicians with the skills to confidently undertake research at their local hospitals is essential to coordinate national projects. The future workforce of geriatricians should also be equipped with the knowledge of how to appraise and apply the literature for the benefit of their patients. Research culture and capacity is generally lacking in geriatric medicine compared with other clinical specialties.⁶ In 2004, when academic geriatric medicine was a newer discipline, trainees were surveyed regarding research activities during their clinical training.⁷ The survey highlighted trainees’ interest in research but low levels of involvement, leading to the authors to call for greater research-oriented culture and opportunities for research to be integrated into clinical training.⁷ Since this survey, there has been both a restructuring of postgraduate training and major revisions to the geriatric medicine training curriculum. It is, therefore, important to understand the current landscape on opportunities and research engagement for geriatric medicine specialty trainees.

Aims

We aimed to establish current research opportunities available to geriatric medicine specialty trainees in the UK; to explore geriatric medicine trainees’ views and perceptions on research during specialty training; and to identify enablers and barriers to engagement with research.

Authors: ^Aconsultant geriatrician, NIHR ARC Wessex, Southampton, UK and University of Southampton, Southampton, UK; ^Bspecialist registrar in geriatric medicine, University of Southampton, Southampton, UK; ^Cspecialist registrar in geriatric medicine, University of Leeds, Leeds, UK; ^Dconsultant in stroke and general medicine, Worcester Royal Hospital, Worcester, UK; ^Econsultant geriatrician, University of Birmingham, Birmingham, UK; ^FNIHR doctoral fellow, St Thomas’ Hospital, London, UK; ^Gclinical lecturer, University of Glasgow, Glasgow, UK; ^HNIHR clinical lecturer in geriatric medicine, Translational and Clinical Research Institute, Newcastle upon Tyne, UK; ^Iclinical research fellow, The University of Edinburgh, Edinburgh, UK; ^Jconsultant in healthcare of the older person, Nottingham University Hospitals NHS Trust, Nottingham, UK; ^Ksenior clinical lecturer, Centre for Rural Health, Inverness, UK; ^LBritish Heart Foundation clinical research fellow, University of Manchester, Manchester, UK

Methods

Survey development

The Geriatric Medicine Research Collaborative (GeMRC) is a network of geriatric medicine specialty trainees across the UK. The collaborative develops, disseminates and coordinates national trainee-led research projects, with regional representatives. The research in geriatric specialty training (RGST) survey was developed iteratively by a core project-development group within the GeMRC following established methodology and using the following domains: research experience, training, support, culture, enablers and barriers.⁸ Once a final survey was created, a small pilot was performed within the GeMRC community, with feedback guiding alterations. A combination of attitude statements using Likert scales and free-text responses were chosen to provide both quantitative and qualitative results. A copy of the disseminated survey is available in the supplementary material S1. Ethical approval was granted by the University of Manchester Division of Cardiovascular Sciences. All survey responses remained anonymous.

Sampling method

Online survey links using RedCAP software (www.project-redcap.org) were sent to each GeMRC regional representative for local dissemination. Identical paper forms were also made available and distributed at the British Geriatrics Society's 2019 autumn meeting. Each representative reported to the coordinating team the number of trainees to whom they had disseminated the survey.

Data analysis

All data cleaning and quantitative analyses were undertaken using R version 4.0.2.⁹ Free-text responses were analysed using framework analysis by a team of Geriatric Medicine trainees.¹⁰ One author developed the initial framework following data familiarisation, inductive coding and review of previous literature.^{7,11} The framework was discussed, challenged and refined with an additional author following their own independent inductive coding. Free-text responses were indexed independently by two authors with subsequent agreement on disparities and need for further framework refinement discussed. Data were then charted, mapped and interpreted with discussion to define concepts relating to engagement in research among UK geriatric medicine trainees.

Results

Sampling profile

The RGST survey was disseminated to 521 geriatric medicine trainees across the UK between 20 June 2019 and 30 November 2019, with responses from 36.9% (n=192). All training grades were represented in similar proportions: year 1 had 20.3% (n=39) of responses, year 2 had 18.8% (n=36) of responses, year 3 had 22.9% (n=44) of responses, year 4 had 18.8% (n=36) of responses, and year 5 had 17.7% (n=34) of responses. Forty-one per cent (76/185) held their undergraduate degree as their highest qualification, 51.9% (96/185) had a Bachelor or Master of Science (BSc or MSc), 2.7% (5/185) had an MD and 4.3% (8/185) held a PhD.

Research experience, training, support and culture

The vast majority 94.1% (176/187) of respondents agreed that research has an important role in geriatric medicine practice. Forty-four per cent (83/188) stated they had previously been involved in research. Of those who had not previously been involved in research, 59.0% (n=49) agreed they would like to undertake a period of research, and 37.3% (n=31) were prepared to take time out of training to do so (25 responded that they were willing to take over a year out of training).

Trainee perceptions of research experience, training, support and culture are demonstrated in Table 1. Thirty-one per cent (60/192) of respondents felt they had gained sufficient research experience to a level they would like (this was 41.4% (29/70) in the ST6–7 subgroup), with 18.2% (n=35) reporting an active involvement in developing or overseeing research studies. In the 'training' section, 52.9% (63/119) of ST3–5 trainees reported insufficient training to understand research to a level they would like; for the ST6–7 respondents, this was 42.3% (30/70). In response to the question of 'knowledge to conduct research adequately', 17.6% (21/119) of ST3–5 trainees agreed compared with 21.4% (15/70) ST6–7 respondents.

Thirty per cent (58/192) of respondents agreed that they had been encouraged and supported to undertake research during their specialty training; 35.1% (n=67) felt there was a strong and positive culture to integrate research into routine clinical care.

Enablers and barriers to participating in research

Follow-up questions were prompted for respondents who had not undertaken any research so far in their training to explore personal motivators (see Table 2). There were 30.1% (46/153) of trainees who expressed no desire to undertake research, half (77/153) reported that they did not want to extend their training, and 73% (109/149) agreed that they didn't have a clear idea of what topic to research. Poor understanding of research funding and developing research ideas were identified as barriers, as was supervision (74/146 reported that they had no one to supervise them).

Concepts arising from free-text responses

Responses to free-text questions highlighted enablers and barriers to research in geriatric medicine training. The coding framework with frequency of coding as an illustration of responder comments is available in the supplementary material S1.

Visibility of research and academia in geriatric medicine

The presence of infrastructure, such as academic departments and the Research Design Service, were highlighted as enablers to research engagement. However, clustered locations of these services were observed as a hindrance where 'if you are a trainee whose home is not that close to [location of research centre], then the geography itself acts as a barrier.' With another response reasoning that 'academic infrastructure is developing within geriatric medicine but nowhere near the status of other specialties.'

The presence of clinical academics and other professionals engaged in research was cited as a positive force through visibility of, for example, a 'geriatrics professor as part of the clinical team' as mentors or 'role models', or through accessible supervision: 'I had a supportive academic consultant who suggested a project

Table 1. Research experience, training, support and culture

Category	Statement	Response	n (%)
Research experience	In my geriatric training to date, I have gained sufficient research experience to a level I would like	Disagree	88 (45.8)
		Neutral	44 (22.9)
		Agree	60 (31.3)
	In my geriatric training to date, I have been actively involved in developing or overseeing research studies	Disagree	133 (69.3)
		Neutral	24 (12.5)
		Agree	35 (18.2)
Research training	In my geriatric training to date, I have received sufficient research training to understand research to the level I would like	Disagree	94 (49.0)
		Neutral	38 (19.8)
		Agree	60 (31.3)
	In my geriatric training to date, I have received sufficient research training to equip me with the knowledge to conduct research to the level I would like ^a	Disagree	115 (60.2)
		Neutral	40 (20.9)
		Agree	36 (18.8)
Research support	In my current post, I am actively encouraged and supported to undertake research	Disagree	79 (41.1)
		Neutral	57 (29.7)
		Agree	56 (29.2)
	In my geriatric training to date, I have been actively encouraged and supported to undertake research ^b	Disagree	78 (41.3)
		Neutral	53 (28.0)
		Agree	58 (30.7)
Research culture	In my current post, there is a strong and positive culture to integrate research into routine clinical care ^c	Disagree	60 (31.6)
		Neutral	59 (31.1)
		Agree	71 (37.4)
	In my geriatric training to date, there has been a strong and positive culture to integrate research into routine clinical care ^a	Disagree	55 (28.8)
		Neutral	69 (36.1)
		Agree	67 (35.1)

^aMissing data for one respondent. ^bMissing data for three respondents. ^cMissing data for two respondents.

Table 2. Reasons for not undertaking research

Question	Response	n (%)
I don't want to do any research, n=153	Agree	46 (30.1)
	Disagree	59 (38.6)
	Not sure	48 (31.4)
I don't want to prolong my training, n=153	Agree	77 (50.3)
	Disagree	52 (34.0)
	Not sure	24 (15.7)
I don't have a clear idea of which topic to research, n=149	Agree	109 (73.2)
	Disagree	24 (16.1)
	Not sure	16 (10.7)
I don't know how to get funding, n=147	Agree	127 (86.4)
	Disagree	12 (8.2)
	Not sure	8 (5.4)
I don't know how to develop an idea, n=150	Agree	111 (74.0)
	Disagree	24 (16.0)
	Not sure	15 (10.0)
I have no one to supervise me, n=146	Agree	74 (50.7)
	Disagree	39 (26.7)
	Not sure	33 (22.6)

Note: only invited to respond if respondent had not undertaken any research.

and acted as my supervisor.' However, more comments related to a lack of presence of academics (both senior and peer-trainee) and 'not knowing who to speak to or where to get advice.'

A culture of engagement and support in research

Working in departments or with consultants engaged in research (through being 'enthusiastic' or 'the driving force') featured frequently among enablers. A part of this engagement was the perceived support and encouragement to pursue research by 'supportive supervisors' and 'supportive consultants'; the most cited enabler to engage with research in geriatric medicine training. However, a lack of support was also widespread with statements of 'apathy and discouragement' and an 'apparent lack of perceived importance'. Alongside these comments about the disconnect between clinical and research teams, one respondent reasoned that the minimal advice available from supervisors was

the 'lack of their own experience in the field'. Training programme directors (TPDs) were seen as key gatekeepers to research engagement, with comments including 'TPD support to stay at same hospital to complete research project' compared with 'Reluctance of TPDs to actually provide assistance on how to apply for [time out of programme]'.

Opportunity

A lack of protected time was the most cited barrier to engagement: such as 'the enormous burden of clinical work' and a 'lack of allocated time in training'. The effects were summarised by one as 'trying to continue projects alongside service provision in clinical time – little time or energy'. Training logistics was another practical barrier, with the rotational and short-term nature of training placements hindering organisation of 'meaningful projects', as well as the effort involved applying for time out of training to undertake research; a process labelled by some as 'inflexible' and 'difficult'. Comments about training less than full time (LTFT) as a barrier threaded through both time and logistics, including 'whether LTFT research is an option' and 'not getting the correct pro rata amount of research time'.

Funding and financial strain were evident, with perceptions of lack of funding opportunities and reluctance to 'spend my own time doing work with no payment or time compensation'. There was mention of impact on overall earnings, with 'a significant financial compromise to pursue research – I could have been a consultant 3 years earlier'. This aligned with how pursuing research would mean an extension to time in training, where many were 'not keen'.

Experiences or opportunities to participate in research when present were positive, with mention of collaboratives (such as GeMRC) or previous research experiences prior to studying medicine. However, the majority of responses described no experience or opportunity to participate in a research project. There was also the perception by some that the training requirement for regular audits takes time away from research projects, for example 'all focus is on meaningless audits'.

The IAT was highlighted positively with a number of respondents stating it as a support by listing their role (eg academic clinical fellow (ACF)) and how they had 'dedicated time and resources'. However, some commented how this training programme was not available to them, and one response showed potential negative impacts on other trainees in 'having to compete against ACF trainees who have years of research experience and who are published ahead of you as they have time in their job plan for this'.

Research and evidence-based medicine in geriatric medicine training

Another commonly mentioned hindrance to research engagement related to a 'lack of knowledge of where to start' in developing and conducting research, including lack of formal training. This referred to a general lack of knowledge and not being 'taught in university', as well as to research methodology, the 'language of research' and topic selection. Conversely, formal teaching, such as specific research-training days and courses facilitated engagement and helped develop 'understanding that research is something achievable by everyone'. Exposure to research during conferences and regional teaching were also factors, and a desire by some to engage in evidence-based medicine 'seeing the knowledge gaps

during clinical practice'. However, these comments in support were few in comparison to the number relating to a lack of formal knowledge about developing and conducting research.

The individual

Some commented on personal factors acting as a barrier; for example, a perceived personal ability that was 'not academic enough' or a 'lack of confidence'. These views may relate to comments such as a 'perception of "them" and "us" – either you "do research" or you don't! There does seem to be a very all or nothing approach'. These opinions also aligned with comments on perceived burden of dual clinical and academic workloads 'balancing work life and family life. Balancing clinical and academic commitments' and 'burn out' acting as an obstacle to research engagement.

Discussion

The RGST survey has demonstrated a deficiency in research opportunities and engagement among geriatric medicine trainees in the UK. Given research into ageing is a key priority area and part of the national strategy to adapt to future demographic challenges, we recommend that decisive actions are taken to protect and enhance the future workforce of clinicians skilled to facilitate clinical research with older people.¹²

This is the first known survey of geriatric medicine trainees following the large restructuring of higher specialty training. In this 2019 survey, 13 (7%) geriatric medicine trainees reported completion of an academic degree, compared with 25.9% in the 2006 survey.¹³ Only a minority of geriatric medicine trainees (44%) reported research experience, which has dropped since the 2004 survey (58%).⁷ Engagement with research also seems to be declining, only 51.9% of trainees expressed a desire to undertake a period of research (64% in 2004) and 39.2% of trainees reported being willing to take time out of programme (60% in 2004). While there appears to be a trend towards a decline in the proportion of trainees engaging in research, this could reflect an increasing number of geriatric medicine trainees or a greater engagement of non-academic trainees in the survey.

Nevertheless, these trends perhaps represent a cultural shift towards a more clinically focused workforce to meet the increasing clinical demands of an ageing population. For many clinical specialties with a traditionally strong academic culture, there may be an argument for streamlining the network of academics alongside a push towards bulking up the clinical workforce to meet the demands of day-to-day patient care.¹⁴ However less 'academic' specialties (such as geriatric medicine) may suffer under these changes. With fewer research-active geriatricians entering the workforce, the already small network of academic mentors may shrink further, potentially precipitating a downwards spiral effect of research engagement.

Recruitment of participants into ageing research in secondary care is already notoriously poor.^{15,16} A recent UK government report *Saving and Improving Lives: The Future of UK Clinical Research Delivery* set out a vision for all NHS staff to 'feel empowered and supported to participate in clinical research delivery as part of their job'.¹⁷ Major research funders, such as the National Institute for Health Research and Medical Research Council, highlight health needs of older people, dementia and multimorbidity as part of their priority research themes.^{12,18} Older people are repeatedly

highlighted as underserved groups in medical research, with common challenges (such as frailty and dementia) complicating research design and recruitment strategies.¹⁶ For these reasons, it is imperative that the UK has a sustainable and reliable network of clinical specialists in ageing capable of spearheading, collaborating and facilitating research studies. These survey results are, therefore, concerning for the future workforce of clinical academic leaders and research-active geriatricians.

There is a group of geriatric medicine trainees highly engaged in research. For the majority of trainees who do not pursue formal postdoctoral research training, it is expected that, on completion of training, they are capable of conducting some research. Additionally, they should have the skill to appraise and apply new research into their clinical care to the benefit of patients. This survey would suggest current geriatric medicine research training is suboptimal, with a minority agreeing that they have sufficient training to understand and conduct research to the level they would like.

Changes to the geriatric medicine curriculum due for implementation in August 2022 may help elevate research onto the training agenda with clear statements endorsing research as part of training.¹⁹ A new curriculum section dedicated to 'carrying out research and managing data appropriately' necessitating that trainees 'should gain experience of recruiting participants to clinical studies' represent positive steps. Barriers highlighted in this survey, however, suggest that many trainees may struggle to achieve this, particularly in centres with a lack of research mentorship. It is also concerning that the new curriculum fails to set out requirements for protected time during the working week for teaching and continued professional development. Trainees have highlighted the squeeze upon 'non-clinical' time for activities such as research in many forums (eg 2021 GMC training survey).²⁰ Additional pressures from the response to the COVID-19 pandemic have only served to exacerbate this on a background of poorly understood effects of overall changes in the workforce, such as increasing numbers of those training LTFT.

In response to this survey, we recommend research within geriatric medicine training is reprioritised. We suggest the proposed geriatric medicine training curriculum should specify protected research time for trainees to build up skills and engagement. Academic training can be shared across specialties where departments are lacking clinical or educational supervisors without a research background. Centres of good practice with high research uptake should be highlighted and experiences shared through bodies, such as the British Geriatrics Society. Peer support programmes (such as the GeMRC) can build networks and share experiences, and disseminate new information regarding sources of research funding and training opportunities.

Limitations of survey

Efforts were made to invite all geriatric medicine trainees in the UK to participate in the survey, but we received confirmation of dissemination to 521 geriatric medicine trainees (out of approximately 800 in post) and response rates varied by geographical location. This was a pre-COVID-19 survey, therefore, the impact of the pandemic on research training has not been studied.

Conclusion

Research opportunities for geriatric medicine trainees in the UK are lacking, endangering the capacity for the future consultant

workforce to share the benefits of clinical research to their patients, and future feasibility of national ageing research. The COVID-19 pandemic has highlighted the pivotal role of research in delivering high-quality evidence-based care for older people. Interventions to promote research engagement among geriatric medicine trainees are needed to facilitate integration of research into routine clinical practice to improve the health and care of older people. ■

Summary

What is the question?

What research opportunities are available to geriatric medicine specialty trainees in the UK?

What was found?

Research opportunities and engagement are lacking, with many trainees feeling under-skilled in understanding, applying and conducting research.

What is the implication for practice now?

Promotion and development of clinical ageing research is a key priority to ensure that older people are offered high-quality evidence-based care.

Supplementary material

Additional supplementary material may be found in the online version of this article at www.rcpjournals.org/clinmedicine:

S1 – Coding framework for free-text responses.

Acknowledgements

Thanks to the Geriatric Medicine Research Collaborative for assistance with this manuscript: Zeinab Majid, Eleanor Lunt and Hannah Mooney.

References

- McMurdo MET, Witham MD, Gillespie ND. Including older people in clinical research. *BMJ* 2005;331:1036–7.
- Zulman DM, Sussman JB, Chen X *et al*. Examining the evidence: a systematic review of the inclusion and analysis of older adults in randomized controlled trials. *J Gen Intern Med* 2011;26:783–90.
- Pépin JL, Bruno RM, Yang R-Y *et al*. Wearable activity trackers for monitoring adherence to home confinement during the COVID-19 Pandemic worldwide: data aggregation and analysis. *J Med Internet Res* 2020;22:e19787.
- Witham MD, Gordon AL, Henderson EJ, Harwood RH. Pandemic research for older people: doing it better next time. *Age Ageing* 2020;50:276–8.
- Gordon AL, Witham MD, Henderson EJ, Harwood RH, Masud T. Research into ageing and frailty. *FHJ* 2021;8:e237–42.
- Witham MD, Roberts HC, Gladman J, Stott DJ, Aihie Sayer A, Extended Working Group from the NIHR Newcastle Biomedical Research Centre Meeting. Growing research in geriatric medicine. *Age Ageing* 2019;48:316–9.
- Myint PK, MacLulich AMJ, Witham MD. The role of research training during higher medical education in the promotion of academic medicine in the UK. *Postgrad Med J* 2006;82:767–70.
- Kelley K, Clark B, Brown V, Sitzia J. Good practice in the conduct and reporting of survey research. *Int J Qual Health Care* 2003;15:261–6.
- R Core Team. *The R Project for Statistical Computing*. The R Foundation, 2021. www.r-project.org
- Bryman A, Burgess B. *Analyzing qualitative data*. London: Routledge, 1994.
- Fisher JM, Garside MJ, Brock P *et al*. Why geriatric medicine? A survey of UK specialist trainees in geriatric medicine. *Age Ageing* 2017;46:672–7.
- National Institute for Health Research. *Best research for best health: the next chapter*. NIHR, 2021.
- Conroy SW, Miles D, Myint PK, Gladman JRF. Non-clinical training of United Kingdom higher trainees in geriatric medicine. *CME Journal (Geriatric Medicine)* 2008;10:37–8.
- Shape of Training. Securing the future of excellent patient care. Shape of Training, 2013. www.gmc-uk.org/-/media/documents/Shape_of_training_FINAL_Report.pdf_53977887.pdf
- McMurdo MET, Roberts H, Parker S *et al*. Improving recruitment of older people to research through good practice. *Age Ageing* 2011;40:659–65.
- Clegg A, Relton C, Young J, Witham M. Improving recruitment of older people to clinical trials: use of the cohort multiple randomised controlled trial design. *Age Ageing* 2015;44:547–50.
- Department of Health and Social Care. *Saving and Improving Lives: The Future of UK Clinical Research Delivery*. GOV.UK, 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/995768/The-future-of-UK-clinical-research-delivery.pdf
- UK Research and Innovation. *Medical Research Council (MRC)*. UKRI. www.ukri.org/councils/mrc
- Joint Royal Colleges of Physicians Training Board. *Curriculum for geriatric medicine training: Implementation August 2022*. JRCPTB, 2022. www.jrcptb.org.uk/sites/default/files/Geriatric%20Medicine%202022%20curriculum%20FINAL.pdf.
- General Medical Council. *National training survey 2021: Results*. GMC, 2021.

Address for correspondence: Dr Stephen Lim, Academic Geriatric Medicine, University of Southampton, Southampton General Hospital, Tremona Road, Southampton SO16 6YD, UK.
Email: s.e.lim@soton.ac.uk
Twitter: @StephenERLim