

RESEARCH FUNDING

All research has a cost, whether it is time in designing the project and writing the proposal or employing someone to collect data, paying for the consumables and the office space used and its associated costs or the funding of specialist equipment required to do the research project; the costs have to be 'paid for' by someone. The researcher must be clear about these potential costs at the design stage and have identified sources to fund these expenses. This may require a redesign of the project or searching for additional finances if the funds are not available to meet the total expenses of the project. Insufficient funding could force the researcher to change their research design or could make the difference between success and failure.

WHO FUNDS RESEARCH

There are many sources of external funding, from small the charitable organisations that fund perhaps one or two small research projects per year to the large charities like the MRC and the national disease charities i.e. cancer charities, National Heart Foundation and several others who fund many projects and allocate millions of pounds to medical research. Pharmaceutical companies spend millions on research, usually funding the development of new products but sometimes supporting medical research, where the only benefit to them is the prestige of having supported an innovation. The NHS also allocates hundreds of millions of pounds per year to supporting research, not only in funding individual research projects but also funding the infrastructure required to undertake research within the NHS. Most research funders have specific areas of interest including the NHS and the individual researcher applying must recognised the priorities and interests of the funder if they are to stand any chance in securing funding for their project. See research funders.

WHICH ORGANISATION

The research priorities and interests of the many funding bodies and agencies vary considerably, according to the aims and objectives of the organisation concerned. The amounts of funding are variable and some sponsors will only provide a proportion of the funds required. The researcher will be responsible for securing the balance from, another sponsor or their employing organisation, whose agreement to provide the balance of the total funding requirements must be secured. Competition for funds is intense and applications for funding must meet the sponsors funding criteria. It is advisable to discuss the researchers plans for funding with the potential sponsor in the early planning stages of the study. This could identify whether or not you have targeted the correct funder and could save you time in the long run. To increase the chances of success the researcher may wish to target more than one source.

PREPARING YOUR BID

When applying for funding for research it is important to follow the procedure set out by the potential sponsor. Funding bodies usually provide information and guidance, and supply standard applications forms for completion. The guidelines should be followed exactly and all sections on the form should be completed. It is important to direct applications to the most appropriate organisation. Therefore prior planning and informal enquires to the funding bodies are essential. All funding applications must be made through the R&D Office / Director before submission. The funds will be awarded to the Trust or another NHS Organisation and not an individual, therefore discussions will need to take place with the finance department before the submission is made. It would be advisable for the researcher to involve the Finance department when preparing the submission.

As part of your bid you will require to submit your research protocol. It will need to be clear and comprehensive to enable the funder to understand your funding and that the methodology is robust and will answer the research question. You will need to demonstrate that your sample size is large enough to ensure that your results are transferable and reflect the research population. An in-depth project proposal/plan will allow the researchers to fully appreciate the total costs of the project and submit as accurate as possible grant submission. Small self-funded projects and pilot studies can often provide the basis for subsequent successful grant applications. Most research funders, including the NHS, research councils and charities, use a system of 'peer review'. This refers to advice on the selection of research projects and programmes solicited from expert professionals who are qualified to judge them. It is essential to ensure the quality of the work being funded and to maintain distance between those who disburse funds and those who receive them. Funders aim to support the best science and scientists and make the most effective use of their resources. Peer review minimises duplication and maximises the exchange and dissemination of scientific knowledge and expertise with increased opportunities for collaboration. Peer review should be seen to be firm and rigorous but equally important should not suppress innovative science.

RESOURCE IMPLICATIONS

Undertaking a new research project often has resource implications, some direct and others less obvious, but still important. All costs need to be considered when costing a project this includes patient costs, equipment costs staffing costs and accommodation and other administrative costs. These costs can be considered in terms of three classes; direct resources, indirect resources and support costs for clinical research. You will need to be able to justify your research costs. To do this you will need to consider the following -

Support costs are those extra clinical costs induced by carrying out a research project, which would cease, even if the same standard of clinical care were carried forward. These might include extra visits, in-patient stays, medical or nursing intensity, diagnostic costs, for example. For projects funded by approved sponsors, the Trust is obliged to meet support costs from the R&D levy it receives, provided it has the available capacity to do so.

Treatment costs are the patient care expenses, which would continue to be felt, if the clinical service were carried forward at the same level. **Excess treatment costs** are those that exist above the currently accepted clinical standard. They could include the costs of providing an experimental treatment or the handling of patients at an unusual location, for example. These costs should be considered as part of the resource scrutiny because they are real costs and are not easily recovered. If the funder/sponsor of the research is the Department of Health, it is currently possible to include excess treatment costs as part of the project proposal.

Direct project costs (resources) are those required to undertake and analyse the research itself. They include the need to acquire new scientific and IT equipment, buy extra consumables, employ new staff and find bench and/or office space, as a result of adopting a new project.

Indirect Costs of a research project are more difficult to identify but must be reviewed as part of assessing resource implications. In general, it is those projects, which would trigger a step change in resources, or access to resources, that should be most closely considered.

As an example, workload associated to a research project may cause pressure on a vital piece of equipment and thus impact on all current users or cause the purchase of an additional set. In the clinical domain, a requirement for MRI scans, for example, at a fixed time or in high volume could adversely affect the clinical throughput. The addition of a research activity to a clinic can increase appointment times and/or reduce clinic throughput or even necessitate extra staffing. Research involving surgical interventions, in particular, can impact upon operating times, throughput and ITU access. ITU beds are a scarce resource and a very expensive one that needs to be deployed appropriately. Research activity can lead to additional costs after a project has finished. It is very difficult to terminate

an effective treatment or envisage not prescribing an effective drug, once the funding for a project ceases. Consideration of such matters should form part of the scrutiny of resource implications and be weighed against the benefits of research participation.

Commercially funded Research

The position is much clearer when the project is ultimately commercial gain. Such commercial contract research has to attract funding sufficient to meet the full costs of undertaking and hosting it in an NHS organisation. However if a commercial company is being approached to fund a piece of research all costs must be considered when making up the bid.

It is strongly advised that when making a bid for research funding the funding proposal should be discussed with the finance department to ensure that all areas have been considered.

Useful Websites

Department of Health	www.doh.gov.uk
Medical Research Council	www.mrc.ac.uk
British Medical Association	www.bma.org.uk
Institute of Cancer Research	www.icr.ac.uk
NHS R & D	www.amrc.org.uk
DOH	www.doh.gov.uk

REFERENCES

Research and Development in the NHS – An Introductory Guide – R&D Directorate NHS Executive North West Region.

Research Governance Framework for Health and Social Care (2001)

The Hammersmith Hospital's Research Governance Handbook 2001

Information that may be required for funding application (based on SDO and NEAT application form)

All funding applications for funding will be slightly different but will require similar details. They will produce guidance notes for completing the application, which must be followed. Some organisations will expect you to complete an outline proposal before submitting the full proposal.

The following will give you an idea of what may be asked for.

Details may include-	Details of Lead researcher
	Other applicants / joint applicants
	Including name address for correspondence (Business)

General Project details

Project title
Project summary and project aim, including hypothesis
Project Duration Start and finish dates and in months
Other funding organisations applied to
Ethical approval status of the project

Details of Project

Purpose and outcomes of the proposed research
Here you must identify the innovation, relevance, value and cost effectiveness – explain what outcomes are projected and how these will be of benefit to the patients and the NHS / Health Care.

Background to the project

Here you will give a summary of the existing state of knowledge in the project field (the findings of your literature search) including intellectual property, and the expertise and prior knowledge contained

within your project team, You will need to highlight circumstances as to why you are ideally placed to carry out the proposed research, e.g. successful pilot studies facilities in place etc.

Research Plan including methodology proposed-

Here you will need to describe the proposed project including an outline project time plan. You must justify your project design and your sample size to enable a full scientific review to take place. Take care not to reveal any potential unprotected intellectual property. If this is of concern state what you proposed to do and rather than how. You must acknowledge and address and difficulties that may arise. Reference your protocol where applicable.

Methods of dissemination and implementing research findings-

Here you must state how you foresee any research findings may be disseminated (Journals, conferences etc) and implemented and what further development work may be needed. You will need to describe how any intellectual property arising from the project will be managed.

References-

As with any academic writings you will need to give a full list of reference. The guidance notes will usually guide you as to the referencing system they require.

Financial Breakdown

This will need to -

Staff time	Staffing Overheads	Travel and Subsistence
Non pay	Consumable	Equipment
Total costs be broken down into years		

Finally you will need to identify a finance department, giving full details they will usually require a signature of the finance director. It is advisable to ask them for advice as they have the experience in costing out projects and will identify things that you will not consider that need to be included.

RESEARCH FUNDERS

There are many sources of funding for research. These include Government departments, i.e. The Department of Health, Charities i.e. Cancer UK and the MRC, or industry, some fund projects jointly. Most have specific areas of interest and many are disease specific. The NHS also allocates large amounts of money to support research. Much of this money is spent supporting the infrastructure required to undertake research within the NHS, however, millions of pounds is spent on the Research National Programmes (see below).

This section is broken down into

1. Web sites that identify research funding or calls for proposals
2. Research Funders
 - a. DOH / NHS National Research Programmes
 - b. Other Government R&D Programmes with associations with the DOH
 - c. Charities and Non-governmental organisations
3. Local Funding
4. Other Useful Websites

1. WEB SITES THAT IDENTIFY RESEARCH FUNDING OR CALL FOR PROPOSALS.

Department of Health R&D Site

This site only identifies national DOH/NHS R&D programmes for research proposals this includes the Health Technology Assessment Programme, Policy Research Programme, New and Emerging Applications of Technology (NEAT) and Service Delivery and Organisation (SDO). For further information please visit their web site at www.doh.gov.uk/research/index or www.doh.gov.uk/research/callsforproposals

The Association of Medical Research Charities (AMRC)

The AMRC works to advance medical research in the UK. They produce a wide range of other information for different audiences including data on the medical research charities' contribution to UK science. The AMRC publish annually, a handbook for researchers seeking

funding. A copy of this handbook is held in the R&D Office. For further information please visit their web site at www.amrc.org.uk

R&D Info

RDInfo is an online digest of health related research funding and training opportunities. Initially it was funded by the Northern and Yorkshire Regional Health Authority, but is now funded by the Department of Health. The information supplied is gathered from a wide range of sources. The database holds information from over 1000 Funding Bodies offering over 3000 different awards. For further information please visit their web site at www.rdinfo.org.uk

2. RESEARCH FUNDERS

DOH / NHS National Research Programmes

Health Technology Assessment HTA

The HTA programme is a national programme established and funded by the Department of Health's Research and Development Programme. The purpose of the programme is to ensure that high quality research information on the costs, effectiveness and broader impact of health technologies is produced in the most effective way for those who use, manage and provide care in the NHS. For further information please visit their web site at www.hta.nhsweb.nhs.uk

NHS Service Delivery and Organisation (SDO)

The SDO was established to consolidate and develop the evidence base on the organisation, management and delivery of health care services. It aims to produce and promote the use of research evidence about how organisation and delivery of services can be improved to increase the quality of patient care, ensure better strategic outcomes and contribute to improved health. This research programme will consider projects using a variety of different methodologies. For further information please visit their web site at www.sdo.lshtm.ac.uk

New and Emerging Applications of Technology (NEAT)

The main aim of the NEAT is to promote and support, through applied research, the use of new or emerging technologies to develop health care products and interventions to enhance the quality, efficiency and effectiveness of health and social care. For further information please visit their web site at www.neatprogramme.org.uk

Policy Research Programme (PRP)

The purpose of the Policy Research Programme is to provide, through high quality research, a knowledge base for health services policy, social services policy and central policies directed at the health of the population as a whole. For further information please visit their web site at www.doh.gov.uk/research/rd2/prpindex.

Medical Research Council

The UK Medical Research Council (MRC) is a national organisation funded by the UK taxpayers. It promotes and funds research in all areas of medical and related science with the aims of improving the health and quality of life of the UK public and contributing to the wealth of the nation. The MRC is independent in its choice of which research to support. It invests in a broad range of high quality basic, applied and clinical research and trials, via flexible in-house funding mechanisms. It promotes best practice in the conduct of research and works in close partnership with Health Departments, other Research Councils, industry and others to identify and respond to current and future health needs. For further information please visit their web site at www.mrc.ac.uk

Other Government Programmes with associations with the DOH

Engineering and Physical Sciences Research Council

The Engineering and Physical Sciences Research Council (EPSRC) was set up in 1995 to establish and maintain a partnership so that those areas of medical science of joint interest can be identified and effectively promoted and to provide research grants in areas of joint

interest between engineering and the physical sciences. For further information please visit their web site at www.epsrc.ac.uk

Natural Environment Research Council

Natural Environment Research Council (NERC) was set up in 1997 and aims to promote greater awareness of the requirements and priorities of each party, promote effective interaction and planning of strategic programmes of S&T, promote effective transfer of scientific advice on environment and health issues, and promote awareness amongst opinion formers and the general public of environment and health issues through effective public understanding and education programmes For further information please visit their web site at www.nerc.ac.uk

Economic and Social Research Council

The Economic and Social Research Council (ESRC) was set up in 1998. It aims define those areas of social science in which the ESRC and the Health Departments have shared interests and in which they already liaise. For further information please visit their web site at www.esrc.ac.uk

Higher Education Funding Council for England (HEFCE)

The Higher Education Funding Council for England aims to promote and fund research that will increase knowledge and contribute to the social, cultural and economic wealth of the nation. In April 2000 the Department of Health and HEFCE established a strategic alliance to formalise working links and support discussion and consideration of Department of Health/NHS and HEFCE R&D strategic objectives, priorities and activities to ensure the best use of public funds in supporting health and social care research. For further information please visit their web site at www.hefce.ac.uk

European Commission

Research and development sponsored by the European Commission is supported within a successive comprehensive framework, which runs over 4 years. The new framework (FP6), (2002 to 2006) is currently being developed. It will concentrate on a limited number of key technologies where Europe needs to cooperate in order to compete internationally. For further information please visit their web site at www.cordis.lu/en/home

3. CHARITIES AND NON-GOVERNMENT ORGANISATIONS

Cancer Research UK

Cancer Research UK supports and undertakes a comprehensive programme of research in institutes, hospitals, universities and medical schools throughout Britain and Northern Ireland. They are the European leaders in anti-cancer drug development and have an extensive programme of research to ensure that new treatments reach patients as quickly as possible and cover all patient groups and tumour groups. They also carry out research into the causes and development of the disease. Their aim is to improve the well being of patients through research into the psychological impact of cancer and to improve communication between doctor and patient. For further information please visit their web site at www.cancerresearchuk.org

The Wellcome Trust

The Wellcome Trust is an independent research-funding charity. The Trust's mission is 'to foster and promote research with the aim of improving human and animal health'. To this end, it supports 'blue skies' research and applied clinical research. It also encourages the exploitation of research findings for medical benefit. For further information please visit their web site at www.wellcome.ac.uk

Wellbeing Research

WellBeing funds research into all aspects of obstetrics and gynaecology.

This funding organisation aims to fund research to increase knowledge in the following three areas:

- All aspects of pregnancy, birth and the care of newborns
- Women's cancers including screening procedures, diagnostic techniques and treatments
- Quality of life issues including infertility, menstruation, incontinence, the menopause and osteoporosis

For further information please visit their web site at www.wellbeing.org.uk

The Kings Fund

The King's Fund is an independent charitable foundation whose goal is to improve health, especially in London. The organisation aims to find new ways of promoting better health in London in the areas of:-

- Tackling health inequalities and social injustice
- Enabling health and social care staff and organisations to work in partnership, across traditional boundaries
- Promoting cultural diversity in health
- Encouraging patient and wider public involvement in health and health care.

The King's Fund uses research knowledge to inform health policy and stimulate public and political debate. They work closely with a range of organisations to promote London-wide action to improve health and reduce inequalities. For further information please visit their web site at www.kingsfund.org.uk

British Medical Association

The Board of Science & Education is the BMA's main interface between the profession, the government and the public, on matters of science, health education and public health. They award grants to encourage individual research in various fields of medicine. For further information please visit their web site at www.bma.org.uk

Foundation of Nursing Studies

To offer financial support to nurses, midwives and health visitors who have good ideas for improving the care of their patients:-

- To ensure that the proposal is supported by good clinical research evidence
- To support nurses in improving patient care.

For further information please visit their web site at www.fons.org

4. LOCAL FUNDING

Small amounts of funding for local research projects may be available from the R&D budget. The yearly funding round is widely advertised through out the hospital and on the Trusts internet site. For further information please contact Gay Bineham R&D Manager on 01895 279021 (ext 3021) or by email on gay.bineham@thh.nhs.uk