An Introduction to Research for Primary Dental Care Clinicians

Part 5: Stage 6b. Obtaining Funding

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Introduction

This paper, the fifth in the series, will address the sixth of the ten stages of a research project suggested in the first paper. The ten suggested stages are:

1. The initial idea (asking a research question).

2. Searching the literature.

3. Refining the research question.

4. Planning the study.

5. Writing a protocol.

6. **Obtaining** ethical approval and **funding**.

7. Piloting the methodology and project management.

8. Collecting data.

9. Analysing the data.

10.Writing up and disseminating the results.

A previous paper[1] has outlined the how to plan a research project. The next stage has two elements, which are to obtain ethical approval and to obtain funding. Each is the topic of a separate paper. This paper outlines the key areas within the topic of funding and updates two previous publications.[2,3]

Stage 6b. Obtaining Funding

This paper is divided into the following sections:

A. Introduction.

B. Possible sources of information about funding.

C. How to improve chances of obtaining funding.

D. Suggested further resources.

A. Introduction

Applying for funding can be a frustrating and time-consuming process and even the best full-time researchers frequently have funding applications rejected. It may be the intention to seek funds for either the full cost of the research project or only part of it. When funding is being sought, some thought should be given to the relevance of the research with respect to the interests of the funding authority, because some funding sources are fairly specific in what research they will or will not support.

It is worthwhile, therefore, making an informal approach to a funding source prior to submitting a protocol because this may avoid much wasted time and effort. If this results in a positive response, then guidance can be obtained about the correct application procedure. Many authorities will provide guidance in writing.

B. Possible sources of information about funding

B1. UK Clinical Research Network

The website of this organisation provides a wealth of information including details of research fellowships and lectureships: www.ukcrn.org.uk

B2. National Institute for Health Research (NIHR)

The NIHR coordinates research funding within the National Health Service (NHS). Its website www.nihr.ac.uk makes regular announcements of new calls for research funds. It should be viewed regularly to look for opportunities to bid for funds. Current NIHR funding streams include:

• Research for Patient Benefit, which can award up to £250,000 over three years.

• Health Technology Assessment.

• Service Delivery and Organisation.

• Risk and Innovation, Speculation and Creativity.

• Invention for Innovation.

• Programme Grants for Applied Research, which can award up to £2 million to NHS organisations but not to universities.

The NIHR also offers a number of paid research training posts each year to doctors and dentists working in both primary and secondary care. They help general dental practitioners (GDPs) who wish to work half of the week in practice and half of the week in a research training post while studying for a Masters or PhD. The level of funding is designed to try to ensure that GDPs do not suffer financially as a result of taking time out from their practices. Details can be found at: www.nihr.ac.uk

B3. Shirley Glasstone Hughes (SGH)

Trust Fund The SGH Trust Fund was established in 1991 from a legacy left by Shirley Glasstone Hughes, dentist, researcher and BDA member, to be used as a memorial fund to provide grants for dental research. Details can be obtained from the British Dental Association, 64 Wimpole Street, London W1G 8YS. Tel: 020 7935 0875; fax: 020 7487 5232; e-mail: enquiries@bda.org

B4. British Society for Oral and Dental Research (BSODR)

The BSODR (formerly The British Society for Dental Research) is dedicated to enhancing and promoting high-quality research for the improvement of oral health in the United Kingdom. The BSODR also constitutes the British Division of the International Association for Dental Research (IADR), the global body responsible for promoting oral health research worldwide. Details can be obtained from the Institutional Liaison, Grants and Awards manager Sheri S Herren, IADR, 1619 Duke Street, Alexandria, VA 22314-3406, USA. Tel: 00 1 703 299 8094; fax: 00 1 703 548 1883; e-mail: sherren@iadr.org

B5. Faculty of General Dental Practice (UK)

The FGDP(UK) administers the British Society for General Dental Surgery (BSGDS) research award. This award of £7000 is made to a GDP every two years.

B6. Dental manufacturers

Dental manufacturers may be a source for covering the costs of materials or equipment only, or may, in addition, provide capital funding. However, if funds are provided by dental manufacturers, care should be taken in establishing the ownership of the research findings and any limitations on publication.

B7. Other sources

There are a number of large medical charities. They include the Wellcome Trust (www.wellcome.ac.uk) and the Nuffield Foundation (www.nuffieldfoundation.org). Other large organisations that fund healthcare research include the Medical Research Council and the European Commission. Both provide very specific guidelines for research funding and expert advice should be sought before submitting a proposal.

B8. The Internet

Most universities have a website where research funding opportunities may be listed; for example , the website of Newcastle University's School of Dental Sciences at: www.ncl.ac.uk/dental/research/external.htm

B9. Sources of advice on budgeting and finance

• The local FGDP(UK) Divisional Research Facilitator.

• Relevant university department involved in research (for example, department of primary dental care, materials science department, department of restorative dentistry).

C. How to improve chances of obtaining funding

C1. Introduction

There are two types of grant application.

• Those made in response to a call for applications by a funding organisation (funder-initiated applications).

• Those made de novo by the researcher(s) (investigator-initiated applications).

In both cases, meticulous planning is essential for success. Before submitting either type of grant application, it is necessary to establish:

• Exact details of the topics for which funding is sought.

• The correct application procedure (which forms to use, time limits for applications, and so on).

• The amount of money that could be available.

• Whom to contact at the funding organisation concerned for informal advice.

As a preliminary to making an unsolicited application, it is particularly important to establish exactly whom to approach and, perhaps equally importantly, how to approach them. Two key questions which should be asked, and for which expert advice will inevitably be necessary if they are to be answered satisfactorily, are:

• Why should the organisation wish to fund the planned research?

• How can the organisation be convinced that the project can be carried out successfully?

C2. Expert advice and alliances

A proven track record of demonstrable expertise and success in the relevant research areas is of great importance when applying for large research grants. At present, in the UK, very few GDPs have such track records in research.

The most successful applicants for grants for investigator-initiated research into emergency medicine have been those who had appropriate research expertise and experience, knew the scientific field concerned in detail, had identified a timely research question, and had consulted the funding organisation for detailed discussions before submitting applications.[4]

Although the research question is often defined in advance for funder-initiated research, in other respects the same basic success criteria apply to this type of project.

It is almost essential for GDPs wishing to obtain research funds to form alliances with, and obtain expert advice from, established researchers (normally from university departments and/or industry) if they are to be successful.

Relatively small awards, such as the FGDP(UK)/BSGDS biannual scholarship, are available for projects in primary dental care and are often made to GDPs with little or no previous research experience. However, there is invariably considerable competition for these awards, and applicants are well advised to obtain help from experienced researchers with their application forms and protocols.

Success in winning such awards, followed by successful completion of the project and a resulting publication, does help to establish a track record, as does the possession of a research degree such as an MSc or PhD.

Above all else, expert advice is important in estimating the full cost of a proposed programme of research. Considerable difficulties may arise if a project is only partly completed and the available funds have been spent. Both under- and overpricing of an application may result in rejection.

C3. Writing the application

The application is a research protocol structured to the particular specifications and requirements of the funder. The application should cover:

• The aims and objectives of the project.

• The methods to be employed.

• The proposed timetable of work.

• Full details of the resources required, including a schedule of payment.

• How any funds awarded will be managed.

The onus is to demonstrate to the funder(s) that the applicant(s) can conduct the proposed project effectively. This involves not only having a good idea but also presenting it clearly and concisely to whoever has been appointed to assess the application.

C4. Features of a well-written application

(a) Content

If application forms are provided, they will almost certainly cover the headings described in Writing a Protocol1 (an earlier paper in this series) and will provide sections for the senior investigator(s) to set out a brief CV and details of previous work and publications relevant to the application. The latter are frequently of crucial importance as the best indication of future success is past success.[5]

Those who assess research grant applications look for experience in previous projects relevant to the proposed project and a good publication record. These are deemed to demonstrate productivity and expertise. Also, they look for sufficient detail in the methods section to demonstrate an understanding of how the research problem will be tackled. A short report of a successful pilot study is also very helpful for the funding body.

A North American review of successful research grant awards[5] suggested that they had the following attributes:

• Achievable specific aims.

• A testable hypothesis.

• Preliminary data to support the hypothesis.

• A relevant research plan and experimental design.

• Appropriate resources.

• Addressed an important issue/question.

• A clear explanation of validation and quality control processes.

• An explanation of how any findings would impact on clinical practice or public health.

(b) Physical appearance of the application

A well laid-out, well-written application enhances the chances of success and demonstrates a thorough approach to the assessors. Only include relevant information and write in a concise style, using plain, grammatically correct English. It is a good idea to download or photocopy the application forms and make draft copies, in order to avoid corrections on the final form.

(c) Final checks

Check that the application does the following:

1. Identifies the appropriate granting body or agency to contact for your proposal (this is of paramount importance because each body usually has its own particular sphere of activity).

2. Describes succinctly the goal of your research, and what you propose to do to achieve this goal.

3. Identifies the problem that the research is intended to address, details what is known about the problem in the scientific literature, and highlights the perceived gaps or limitations.

4. States precisely what you will have achieved if the project succeeds, and the likely impact of a successful research project.

5. Describes, if possible, how the research is likely to contribute to patient care and patient benefit.

6. Details experimental design, describes how you are going to achieve your stated objectives, and shows how the experimental design will answer your set questions.

7. States clearly that you are aware of any limitations of your approach and, if possible, proposes an alternative approach if your first approach fails (unless you do so, reviewers may identify them and reject your proposal).

8. Gives examples of any previous works that suggest that the proposed study will succeed.

9. Describes briefly the design of the trial, how the sample size will be calculated, and what randomisation procedure you intend to use (see other articles in this series).

10. Describes how you plan to recruit research subjects and what criteria you will use for including or excluding particular individuals.

11. Describes how informed consent will be obtained and which authorities have given ethical approval for your research (see other articles in this series).

12. States clearly how your choice of research collaborators will strengthen your proposal.

D. Suggested further resources

A search of the Internet will reveal a number of sources of advice on writing grant applications. Two particularly useful ones are:

• National Institutes of Health, Bethesda, MD, USA. Advice on preparing a research grant application. Accessed (2011 Apr 15) at: http://grants.nih.gov/grants/grant_tips.htm

• Bioscience Journal Library Index. Guidelines for Writing Grant Applications. Accessed (2011 Apr 15) at: www.bioscience.org/current/grant.htm

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