

# Opportunities for paediatricians to do research with the National Institute for Health Research

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## Abstract

Research is an essential part of the healthcare system and of the NHS. It benefits present and future patients, drives continual improvement in cost-effectiveness for the NHS and provides challenging but rewarding work for healthcare professionals. Whether pursuing an academic career or recruiting patients from clinical service, all clinicians should have the opportunity to be involved in research. The National Institute for Health Research provides support, training, infrastructure and funding for undertaking research. In this review we will look at the different opportunities available in association with the National Institute for Health Research and how clinicians can access them at different stages of their career.

**Keywords** academic; career; National Institute for Health Research; NIHR; research

## The importance of research

### Why do research?

Medical research is an essential part of the continual development of the healthcare system. The NHS Constitution (2009, revised 2013) committed NHS Trusts to participate in research, with a specific pledge to inform people of research studies they may be able to take part in and with a specific recognition of the value of collecting anonymised data to support research that improves healthcare. Research is important for patients as it results in the introduction of new and better healthcare interventions and systems, regardless of whether there is any benefit for the individual participant or not. Research benefits the NHS by driving ongoing improvement in cost-effectiveness and by the generation of additional income. Research is also important for healthcare professionals. It involves challenging, interesting and satisfying work and allows individuals to gain useful

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non-clinical skills vital to the NHS regardless of whether an individual is aiming for a clinical or academic career pathway.

Undertaking research can seem difficult in the face of busy working lives, potentially complicated and confusing guidelines, regulations and approval processes and the need for funding and support. Despite the apparent complexity, there are many different ways that paediatricians can become involved in research, from formal academic posts to setting up or supporting research from a clinical post.

## Research in paediatrics and child health

Children deserve the same level of evidence in optimising their management as adults do. Children have different physiology, respond differently to medicines and interventions and suffer from conditions and diseases not seen in adults. They have different emotional, psychological and social needs. Many interventions currently used in children are extrapolated from research in adults and the majority of research projects specifically exclude children. While changes in the legislation in both the US and European Union (and therefore United Kingdom) have meant trials of new medicines must be carried out in children, many medicines used in children are currently used “off-label” and other interventions may not have a firm evidence base. Due to the relatively small number of academic paediatricians compared to other medical subspecialties, many aspects of paediatric practice and service delivery in the community or hospital lack a firm evidence base. The paediatric community need to ensure that high-quality research is being conducted in all paediatric age groups and in all conditions to continually improve the medical, psychological and social interventions that we use and ultimately to improve the care of patients.

## Good Clinical Practice

Prior to undertaking any research activity, research staff (including clinical staff involved in any part of research) must undertake training in Good Clinical Practice (GCP). GCP is an international guideline made up of ethical, scientific and quality principles and standards, which must be adhered to when conducting any research involving humans. It is based in the Declaration of Helsinki and was developed by the International Conference on Harmonisation (ICH) and World Health Organisation (WHO). Free online training is available from the UK National Institute for Health Research (NIHR) for NHS employees and workshops/face-to-face training sessions are available from research centres and healthcare facilities. Specific GCP modules for paediatric consent and practice are available in the online course (<https://www.crn.nihr.ac.uk/learning-development/enrolling-on-courses>). For the delivery of some large but short-lived trials, targeted GCP training is sometimes used locally to increase the number of people who can work on specific aspects of a trial but this training does not count as formal GCP certification.

## The NIHR

### What is the NIHR?

The National Institute for Health Research is a large organisation responsible for publically funded research within the NHS in England. It was created in April 2006 to improve the quality and quantity of research within the UK and is primarily funded by the

Department of Health. Currently the devolved nations do not receive NIHR funding but participate in the work of NIHR via national funding. The NIHR focuses on clinical research, translational research and healthcare delivery, often applying basic science to establish tangible patient benefits. Table 1 explains the vision, mission and scope of NIHR.

### The remit and structure of the NIHR

The NIHR supports clinical and applied health research with a potential for patient and/or public benefit within 5 years of completion. One of the key functions is to help pull new discoveries from Research Council (Medical Research Council and others) and Charity (such as Wellcome Trust) funded work through to the early stage of clinical development and beyond into clinical use. NIHR will also consider funding for medical education research with potential practical application but will not fund any work involving animal or tissues, or purely basic science research.

The NIHR is an umbrella organisation made up of a large variety of people, facilities and systems which can be summarised into four “working strands” (Figure 1): a) **Infrastructure** – the facilities and support available; b) **Faculty** – the support for individual researchers including clinical academic trainees; c) **Research** – the commissioning and funding of specific research projects; and d) **Systems** available to simplify and manage research delivery and output, such as the Integrated Research Application System (IRAS).

### Careers in research

The NIHR Trainees Co-ordinating Centre (NIHRTCC) manage the large range of national academic training programmes and awards/grants which are available to medical and non-medical

(nurses, midwives and allied health professionals) academic trainees. These are aimed at different levels of training and have different aims as summarised in Figure 2.

As well as the centrally managed NIHR training programmes, local and regional NIHR infrastructure often offers fixed term fellowships for clinical trainees to spend time working up a more formal application for MD or PhD funding application. These include Clinical Research Facility (CRF), Biomedical Research Centre (BRC) or Biomedical Research Unit (BRU) Clinical Fellowships, or combined Trust fellow-research posts. While these posts often (but not always) include up to 50% “service” component either to the wider CRF/BRC/BRU research programmes or to the NHS Trust service delivery, these posts offer an ideal route into formal research training pathways and many trainees have been successful in completing their MD or PhD from these posts. For the NIHR Clinical Research Facility Fellowships, trainees experience a uniquely available training in highest quality early and late phase clinical trial training in set-up, governance and delivery. Recently, non-medical clinical research fellowships have also become available to provide equivalent joint clinical-academic training to those available for the medical trainees.

### The integrated academic training programme

The formal integrated academic training programme allows clinicians to train in research alongside their clinical training with several competitive application stages.

**Academic foundation programme:** individuals interested in considering an academic medical career can apply for an academic foundation programme in the final year of medical school.

## The vision of the NIHR

### Vision of the NIHR

- To improve the health and wealth of the nation through research

### Mission of the NIHR

- Maintain a health research system in which the NHS supports outstanding individuals in world class facilities conducting leading edge research focussed on the needs of patients and public

### Aims of the NIHR

- Establish the NHS as an internationally recognised centre of research excellence
- Attract, develop and retain the best research professionals to conduct people-based research
- Commission research focused on improving health and social care
- Strengthen and streamline systems for research management and governance
- Increase the opportunities for patients and the public to participate in, and benefit from, research
- Promote and protect the interests of patients and the public in health research
- Drive faster translation of scientific discoveries into tangible benefits for patients
- Maximise the research potential of the NHS to contribute to the economic growth of the country through the life sciences industry
- Act as sound custodians of public money for the public good

### Principles

- Transparency
- Open competition
- Quality
- Cost effectiveness
- Delivery

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Table 1

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