Audit of Research Grants awarded during 2005-2015

The Clinical Radiology Academic Committee has recently conducted an audit of the research grants awarded by the College in the last ten years. This was undertaken to identify any significant problems encountered in individual projects and to assess the impact of the awards including research outputs, further successful funding, the longer term impact on the careers of the recipients and clinical implementation of project findings. These are detailed under specific headings below.

A short survey was circulated to 96 recipients of the following grant schemes (Constance Thornton Fellowship, Kodak Radiology Fund Research Bursary, Kodak Radiology Fund Scholarship and Pump Priming Grants including Small Project Grants awarded during 2010-11) and fellowship schemes (RCR Research Fellowships awarded during 2001-05 and, CRUK/RCR and MRC/RCR Joint Research Training Fellowships) during this period. A copy of the survey template can be viewed here: www.rcr.ac.uk/research_awards_audit.

The survey was carried out from December 2015 until May 2016. Responses were received from 85 award holders comprising 40 completed projects, 12 ongoing projects, 7 failed projects (including 3 where funding has been returned), 12 delayed projects and 14 Fellowships (7 to Clinical Oncologists and 7 to Clinical Radiologists). The delayed projects, which had all received funding in the last two years, were still in the preliminary stages and/or encountered setbacks, and were therefore unable to provide any feedback.

Problems encountered by award holders during projects

35% of the completed projects did not encounter any problems. The problems detailed by the rest have been categorised as listed in the below chart. Patient recruitment was the most common problem relating to, for example: low numbers of specific types of patient groups at main site; slower than expected recruitment rate; shortage of participants because they are already recruited to other studies; unwillingness to repeat attendance for non-clinical follow-up scans when travel expenses were not covered; patients being unwell after chemo or withdrawing from studies.
The second most common problem was the availability of resources at the host institution. These included availability of trained personnel (for example, R&D research nurse support); waiting times for equipment (for example, MRI scan); and difference in techniques between different centres. Data analysis, personal circumstances and funding were not sources of problems for the majority of the projects.

Particular attention was given to the delayed projects in order to identify the causes of delay.
The time required for obtaining ethics approval was by far the most common cause of delay. Contributing factors included re-working of licence constraints as required during the course of projects; time required to obtain R&D approval from host institutions; additional approvals and paperwork for having the study accepted onto the National Institute for Health Research (NIHR) portfolio and additional paperwork to gain access to NHS datasets.

Changes in the project team constituted the second most common cause of delayed progress. The length of delay for the majority of the delayed projects was 1 year while the longest delay was 2 years. The next most common lengths of delay were 9 months and 3 months respectively. Details of all problems listed by respondents can be viewed on this link: [www.rcr.ac.uk/research_awards_audit](http://www.rcr.ac.uk/research_awards_audit).

**Publications & Conference Presentations on the projects**

76% of the completed projects and 38% of the ongoing projects have been presented as abstracts, posters or presentations at national and international meetings and/or been published in national and international journals. In total, these comprise articles in nearly 65 different national and international journals and, oral and poster presentations in over 40 different national and international conferences. One completed project has published more than 35 papers while more than 5 poster submissions and presentations for conferences have been undertaken by several projects. The full results, listing all the publications and conferences, can be viewed here: [www.rcr.ac.uk/research_awards_audit](http://www.rcr.ac.uk/research_awards_audit).

**Further Funding and prizes received by the award holders**

45% of the completed projects and 38% of the ongoing projects have received further funding from other funding bodies. In total, this comprises funding from over 30 different funders. Notably, a number of prizes were received by both the completed and ongoing projects. The full results, listing all the funders and the prizes, can be viewed on the link: [www.rcr.ac.uk/research_awards_audit](http://www.rcr.ac.uk/research_awards_audit).

**Clinical Implementation of the findings from the projects**

Nearly 50% of the completed projects have either led to or are anticipated to lead to clinical implementation in the near future. Examples of these include establishing the role of PET CT in radiation therapy planning of oropharyngeal cancers; informing part of a continuous clinical and radiation dose quality improvement programme; contributing to one of the recommendations of the joint ESGAR-ESGE guidelines for the use of CT colonography; work on translating advanced imaging into routine NHS clinical practice including diffusion weighted imaging (DWI) for head and neck cancers. One of the most interesting items of feedback came from a project that failed. Although the original aims of the project were not achieved, it had resulted in the initiation of Cardiac CT imaging at the host institution and the development of a flourishing service. The award holder has presented on this at several local and national educational meetings.

**Impact on the Careers of the award holders**

Nearly 20% of the recipients who led the completed and ongoing projects, have secured academic posts since obtaining the awards.
Examples of some of the academic posts that the respondents have subsequently been appointed to include Professor, Reader, Senior Lecturer, Associate Professor, Clinical Lecturer, NIHR Clinician Scientist and Clinical Research Associate.

Respondents also reported a wide range of overall benefits to their careers as a result of the grants. These include helping to commence their publication track record, multiple opportunities to publish and speak on their research, increasing their reputation, helping them gain specific relevant experience for example, novel use of PET techniques, improving their profile to successfully obtain major grants, invitations to join/chaired a range of research-focussed committees, act in a supervisory capacity to support peers and juniors and strengthen interest in teaching and education.

**Return on College investment in the award schemes**

A score out of 4 was given to the number of outputs achieved by each completed project from the following four categories – publications and conference presentations, clinical developments, further funding and advancement in career. This was then recorded against the value of the individual grant received. There is a fairly positive correlation between the size of the award and the total number of outputs (0.42). Fellowships were not included in this section.
As indicated above, there is a lot of variation in the outputs of grants of £3000, £5000, £6000 and £20,000. A low total number of outputs was also noted in the grants of £1500, £4000, £5600 and £10,000. A total of 4 outputs were achieved by grants of £8000 or more.

Below are some noteworthy comments received from the respondents:

- “This initial £5k pump priming grant transformed my academic career. This was my first successful grant application, and I was subsequently awarded a NIHR Research for Patient Benefit grant alongside a MRC Clinical Research Training Fellowship. Without this initial pump priming grant from the RCR, both of these applications would have been weaker. My successes at these projects lead to a Clinical Lecturer post, then NIHR Clinician Scientist post. So it’s all down to that first pump priming grant!”

- “Without this award, I would not have been able to embark on an academic radiological career. The faith that the RCR and MRC put in me in awarding this fellowship enabled the start of my career in academic radiology and the first steps towards developing as an independent researcher. I have just been awarded a tenured post at a University, and have no doubt whatsoever that my career in academic imaging would not have progressed at all without the initial support this award afforded. (I also obtained my PhD with this award)”

- “We are most grateful to the Kodak fund for this bursary and enabling us to complete this essential work that has had an impact on a national and international radiological community but more importantly, a potential impact clinically for patients who may be candidates for bariatric surgery.”

Summary

Overall, the feedback received through this audit has helped to demonstrate the value of the awards which are available and the impact that they can have, not only on an individual’s academic career, but also on clinical developments.

There is a sense from the comments received that greater radiology leadership of research is required. Imaging is often seen simply as a “service” to evaluate results and assess the endpoints of research carried out by others, rather than as a field of research in its own right. Suggestions of how to address this included greater focus on training and experience in
research for both trainees and consultants, and the inclusion of more radiologists on grants review panels.

It is hoped that this will encourage more radiologists and clinical oncologists to consider applying in the years to come.

The full results of the audit can be viewed on the College’s website: www.rcr.ac.uk/research_awards_audit and applications for the 2017 round of awards will open in March: www.rcr.ac.uk/clinical-oncology/awards-and-prizes and www.rcr.ac.uk/clinical-radiology/awards-and-prizes

Further information and support from the College on undertaking research, including the Research Certificate scheme and the Research map, can be found here: www.rcr.ac.uk/clinical-radiology/academic-radiology

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(With special thanks to Lydia Garrett for the data collection)

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