



Royal College
of Physicians



Benefiting from the 'research effect'

The case for trusts supporting clinicians to
become more research active and innovative

Foreword

We all know the huge benefits research has had for the health and quality of life of our patients. From discovering penicillin, to inventing the contraceptive pill and pioneering blood transfusions, the impact of UK medical research has been enormous. More recent examples where the UK is leading in biomedical research include gene therapy that can cure haemophilia or the development of chimeric antigen receptor T-cell (CAR-T) therapy for previously untreatable cancers. Solutions to tackle antimicrobial resistance and make better use of health data offer similarly significant potential.

But the benefits extend far beyond developing successful treatments and innovations. Research is a key part of the NHS Constitution, allowing trusts to be more cost-effective by recognising what is not working and supporting the decommissioning of interventions. It can also help us understand how to better tailor services to meet the needs of patients.

Most importantly, recent studies have confirmed those treated in the most research-active trusts have improved survival rates, as well as a better experience and better overall levels of care.

We all want to support more research, but the question is of course how. The advice contained in *Benefiting from the 'research effect'* is therefore helpful. For many chief executives, a good first step will be to lead on creating a research, development and innovation strategy that builds on expanding research capability and resources to encourage further opportunities.

In addition, we have a responsibility to invest in research education and support for the next generation of doctors, hand in hand with excellent medical training.

This work by the Royal College of Physicians (RCP) is also very timely given that clinical research activity is now assessed by the Care Quality Commission (CQC) as part of its remit for trust inspections. We all need to think carefully about what we can do to expand research activity.

Solutions will no doubt emerge at the local level, but one answer may be to ensure appropriate job planning is in place to enable time for our clinicians to undertake research and innovation. The work of the British Medical Association (BMA) and the RCP in developing job planning templates will be important here.

All trusts of course face intense pressure over the best use of resources. Any changes will require careful planning and strong leadership. It is vital that we collaborate and share knowledge on what works across the sector, and this paper by the RCP is an important part of that. This will help to ensure we deliver the best possible outcomes for our patients and workforce.

Professor Marcel Levi
Chief executive
University College London Hospitals

What is the purpose of this document?

1 To provide chief executives of trusts with a clear case for **ensuring an increase in research activity** to benefit patients is within their strategic plans.

2 To outline clear and practical steps chief executives and their teams can take to **ensure clinicians are supported in embedding research** into clinical and laboratory practice.

3 To highlight **how the RCP will work with its members and other organisations to increase research activity**, particularly by giving clinicians the time and skills to undertake research.

4 To **support the health community in working together** to boost patient outcomes through equitable access to research across the country.

Executive summary

- > The impetus for a greater focus on research has never been more important, with the CQC now including clinical research activity within its remit for inspections.
- > Trusts that are more research active have been shown to benefit from the 'research effect': they provide a better care experience, deliver improved outcomes for patients, and find it easier to recruit and retain staff.
- > Clinicians value research as an important part of their job satisfaction, but feel hampered by a lack of time for research – almost two-thirds of RCP members surveyed say they want to do more.¹
- > Huge progress has been made in recent years in the amount of research undertaken in the NHS, but large regional variations exist in where it takes place. Significant opportunities exist to make sure research is performed in the places where it will most benefit patients and clinicians.
- > Using job planning and appraisal processes to embed research in clinical and laboratory practice must be a key priority. Properly resourcing research and development departments and improving access to training in research skills are also important.

Under CQC's well-led framework, NHS trusts are now inspected on how clinical research is integrated into their organisation

Prioritising research

What is research?

Research is far more than clinical trials: anything that provides the evidence we need to transform services and improve outcomes should be considered 'research'. Delivered by multidisciplinary teams – including doctors, midwives, nurses, pharmacists, medical associate professionals, allied health professionals and others – it ranges from discovery science and high-quality improvement science to epidemiology and robust service evaluation.

Why focus on research now?

- 1. Better outcomes** – Many researchers have found a link between participation in interventional research and an improvement in patient mortality. The more a trust participates in research, the bigger the positive effect. Trusts that are more research active also have higher CQC ratings, which suggests that the positive effects of research permeate across the organisation.
- 2. Meeting CQC inspections** – Under the CQC's well-led framework, NHS trusts are now inspected on how clinical research is integrated into their organisation.² It is therefore important that NHS organisations embed a research culture. That means undertaking research activity in addition to applying evidence into care. Clinicians from all professions should be supported to be actively involved in research as well as leading projects.

3. Clinicians want to do more research

– The RCP's *Delivering research for all* statement,³ endorsed by 17 royal colleges and research institutions, highlighted the desire among the clinical workforce to do more research. When surveyed in 2015, almost two-thirds of RCP members said they would like to do more research, but they did not have enough time.¹ In 2019, the MRC and NIHR launched the [Clinical Academic Research Partnership](#), a scheme that funds NHS consultants to spend time doing research – the high demand for the scheme demonstrates the strong appetite of clinicians to participate in research.

4. Boost to staff retention and recruitment

– Trusts can find it easier to recruit and retain high-quality clinical staff when they are able to offer opportunities to actively participate in research. For example, the competition ratio for posts in Wales increased from one applicant to two posts to five applicants per post when an academic component was added.⁴

In one study on patients with colorectal cancer, the mortality rate in the first 30 days after major surgery was 30% lower in trusts with high research participation

What will the RCP be doing?

Trusts and health boards clearly face many different pressures, and a greater focus on research and innovation will require careful planning. The RCP, whose purpose is to improve the practice of medicine, will support your efforts by working with:

- > the BMA on appropriate job planning templates to enable time for research and innovation
- > the National Institute of Health Research (NIHR), Cancer Research UK, the Medical Research Council (MRC) and medical royal colleges to grow capability, capacity and credibility among clinicians to be research active
- > the Academy of Medical Sciences to enhance the interface between academia and the NHS to facilitate research
- > the Innovation Agency and other academic health science networks (AHSNs) on local solutions to improve integration of research into patient care.

What can chief executives do?

Chief executives of trusts have a key role in providing leadership. They can do this by:

- > creating and owning a research, development and innovation strategy that builds on expanding research capability and resources to encourage further opportunities
- > ensuring robust job planning and appraisal is in place to enable clinicians to have effective time for research and innovation
- > identifying opportunities to integrate more research into healthcare delivery
- > facilitating and taking part in conversations about how best to work collaboratively across the health sector to reduce uneven access to research both for patients and clinicians.

It is likely a more structured approach to academic posts in the NHS will help to recruit and retain doctors and contribute to solving the ongoing workforce crises for medical staff'

– MR Rees *et al*

Supporting health research from city to village

The benefits of participating in medical research are far-reaching and the UK has a strong track record of high-quality clinical research. Many international organisations value the opportunity to conduct research here.

Yet the UK's international research profile is not necessarily reflected in opportunities to be involved in research, either as a clinician or patient. Fig 1 shows regional variation in research activity in secondary care across England and Wales, by the number of recruiting studies and patients.⁵ Much of it is concentrated in the south east of England: London, Oxford, Cambridge and Southampton. Outside this area, most research is concentrated in urban centres such as Manchester, Newcastle and Leeds. The Royal College of Physicians and Surgeons of Glasgow has also highlighted that research in Scotland is similarly concentrated in Glasgow, Edinburgh and Aberdeen.

As a result, the location of research does not necessarily correlate with disease burden. Fig 2 shows that in terms of mental health research in England, relatively few patients are being recruited in the north west, despite the area having the highest rates of severe mental illness. Similarly, Fig 3 highlights the disconnect between diabetes prevalence, which is highest in the north east, with research activity.

There is a huge opportunity to align more research in the NHS with the populations that will benefit the most

These are just two examples of diseases for which research activity is limited in areas of highest need. Although there has been recent progress on this issue, particularly as a result of NIHR funding, there is still a huge opportunity to align more research in the NHS with the populations that will benefit the most.

Small, rural trusts and their patients stand to gain just as much from participating in clinical research as those in large, urban centres. By starting with practical, straightforward studies that can easily be delivered to patients, and encouraging the development of relationships with research activity elsewhere, research capability and the research effect can be increased.

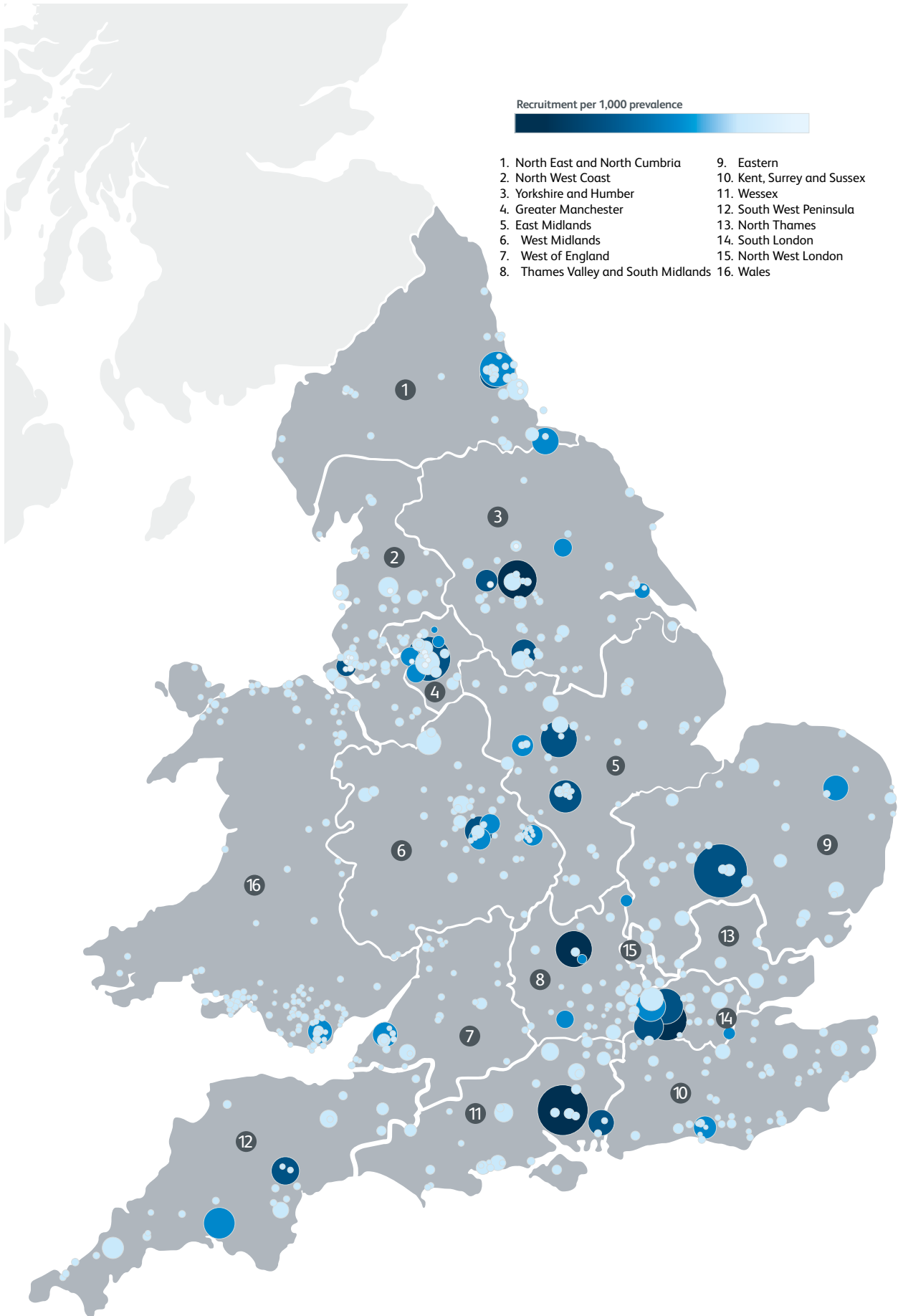


Fig 1: Map of recruiting studies in England and Wales based on NIHR data

This bubble map plots sites of research activity. The bubble sizes show the number of recruiting studies per site, while the colour of the dot indicates the number of participants.

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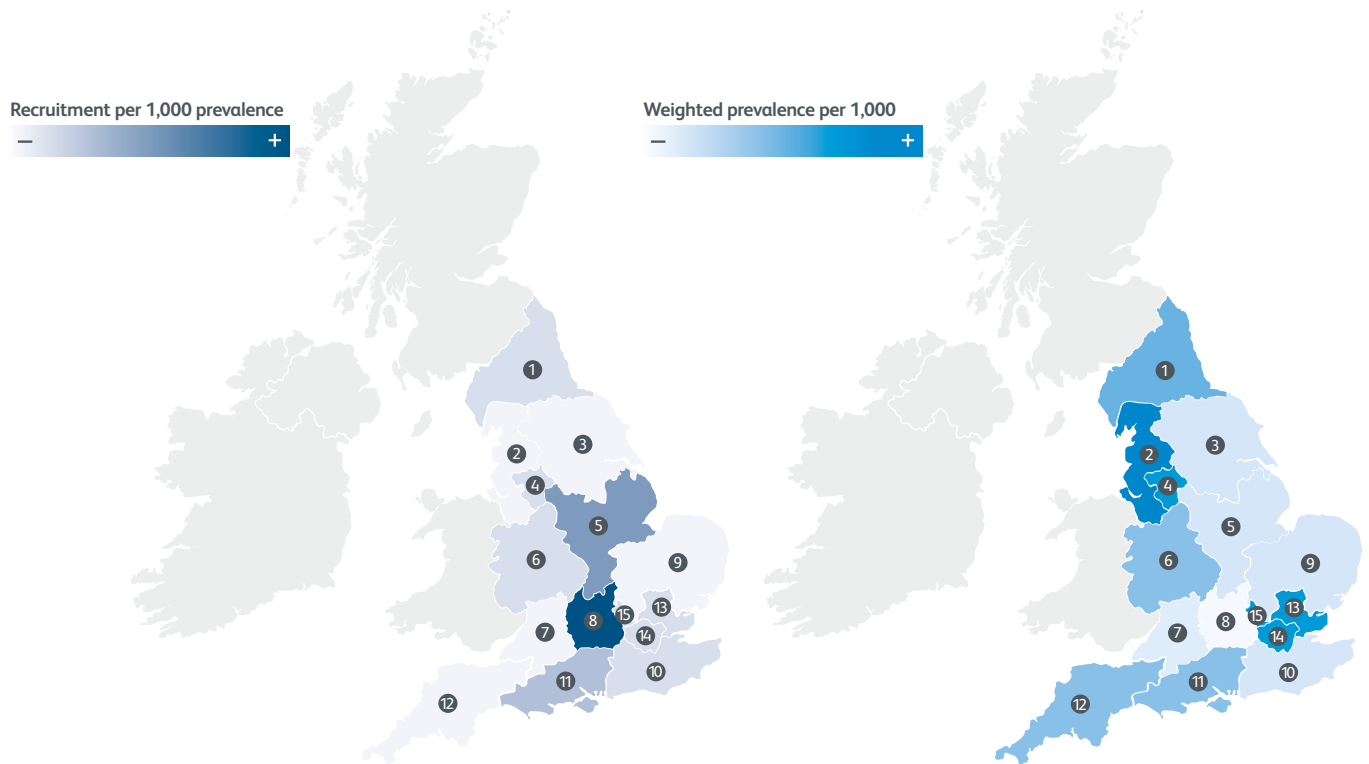


Fig 2: Comparison of recruitment into mental health research with prevalence of severe mental illness in England
 Analysis on mental health / severe prevalence and research activity in all years.

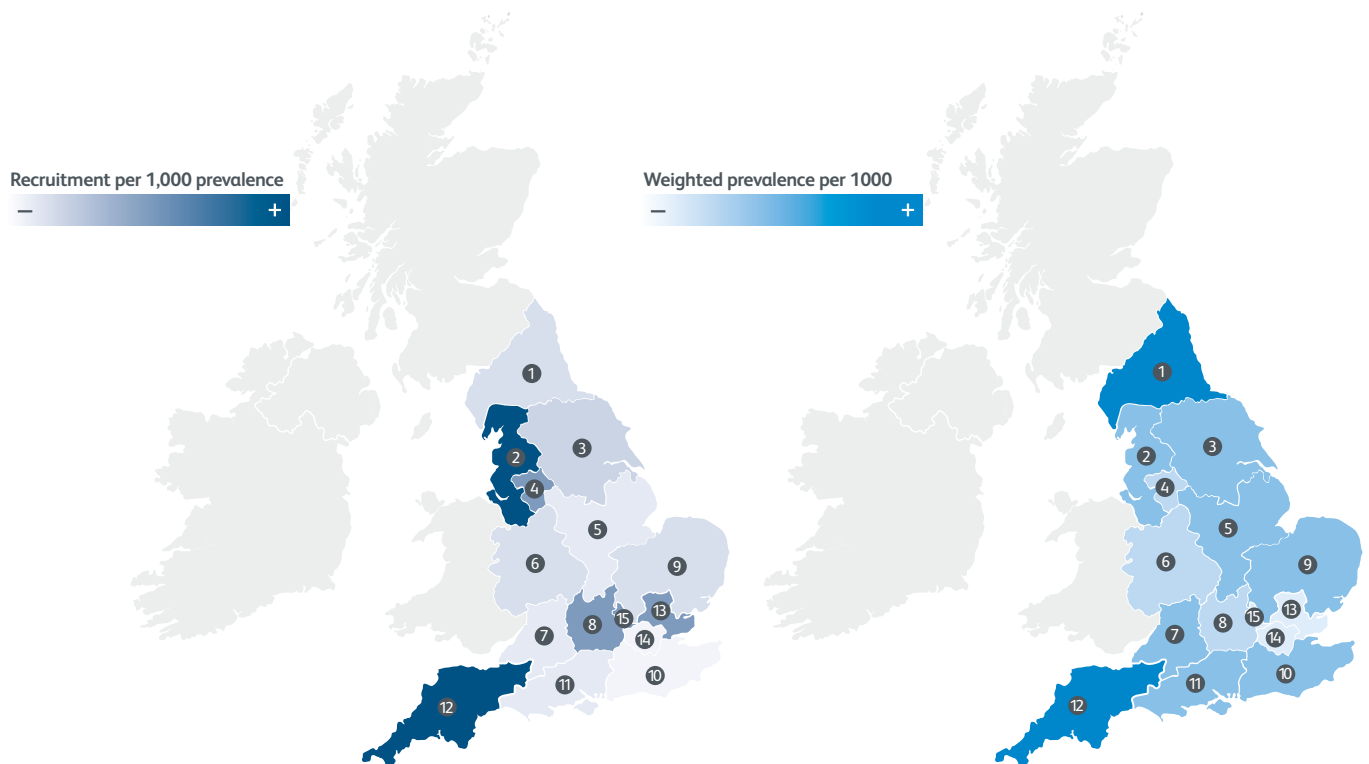


Fig 3: Comparison of recruitment into diabetes research with prevalence of diabetes in England
 Analysis of diabetes (type 1) prevalence and research activity in all years.

The research effect

For patients	For trusts	For staff
> Improved survival rates	> Improved recruitment and retention of staff	> Reduced level of burnout / emotional exhaustion
> Improved sense of value through taking part in research	> Meeting CQC inspections	> Better morale and job satisfaction
> Better overall care, as represented in higher CQC ratings	> Cost-effective innovations and savings, and translation of research into practice	> Building transferable skills and developing new networks

Benefits for patients

Improved survival rates

Research offers patients the opportunity to benefit from the latest advancements in treatments. Many researchers have found a link between participation in interventional research and an improvement in patient mortality. The more a trust participates in research, the bigger the positive effect.

In one study on patients with colorectal cancer:⁶

- > the mortality rate in the first 30 days after major surgery was 30% lower in trusts with high research participation
- > even a low level of research participation in a small, rural trust positively affected quality of care.

Improved sense of value through taking part in research

As well as benefiting from improved standards of care, patients learn more about their treatment and overall health from being part of research. They also feel pride in taking part and helping others through contributing in research.⁷ For conditions that lack disease-modifying treatments, participation in research offers many patients a sense of empowerment and purpose.



Usually I am reacting to changing symptoms, but by signing up for a clinical trial I am taking back some control. On the trial I'm on, I don't know if I am getting the placebo or the active drug, but what I am receiving is a lot of monitoring. I'm in much closer contact with the study doctor than I am with my current consultant. That alone is a benefit.

There is of course a chance that I am getting the active medicine; the chance that it will slow or halt my disease – a chance I would not have had without signing up for the trial. Ultimately the findings of the trial will help find a treatment in the long run, even if it doesn't help me, and that matters.'

Gareth Weeks

– Patient with primary sclerosing cholangitis

Better overall care represented by higher CQC ratings

The CQC uses a large number of indicators of a trust's performance to arrive at its rating, including the views of patients and staff. Trusts that are more research active have higher CQC ratings, which suggests the positive effects of research permeate across the organisation.⁸

The exact reasons for this improvement are unclear and probably multifactorial. Coupled with anecdotal evidence, it indicates an improvement in the culture of the trust that positively affects practice.

Benefits for trusts

Improved recruitment and retention of staff

There is growing evidence that trusts find it easier to recruit and retain high-quality clinical staff when they are able to offer opportunities to actively participate in research. For example, the competition ratio for posts in Wales increased from one applicant to two posts to five applicants per post when an academic component was added.⁴ Rees *et al* concluded, 'it is likely a more structured approach to academic posts in the NHS will help to recruit and retain doctors and contribute to solving the ongoing workforce crises for medical staff'.

NHS providers in England received an average of £9,189 per patient in revenue from sponsor companies for commercial research

Meeting CQC inspections

As of 2018, clinical research activity is within the remit of the CQC when carrying out inspections. Trusts may face questions about internal reporting systems for their research activity, or whether patients and carers are offered the opportunity to participate in clinical studies.²

This means the CQC considers research to be central to the delivery and development of good care. It is a clear incentive for trusts to develop practical ways of embedding research as a core activity.

Cost-effective innovations and savings

There are significant financial benefits from undertaking research trials. According to a 2019 KPMG report commissioned by the NIHR, NHS providers in England received an average of £9,189 per patient in revenue from sponsor companies for commercial research.⁹

They can also realise short-term savings due to provision of pharmaceutical products by sponsor companies. Savings were estimated to be £4,143–£7,483 per patient across all specialties, but as high as £17,971 for oncology studies.⁹

An earlier 2016 study by KPMG for the NIHR found the average additional value to be £57,735 per patient, with a median value of £33,089.¹⁰ This varied from around £2,000 for one breast cancer treatment up to £234,822 for a prostate cancer study.¹⁰

Studies related to specialist commissioned services have also led to direct drug cost savings for NHS England. As outlined in the case study on page 13, the haemophilia centre at the Royal Free NHS Foundation Trust saved approximately £15 million in the last 10 years by participating in research, including gene therapy trials. Income generated through research can also be reinvested into growing research capability through staff, equipment and other infrastructure support to multiply the benefits for patients and the trust as a whole.

The [research recommendations](#) identified by the National Institute for Health and Care Excellence (NICE) are likely to be fruitful areas for trusts to explore in terms of developing cost-effective innovations. For example, research into the use of new technology that allows for early diagnosis of chronic liver disease in the community found it was highly cost effective, even though it meant more patients being diagnosed.¹¹

Translation of research into practice

The current pace of technological and scientific development means it is increasingly important to ensure that the clinical workforce is equipped to appraise and generate evidence, especially through real world data reporting.

In its Long Term Plan, NHS England has acknowledged that healthcare research and delivery will be fundamentally changed by the increasing convergence of population health data, genome sequencing, cell- and gene-based therapies, precision medicine, digital tools and artificial intelligence (AI).¹²

Only around

5% of the medical consultant workforce are clinical academics who are employed by universities

It is vital we look at the translational and academic skills gaps in the NHS and ensure there is a suitable pipeline of expertise. Only around 5% of the medical consultant workforce are clinical academics, who are employed by universities and have honorary contracts with a hospital trust.¹³

The rest of the wider clinical workforce are NHS clinicians, many of whom are not up to date with research skills and the spread of innovation. This is primarily because they do not have the time or skills to become involved in research, as was found when we surveyed our members in 2015.¹ The smooth and fast translation of findings into practice is necessary to ensure the best outcomes for patients. An understanding of research and its interpretation among the NHS workforce is therefore essential.

Benefits for staff

Reduced level of burnout / emotional exhaustion

Qualitative research commissioned by the GMC found that one reason why doctors undertake research is 'to provide variety and avoid burning out from too much clinical work'.¹⁴ Looking at their motivations for pursuing research as well as other professional interests outside their day-to-day roles (including management and education), the study found this allowed doctors 'to escape from the pressures of their everyday, and reminded them of what they had liked about medicine in the first place'.

Evidence from the United States similarly shows that physicians who find research 'meaningful' are half as likely to suffer from burnout if they are able to find adequate time (20%) to conduct research.¹⁵

Better morale and job satisfaction

When the RCP asked consultants to rank potential measures to improve job satisfaction in 2018, they clearly favoured protected time for work other than direct clinical care.¹⁶ This was in line with our 2015 survey, when 64% said they would like to spend more time on research.¹

Other studies confirm that clinicians have a desire to spend more time on research than they currently feel able to. In 2013, 62% of almost 400 health professionals polled by the Association of Medical Research Charities (AMRC) said that not having sufficient time was a barrier to them taking part in medical research.¹⁷

More time for research could particularly help women, who still shoulder more caring responsibilities than men. Fifty-seven per cent of consultants under 34 are women, so this is an important issue to address.¹⁸

Physicians who find research 'meaningful' are half as likely to suffer from burnout if they are able to find adequate time to conduct research



‘At my clinical centre we have saved approximately £15 million in the last 10 years by participating in research, especially by recruiting patients into trials of novel products including gene therapy trials. This is largely due to not having to pay for their usual haemophilia treatments to prevent bleeding and the benefits of the new drugs. Patients have benefited massively. Before we started doing research trials, patients were having an average of around six bleeds a year. This is now down to an average of two bleeds a year. That is not just down to new trial drugs but also the fact that clinicians engaged in research are more quality-driven in providing care. Participation in research is also exciting and motivating for staff and all of this was only possible with the involvement and support of clinical colleagues within the service and other specialties at the Royal Free Hospital.’

Prof Pratima Chowdary

– Professor and consultant in haematology,
Royal Free London NHS Foundation Trust

62%

of almost 400 health professionals polled by the Association of Medical Research Charities said that not having sufficient time was a barrier to them taking part in medical research

Building transferable skills and developing new networks

Being involved in research hones transferable skills that make for better clinicians. As well as the ability to interpret and communicate risk, professional skills such as teamworking, objective setting and delivery planning are also enhanced.

Especially in the early career stages, clinicians can find it difficult to forge relationships with colleagues when rotating between busy clinical jobs. Being involved in research is an excellent opportunity to develop and grow professional networks. Such opportunities are available through the NIHR Clinical Research Network (CRN), but effective signposting and encouragement by trusts remains uneven.

Conclusion

Steps towards strengthening research activity

Embedding research will not happen overnight. It will require long-term planning and the involvement of trusts, research organisations, the royal colleges, industry, NHS and government to mobilise and empower the clinical workforce to be more research active.

The RCP's approach is to ensure the UK has a multiprofessional clinical research workforce that meets the needs of patients and we are committed to working with all these groups to help trusts and health boards become more research active.

Embedding research will require the involvement of trusts, research organisations, the royal colleges, industry, NHS and government

The path to strengthening research activity and embedding research into clinical care delivered by multidisciplinary teams – doctors, midwives, nurses, pharmacists, medical associate professionals, allied health professionals and others – includes:

- > using job planning to embed research in clinical and laboratory practice, including within the direct clinical care programmed activities for patient-facing research
- > ensuring research activity is integral to the work of the organisation and overseen at trust executive board meetings
- > equipping clinicians with the skills, confidence and networks to undertake research
- > ensuring research and development departments are equipped to provide leadership, advice, mentoring support and reinvestment of research income
- > providing opportunities to connect clinician researchers, showcase and disseminate research, including to patients and the public
- > facilitating the translation of research into practice across the NHS and the health sector
- > ensuring the benefits of research to patients and the NHS are understood across all tiers of management and by all staff involved in the care of patients.

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For more information about the RCP's work in this area, please visit www.rcplondon.ac.uk/projects/rcp-policy-research-and-academic-medicine

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Royal College of Physicians
11 St Andrews Place
Regent's Park
London
NW1 4LE

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