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Applying for research funding. Part 1 – sources of funding

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Abstract

Objective: In this article we summarise sources of research funding, principally for individuals seeking to undertake research for a higher degree at the beginning of their research careers. Features of individual funding schemes are highlighted, along with an overview of the process of applying for research funding. It is intended that this article should be a useful resource for those entering research careers.

Conclusion: Funding available from the Medical Research Council, Wellcome Trust, National Institute for Health Research, Royal College of Surgeons of England, Royal College of Surgeons of Edinburgh and The Urology Foundation is summarised.

Keywords

Research, funding, grant, urology, science

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Introduction

When beginning a research project or clinical study there are many important questions to be addressed. What is the central hypothesis of the study? What is the population that my study/experiments will be conducted in? What is the impact of the study findings likely to be and whom will it affect? How will I design my study/experiments to answer these questions in a robust and reproducible way? These are all important questions to answer before reaching for a pipette or enrolling the first patient. However, there are some other, rather more practical questions that must also be addressed before getting underway. How am I going to pay for my materials, the use of expensive laboratory equipment, or the staff involved in the project? How will I pay university fees? Not least, who is going to pay my salary? This article is the first of a two-part series on applying for research funding. In Part 1 we discuss sources of research funding, and in Part 2 we discuss the process of developing a research hypothesis and writing a grant application.

The specific type and degree of funding will vary depending on what stage the clinician is in their training. A clinical lecturer for example will have their salary covered by the employing university and so funding may be just for expenses of the project. A more senior clinical academic/honorary consultant may require enough money to employ a number of staff to work on the project in addition to running expenses for consumables. These groups of people, having already spent some time in the academic arena will be familiar with the process of attaining research funding, and so for the purposes of this article, the discussion will focus on those at the beginning of their academic careers, namely those looking to undertake full-time research for a higher degree such as MCh (Master of Surgery), MD (Doctor of Medicine) or PhD (Doctor of Philosophy).

Getting started

Start the process early. Begin exploring sources of funding 18 months to two years before planning to start full-time research. Many of the deadlines for funding applications

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are a year or more in advance of the proposed start date and it is important to have time to tailor the application to the individual funding body, even if the project proposal itself is already well developed. Speak to colleagues already in research to learn from their experiences, to find out where their funding came from, and the processes involved. Get advice from your proposed research supervisor, who is likely to have experience of obtaining not only their own funding, but also in aiding their trainees with funding applications. Indeed, a number of senior clinical academics will sit on the committees that review applications and conduct interviews for them, providing invaluable 'insider' information.

Begin to work out an estimate of how much your research will cost. Laboratory research is typically more expensive than epidemiological research for example, and the types of research degrees available (MCh, MD, PhD) will have differing fees depending on the individual institution. Some laboratories within certain research centres (such as Cancer Research UK, Cambridge Institute) are partly centrally core-funded, meaning that you may not have to cover all of your anticipated laboratory consumables costs from your personal funding. Speak to people in the institution where you intend to work to get some information on these matters, as knowing how much money you will need will help guide you in choosing where to submit your funding application.

Sources of funding

Medical Research Council (MRC)

The MRC is one of seven UK government-funded research councils.[1] It is regarded as a prestigious source of funding, having funded the work that led to 22 Nobel prizes for 31 individuals.[2,3] Each year the MRC holds two rounds of applications for the Clinical Research Training Fellowships (CRTFs). These are awarded for two to three years to enable clinical trainees to undertake a higher research degree, and thus begin an academic career. The award will pay for the applicant's salary, university fees and research expenses.[4] In addition, the MRC offers a number of jointly funded CRTFs in collaboration with a wide range of professional and charitable organisations such as Kidney Research UK, Prostate Cancer UK and the Royal College of Surgeons of Edinburgh. Applications to these joint CRTFs are held separately, and so it is important to check the MRC website in detail for application deadline dates and eligibility criteria. The MRC only permits two attempts at applying for a CRTF, so it is imperative that the research proposal is in its best possible shape before submission.

The Wellcome Trust

The Wellcome Trust is 'a global charitable foundation dedicated to improving health' founded in 1936.[5] It offers three different options for clinicians seeking funding for a higher research degree. Firstly, the Research Training Fellowship (RTF) scheme, which is open to medical graduates who have also passed the relevant specialty exam (e.g. Membership of the Royal College of Surgeons [MRCS]) with little or no previous research experience. Applications to the RTF are held three times per year, with only one application from an individual considered at any one time. The Wellcome Trust does not permit resubmission of a rejected application, meaning that the research proposal must be at its best before submission.

The second option from the Wellcome Trust are the clinical PhD programme schemes. These are operated in collaboration with 10 universities/research institutes across the UK; Universities of Cambridge, Edinburgh, Liverpool, Oxford, Birmingham, Dundee, and University College London, Imperial College London, Institute for Cancer Research London, London School of Hygiene and Tropical Medicine. Each programme is advertised and recruited locally. The funding is substantial, covering salary, university fees, research expenses and some travel/general training costs. The eligibility criteria state that it is not essential for applicants to have commenced specialty training, so these schemes may be an option for foundation/core level trainees who have not yet passed specialty exams. The specific details regarding the structure, organisation and application process of each programme vary, so it s best to consult the individual programme websites for details (via the Wellcome Trust).[6]

The Wellcome Trust's third option is the Translational Medicine and Therapeutics (TMAT) programme hosted by the Universities of Cambridge and Newcastle, Imperial College London and the Scottish Consortium. These programmes have been developed by and are supported by industry partnerships with a number of pharmaceutical companies. The funding provided and eligibility criteria are similar to those of the clinical PhD programmes above.

National Institute for Health Research (NIHR)

The NIHR Doctoral Research Fellowship offers three years' funding to undertake a PhD. NIHR's research remit is very specific – the proposal must be for clinical and applied health research, including social care research, but not basic laboratory research or research involving tissue or animals. If you are considering applying to NIHR, take some time to read the criteria in detail to ensure your project proposal falls within their remit. NIHR funded 54 fellowships in 2013 and 34 in 2014.[7] The '*NIHR fellowships 2013 chair's report*' is a useful document offering helpful advice to prospective applicants.[7]

The Research Design Service (RDS) in collaboration with NIHR is a useful resource, which helps researchers with methodological support and advice regarding development of grant proposals and accessing NIHR funding streams. They offer a free advisory service on a regional basis.[8]

Table 1. Summary of sources of research funding.

Funding body	Duration	Funding offered	Specialty exams required	Research type
MRC	2–3 years	Salary, university fees, £20,000 per annum expenses	Yes	All
Wellcome Trust research training fellowship	2–3 years	Salary, university fees, research/ travel/general expenses	Yes	All
Wellcome Trust clinical PhD programme	2–3 years	Salary, university fees, research/ travel/general expenses	No	All
Wellcome Trust TMAT programme	2–3 years	Salary, university fees, research/ travel/general expenses	No	Industry partnership
NIHR	3 years	Salary, university fees, research/ travel/general expenses	No	Clinical/applied health research
RCSEng/RCSEd	1 year	Salary, research expenses up to £50,000	Yes, MRCS	Clinical/basic related to surgery
The Urology Foundation	1–3 years	Salary, research expenses up to £50,000 per annum	Preferred, not essential	Clinical/basic related to urology

MRC: Medical Research Council; NIHR: National Institute for Health Research; RCSEd: Royal College of Surgeons of Edinburgh; RCSEng: Royal College of Surgeons of England; TMAT: Translational Medicine and Therapeutics.

Surgical Royal Colleges

The Royal College of Surgeons of England (RCSEng) offers approximately 50 one-year fellowships each year to members or fellows of the college. Awards will cover salary and expenses for one year, up to £50,000 (correct at the time of writing).[9] These awards are designed as 'priming awards', to enable researchers to generate pilot data, which can then be used to apply for more substantive fellowships. The fellowships are advertised once per year, with details of the application process available on the website.[9] Additionally, the College offers a number of jointly funded one-year fellowships, for example with Prostate Cancer UK, which are advertised and interviewed separately.

Similarly, the Royal College of Surgeons of Edinburgh (RCSEd) offers a number of one-year research fellowships, typically worth up to £50,000 per year. A number of these fellowships are very specific in terms of funding a particular surgical specialty area or disease type. Details of the individual fellowships and their eligibility criteria are available on the RCSEd website.[10]

The Urology Foundation (TUF)

TUF is a charitable organisation founded in 1995 to support training and research into the causes and treatments of urological disease. Their annual research programme funds basic science, urological research for up to three years, typically to a maximum of £50,000 per year to cover salary and laboratory consumables. TUF are interested in funding research across the spectrum of urological research, including benign disease. Applications are held once per year, involving a detailed written project proposal with full technical details and financial information, which is then reviewed by TUF's Scientific Advisory Board.[11] Awards are made solely on the basis of the written application.

Funding for research not related to a higher degree

Clearly not all surgical research will be undertaken full-time as part of a higher degree. Funding is available for research carried out in parallel with full-time clinical practice. Both RCSEng and RCSEd offer one year, £10,000 pump-priming awards for newly appointed consultant surgeons to develop research interests in addition to their clinical work.[9,10] These awards make no contribution to the holder's salary and are purely to be used for acquisition of equipment, consumables or technical assistance. Other funding organisations such as Prostate Cancer UK[12] or Rosetrees Trust,[13] and local funding schemes (e.g. Addenbrooke's Charitable Trust[14] or Cambridge Cancer Centre)[15] exist and offer research funding for both full-time researchers and those seeking to undertake research alongside their clinical work. The Association of Medical Research Charities website[16] has an extensive database of charities that offer research funding and is a very useful resource.

Summary

These are just a few examples of funding bodies most relevant to the urology trainee aspiring to enter full-time research (Table 1). The key piece of advice is to do some

homework and speak to people in the institute/department where you intend to carry out your research in order to learn from their previous experience. Ensure that you are in close communication with your proposed supervisor, as his/her input will be essential in every stage of the process.

Take home messages

1. Start looking for funding 18 months to two years ahead of planned start date.
2. Speak to colleagues to benefit from their experience.
3. Study the websites of the funding bodies in detail to understand the type of research they fund, the amount of funding provided and the application process.
4. Work closely with your research supervisor from the outset.

Conflicting interests

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