

Turning research ideas into fundable grant applications requires clarity of thought and good planning

One of the biggest challenges to conducting research can be obtaining the necessary funding. In this new series we address this problem and aim to help you optimise your success in obtaining pharmacy research funding. In this first article we show you how to approach transforming your idea into a grant application and find the most appropriate funding organisation for your research

Perhaps you have some ideas that you think might make good subjects for research but have no previous experience in organising a research project or finding funds. Whether you are an experienced researcher or new to research you will need to follow broadly the same strategies when seeking research funding. However, before you even begin looking for relevant funding bodies it is essential for you to clarify exactly what question(s) you want to ask.

Clarify your thoughts and seek advice

If you have ideas but do not know how to turn these into testable hypotheses you will need expert help and advice. If you are based in a hospital or academic unit you could discuss your ideas with senior members of your department. If this seems too inhibiting for you why not talk to your peers about this first? They may ask you insightful questions that should make you think more deeply about your idea. Senior colleagues, however, will have experience in assessing whether and how ideas can be realised as research projects. They will be able to advise you about the most suitable study method that would be needed to answer your question and what sort of data analysis you will be likely to need to use. They will also be able to put you in touch with statisticians who will help you to determine the population size needed for your study so that you will be able to answer the question(s) you pose with

acceptable statistical certainty. Statisticians will be familiar with a range of statistical tests and will provide invaluable advice about the various options open to you. They will help you to decide how best to analyse your data so that you can draw meaningful statistical conclusions about your study findings.

Once you know the population size that you need for your study you will begin to be able to estimate your staffing needs (which may simply be a matter of allocating your own time to interview a small group of subjects) and the time the study will take to complete — including analysis and writing-up time. This will allow you to start to calculate the likely amount of money you will need for your study. This may be minimal for a small study, but could be substantial for large, multi-centre projects. Drawing up a budget to determine the *level* of funding you need for your project is essential for large projects but a good habit to get into when planning even small projects. It will help you to decide who to approach for funds, because grant awarding bodies state what amount of funds are available for their various programmes as well as who are eligible to apply for these.

If you are community-based, you could contact your local PCT or nearest academic unit for advice. You might also consider phoning various grant awarding bodies and seeking the advice of their grant advisor who

will usually be only too happy to help you. For example, the Pharmacy Practice Research Trust (PPRT) announces a wide variety of funding opportunities and PPRT staff contact details are published with these announcements. They will be able to help you decide whether your idea falls within the remit of their advertised award — or may be able to suggest an alternative. Later in the year the PPRT is holding an event to provide guidance for aspiring pharmacy practice researchers. *Pharmacy in Practice* will publish details about this nearer the time.

Questions to consider at the outset

Before any grant application is begun, it is useful to work through a checklist of questions aimed at defining the sort of research you would like to conduct, how long the study and data analysis will take to complete and the resources required. In doing this you will think about all aspects of the study, and evaluate its feasibility and the costs involved. This will help you when you come to write your application for funding.

What sort of research do you plan to do?

A good place to start is to write down your research question(s). You will need to present your ideas clearly and coherently both in discussions with senior colleagues or peers and when making a grant application. Writing your ideas down, along with a list of reasons why your idea is worth investigating, will help you crystallise your thoughts — and question your ideas. If you

can break your question down into smaller, simple questions you will be better able to find ways of answering it. It is most important that you do not try to be over-ambitious or do not over-complicate your research proposal — the peer-reviewers who will evaluate your application may have many others to evaluate at the same time and they will not want to have to try to decipher what you want to do. They may have just read a very clear and logically presented application! You are far more likely to succeed if you can present your proposal in a logical, clear way, with good background and supporting information.

Do a literature review

The next important stage, therefore, is do a thorough literature review to ascertain whether your idea has been studied before, and if so, what you can add to the previous findings. The RPSGB online library can be accessed at <http://www.rpsgb.org/informationresources/library/services/> and other information resources including advisory services and links to downloadable Society documents can be found at <http://www.rpsgb.org/informationresourceslibrary/fpii/>. We have covered planning research projects^{1,2} in our *Research methods* series in *Pharmacy in Practice*. New researchers are encouraged to consult these articles for help with topics such as how to conduct literature reviews,³ details about various methods used in undertaking different types of research, such as focus groups⁴ and consensus methods,⁵ designing questionnaires for clinical studies⁶ and complying with the governance framework.⁷ Similarly, articles from our *Clinical audit* series will be useful to those readers who intend to undertake these types of project.⁸⁻¹⁰ Articles from both series are useful reference materials even for the experienced researcher.

A literature review will broaden your background knowledge about your potential research area and provide you with supporting information to justify your application. It may even raise other, more relevant questions in your mind. Be ready to re-examine your idea if the literature suggests this is necessary. Questioning yourself is no bad thing — and can strengthen

your arguments for having a good idea. Remember, there is always strong competition for research funds and this means that only high-quality, worthwhile research tends to be funded. You will therefore need to be able to substantiate your reasons for requesting funds and show that your proposal has unique features that make it likely to be worth funding.

Who will do the research, where will it take place and how long will it take?

Consideration will need to be given to all aspects of the proposed research. The size of the study — for example, the number of subjects or items that you need to study to answer a specific question — will determine the number of staff that must be recruited to conduct the study. Staff time must be paid for and this will need to be carefully worked out and costed. You may need to acquire pay-scales from your accounts department to help with this. Will you need to train any staff to conduct the study? How long will this take? Will you need to have study supervisors or managers? The roles and responsibilities, and time that needs to be allocated to the study must be assessed for each member of the team.

The type of study and size will often determine where it is conducted — consider whether this involves booking clinic time or dedicated rooms. If rooms are needed how long will you need to book each study session? Will this be possible in your organisation? Do you have the support of those people you need to help you to do this? Who will pay for clinic or room hire? If there is a cost involved this should be taken into account. Answering these questions will help you plan your budget and assess the feasibility of some of the practical aspects of your research. It will also give you a good understanding of the time your study will take to complete and how best to schedule the study work so that you can use the time most efficiently.

Recruitment of staff and subjects

You may also need to think about *how* you will recruit staff and how long this might take. One potential pitfall is underestimating the time needed for advertising

and interviewing potential staff. If it is imperative that you recruit staff to carry out the study you must build this time into your project design or your study may experience unnecessary delay in starting. Similarly, you will need to consider how long it will take to recruit all of your study subjects.

Collaborators

As soon as you have a full, clear outline of your proposal you will be in a position to seek advice from people who can help you conduct your study. You may also need help in obtaining ethical approval from the NHS research ethics committee (REC), or in gaining research governance approval from the local trust, or in setting up locally or nationally required data protection measures. Ask colleagues for suggestions of people to approach, and search your organisation's website for people with the skills you are seeking and for contact details of the REC and R&D department administrators.

Who will be the beneficiaries of the research?

It may be obvious to you who will benefit from your research efforts, but the beneficiaries should be formally identified. Does your question or idea have direct benefit for a specific patient population? Is this patient group represented by a specific charity that might consider funding your research or helping you to acquire funding? Whether you liaise with such a patient group or not, consider how you might inform the beneficiaries about relevant findings from your study. We will discuss dissemination of information in a future article in this series.

Finding funders

Once you have given thought to your idea, discussed it with colleagues and mentors, and generated evidence-based literature to support a funding application you can then search for the most appropriate organisation to approach. There are a number of strategies you can use to locate potential funders for your research. For example, search strategies could include:

- Computer-based searches using a variety of search engines, such as Google or Yahoo.

Research funding

Typing into the search engine simple descriptions of your project area or patient group may bring up lists of possible patient organisations who either have funds available for research or are willing to help researchers to acquire funds.

■ There are a number of compendia of Grant awarding bodies, including *A guide to the major trusts*¹¹ and *The directory of grant-making trusts*.¹² The latter is an excellent resource, but somewhat expensive so you may need to borrow it from a library. Several online directories are also available, such as <http://www.rdfunding.org.uk>. Another good online source of UK charities is <http://www.britishinformation.com/charities/>. This site is geared to informing sponsors about the various charities but has direct links to many charities where you can research their funding possibilities.

■ You may also have come across potential sources of funding during your literature research.

Draw up a list of potential organisations to contact. Look up the organisations' websites and find out about them. They may advertise the funding opportunities they currently have on offer on their website and will have details of their

application process here. Box 1 lists some organisations that offer funding for research and at the end of this article Box 2 lists some currently available awards. Read through these carefully and you may find some you can apply for.

Having worked through this article you will have discussed your idea and formulated clear questions. You will have carried out a thorough literature review to provide background material and supporting references — where possible — for your application. You will have a good idea of the type of study you wish to conduct, the number of subjects you need and how to

best analyse the data. In future articles we will work through a typical grant application form, providing hints and tips for making your application stand out from others, and we will discuss the usual grant awarding process followed by funders. ❖

Declaration of competing interests

The author declares she has no competing interests.

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Please email me if you have suggestions, information or other comments to make about this series. Email: cknott@medicomgroup.com

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Potential sources of funding

Funding/Research body	Type of funds available	Website and contact details
Action Medical Research	Project grants, training fellowships	http://www.action.org.uk/research_projects/applications.php
Alzheimer's Society	PhD studentships, Research fellowships, Project grants, Dissemination grants	http://www.alzheimers.org.uk/site/scripts/documents.php?categoryID=200294
Big Lottery Fund (Medical research grants)	Universities are ineligible for funding, but charities and community organisations are encouraged to work with university researchers	http://www.biglotteryfund.org.uk/prog_research_programme.htm?regioncode=-uk&progStatus=open&status=theProg&title=Research%20programme
British Heart Foundation	Project grants, programme grants, clinical and non-clinical fellowships	http://www.bhf.org.uk/research_health_professionals/apply_for_research_grants/grant_types_guidelines.aspx
Cancer Research UK	Clinical trials, fellowships and other awards	http://science.cancerresearchuk.org/gapp/
GlaxoSmithKline	GSK International Achievement Award	www.bpc2008.org (also see Box 2 below)
Guild of Healthcare Pharmacists	National Pharmaceutical Association and Merck Sharp & Dohme joint award	http://www.rdfunding.org.uk/Queries/ListGrantDetails.asp?GrantID=6081
Leverhulme Trade Charities Trust	Research training bursaries for community pharmacists' pharmacy practice research	http://www.leverhulme.ac.uk/grants_awards/grants/leverhulme_trade_charities_trust/ (also see Box 2)
Pharmacy Practice Research Trust	Various research grants and bursaries, collaborative research projects	http://www.rpsgb.org/worldofpharmacy/research/ (but please also see individual awards in Box 2 below)
Royal Pharmaceutical Society of Great Britain	Academic excellence awards — two PhD studentships, hosted by accredited Schools of pharmacy	http://www.rpsgb.org/societyfunctions/awards-scholarships/academicexcellenceawards.html (see Box 2 below)
United Kingdom Clinical Pharmacy Association	Various awards for UKCPA members	http://www.ukcpa.org
Wellcome Trust	Various fellowships and research activities	http://www.wellcome.ac.uk/funding/

Box 1. Some grant-awarding bodies and the type of awards they make

Current awards: Invitations to apply for funding

Applications invited to host the 2009 Academic Excellence Awards

The Royal Pharmaceutical Society of Great Britain (RPSGB) is now inviting fully accredited Schools of Pharmacy in the UK to submit applications to host the 2009 Academic Excellence Awards. In its third year, the Academic Excellence Awards aims to encourage pharmacists to be part of the wider academic workforce. Through the award scheme, exceptional pharmacists and pharmacy graduates will be able to pursue a career in academic pharmacy by undertaking PhD training. Two awards are to be made. The successful schools will be responsible for the supervision, selection and administration of the students throughout their period of training.

Deadline: Applications must be completed and submitted by **19 March 2008**. Funding decisions are based on quality of the training and support provided, and are made by an awarding panel. Guidance notes, an application form and further information can be found on the Society's website: <http://www.rpsgb.org/societyfunctions/awards-scholarships/academicexcellenceawards.html>. A peer review protocol explaining the selection process is also available from the website. For any further queries, please call 0207 572 2275.

Proposals invited for collaborative research projects: 2008/2009 Multi-professional practice grants supporting initiatives in public health or in the care of patients with long-term conditions

The Pharmacy Practice Research Trust (PPRT) has identified its key research priorities over the next three years. One of these is inter-professional working and the Trust is now inviting proposals from inter-professional teams or collaborative projects for research into long-term conditions or public health. Funding is available for small-medium projects in the following areas:

- Multi-disciplinary service development/evaluation for patients with long-term conditions.
- Multi-disciplinary service development/evaluation in public health.

A total sum of £80,000 is available for projects in these areas of research and the Trust is particularly interested in receiving collaborative project applications that include pharmacists working in either primary or secondary care or in the community. Lead applicants must either be a pharmacist or other health or social care professional. It is anticipated that the outcomes of the research will:

- Inform best practice in the delivery of services
- Help build the evidence base for pharmacy to inform Practice Based Commissioning
- Increase networking and partnership opportunities
- Help build trust between professions
- Inform model service specification for long-term conditions, including patient care pathways.

Priority will be given to those proposals that demonstrate innovation and provide evidence of value for money as well as patient benefit. The Trust reserves the right to allocate funding to a single project team or to individual teams dependent on the quality and quantity of proposals received.

Deadline: The closing date for submission of applications is **Friday 28 March 2008** and interviews for those short listed will be held on Thursday 22 May 2008. Copies of the research commissioning brief and application forms can be obtained from Beth Allen: beth.allen@rpsgb.org or call 020 7572 2466 or Linda Sheldrake: linda.sheldrake@rpsgb.org or call 020 7572 2466. They can also be downloaded from the RPSGB website at: <http://www.rpsgb.org/worldofpharmacy/research/>

Applications invited for 2008 Practice Research Awards

Pharmacists who want to start or develop a research career are being invited by the PPRT to apply for a 2008 Practice Research Award. The awards were set up to build research capacity in pharmacy practice and a total of £55,000 is available for a number of grants, which are open to:

- those requiring funding between PhD and post-doctoral grants;
- those requiring funding to go from MPhil to PhD;
- practitioners new to research; and
- PhD students requiring 'research costs' to enhance their PhDs.

The awards can also be used to fund new areas of research, for example, pre-pilot and feasibility studies that would not be considered by other funding bodies. There are two types of awards available:

1. **Galen Award** — one or more awards made annually to a total value of £10,000 funded by the Galen Trust.
2. **Sir Hugh Linstead Fellowship** — one or more awards made annually to a total value of £45,000 funded by a grant from the Leverhulme Trade Charities Trust to support research relating to community pharmacy.

Deadline: All completed applications must be submitted by **23 May 2008** and it is expected that interviews will be held on 2 July 2008 at the Royal Pharmaceutical Society of GB's headquarters in London.

Further details, application forms and guidance notes for the practice research awards are available on the Awards and Scholarships section of the Society's website at <http://www.rpsgb.org/societyfunctions/awards-scholarships/practiceresearchawards.html>

Research funding

Applications invited for research bursaries for community pharmacists

Community pharmacists who have an interest in developing their skills in conducting research relating to everyday pharmacy practice can now apply to the 2008 PPRT Research Training Bursary Scheme, funded by the Leverhulme Trade Charities Trust. The scheme has £40,000 to annually fund a number of projects and bursaries are available for three levels of work:

- **Level 1** — funding to undertake research modules and a small-scale project such as service evaluation to measure acceptability to health professionals' or patients' uptake, clinical outcomes or resource implications (supported by a research organisation, for example, a Higher Education Institute, Primary Care Research Network or Research and Development Unit)
- **Level 2** — funding to upgrade a Diploma in Clinical/Community Pharmacy to a MSc, which usually involves undertaking a further two modules (one on research methods) and undertaking a research project or a practice intervention initiative
- **Level 3** — funding to undertake a non-pharmacy MSc that has relevance to and benefits the world of pharmacy.

Applications are invited from community pharmacists who are self-employed (as locums or independent community pharmacists) or pharmacists employed by a small chain of up to 60 registered premises, who demonstrate a real need for external support to develop their skills and careers in research. A research training bursary would also provide a Continuing Professional Development opportunity. The bursaries can include the following items of funding: salary (pro rata for part time)/locum costs; course fees; research costs (up to a maximum of £500, to include printing, postage and travel); supervision costs (either from a Higher Education Institution or from local Research and Development Unit/Network), and conference attendance (up to a maximum of £400 towards attendance and presentation of work at UK conferences).

Deadline: The deadline for completed applications is **23 May 2008** and it is expected that interviews will be held on 3 July 2008 at the Royal Pharmaceutical Society of GB's headquarters in London. Further details, application forms and guidance notes are available by contacting Beth Allen, Research Programme Co-ordinator, Pharmacy Practice Research Trust, 1 Lambeth High Street, London SE1 7JN, tel: 020 7572 2466 or e-mail: beth.allen@rpsgb.org.

Applications invited for research on professionalism in pharmacy practice

For its new programme of research, the PPRT has identified the principles and practice of professionalism in pharmacy practice as a key research priority. The PPRT is, therefore, inviting proposals to undertake research in relation to the teaching, assessment and practice of professionalism in pharmacy. Potential funding for two projects of up to £30,000 each is available to support research for either:

- Evaluation of teaching and assessment of professionalism among pharmacy undergraduates
- Professionalism in Pharmacy Practice among newly registered pharmacists (1–2 years)

The Trust reserves the right to allocate funding to a single research team to a total of £60,000 for proposals that cross both research areas or to individual teams to look at one domain independently.

Deadline: The closing date for submission of applications is **Friday 28 March 2008** and interviews for those short listed will be held on Tuesday 13 May 2008. In addition, the Trust recognises that this is a potentially rich research area, where many questions can be proposed. Therefore the research areas discussed are neither exhaustive nor exclusive and applicants should not be restricted but must explain and defend their choice of focus for study. Copies of the research commissioning brief and application forms can be obtained from Beth Allen: beth.allen@rpsgb.org or call 020 7572 2466 or Linda Sheldrake at linda.sheldrake@rpsgb.org or call 020 7572 2466. They can also be downloaded from: <http://www.rpsgb.org/worldofpharmacy/research/>

Call for nominations: GlaxoSmithKline International Achievement Award 2008

Nominations are now being sought for the highly prestigious GlaxoSmithKline International Achievement Award, the winner of which will be invited to attend the British Pharmaceutical Conference (BPC) at Manchester Central in September 2008 to give a special lecture. Nominations are open to researchers in academia, industry, public service or any other scientific establishment; or researchers from these areas working collaboratively. Individuals or teams of up to six researchers from across the globe, who have demonstrated a substantial advancement in the application of scientific knowledge within the pharmaceutical sciences through published work over the last three years, are encouraged to apply. There is no age limit for applicants, and applications will be judged on scientific quality and the actual or future applicability to industrial practice.

The successful applicant/s will be selected by a review panel of senior staff from GlaxoSmithKline. They will receive a commemorative presentation, a cheque for £1,000 and expenses for the successful applicant (or leader of the successful team) to attend BPC 2008 to give a lecture on their work. Nominations are requested either directly from the nominee, or from any other individual/organisation within the pharmaceutical industry. Submissions should include the following:

- CV of the principal researcher
- Summary CV for each team member
- Summary (100 words maximally) of published work over the last three years and its importance to the pharmaceutical industry.

Deadline: Submissions should be received by **March 31, 2008** and sent to Dr Sanobar Shaikh, Science Advisor, Royal Pharmaceutical Society of Great Britain, 1 Lambeth High Street, London SE1 7JN. Further information on submission guidelines, the application process and previous award winners can be found at www.bpc2008.org.

Box 2. Current funding opportunities