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Back in September 2006 the ALPSP held a one-day meeting on ‘publication ethics’. During the day I learnt much about how journal editors and publishers had worked with other parties to improve the reporting of research involving human subjects. I was left wondering if there were similar initiatives for the reporting of research involving animals given that both areas of research can be controversial and give rise to issues of great public concern. To answer this question I began by looking at whether journals had any policies relating to the animal research they publish, and if so what these policies were. This marked the beginning of what has become an annual survey of journal editorial policies relating to the use of research animals (see Osborne *et al.*¹ for survey protocol and analysis details).

So, four years on what have I learnt . . . ?

Since July 2005 there has been a twofold increase in the number of articles published per year that involve animal research (125,280 in the last year surveyed). There has also been a similar increase in the number of journals publishing four or more such articles per year (currently 2,131 journals). The publication of animal research is therefore an area that would appear increasingly relevant to journal editors and publishers. To date the survey has analysed the ‘publication policies’, ‘guidance’ and/or ‘instructions to authors’ of 868 journals. This sample represents 40% of the total number of English language journals currently publishing primary research articles involving the use of animals, and of these, nearly half (44.6%) do

POINT OF VIEW

Reporting animal research – worthy of a rethink?

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Nearly half of relevant journals do not mention policies on animal research. Developing such policies should be beneficial for all.

not mention animal research in their policies at all. Of the journals that do have a policy relating to animal research, 17.5% do nothing more than include the word ‘animal’ at some point within the text, for example in a heading referring to ‘Human and Animal Studies’, without then stating any policies specific or relevant to animal studies. 19% simply suggest that animal research should be conducted according to legal standards, and/or local guidelines, and 12.6% suggest that animal use should have undergone an ethical review. I could go on, but what I hope this illustrates is that the vast majority of journals publishing animal research currently do not have policies that are anywhere near equivalent to those that many journals apply when publishing research involving human subjects.

So what role, or even responsibility, do I think scientific journals have in improving the reporting of animal research? First of all, I am assuming that journals wish to ensure that the research they publish is well conducted and scientific

cally valid. If this is true, then the inclusion of details of study design, animal care and treatment in submitted articles is essential if editors and reviewers are to make a sound judgement on the suitability of manuscripts for publication. Unfortunately, a recent analysis by Kilkenny *et al.*² has shown that such information, covering all aspects of study design and practice, is lacking in many research reports. Good study design, based on sound statistical principles, not only reduces the number of animals used to a minimum but is essential if valid conclusions are to be drawn from the results. Similarly, pain, suffering, and distress in experimental animals, caused by poor welfare or the experimental procedures used, can have an adverse effect on the validity of experiments. Optimizing welfare and reducing suffering is therefore an important element of good scientific practice. It is also important that these details are included in the published articles, or as supplementary information, so that readers will be able to judge the validity of the

results, and to repeat the studies if necessary. The provision of greater detail on animal care and use within published articles, and more critical review of animal research reports, could also have significant benefits for animal welfare. These benefits include driving up standards of animal care, and encouraging the development and dissemination of the 3Rs (replacing, reducing, and refining animal use³).

Scientists have a major role to play, by improving the content of the papers they submit for publication. However, journals can help greatly by having clear publication policies in place that specify what standards journals expect in relation to animal research, and what details they require in research reports. To me, both parties have a great deal to gain from such an approach. By proactively disseminating contemporary best practices around the world, and promoting greater openness and transparency about the use of animals in research, the level of public knowledge will increase, and inform discussions of the ethical issues associated with animal research. Bernard Rollin⁴ has also pointed out that:

With animal activists constantly looking for evidence of malfeasance and inaction by the research community, it could well happen that impracticable legislation serving neither the interests of animals nor of research could be created. Thus if the research community, as represented by journals, do not press for alternatives and stress animal welfare out of a sense of moral obligation, they should at least do so out of prudence and self-preservation.

This leads me to one of the most sensitive issues associated with the publication of animal research; the question of ethical acceptability. Should journals require authors to

justify their use of animals? Degeling and Johnson⁵ suggest that:

[I]t does not seem unreasonable for authors publishing in the biosciences to clearly state and justify the significance and stated goals of their animal-based investigation, particularly in those cases where the ethical permissibility of the research in some way rests on the potential utility of the findings.

In support of this opinion, they cite the strict requirements for justification of research on humans included in the editorial guidelines of the *Lancet*³ and the *BMJ*.⁴ At present, some journals do require evidence of 'local approval' of animal research, meaning an institutional review board, animal care committee or IACUC. However, the remit of these committees varies widely, and they are not required to conduct an ethical evaluation, defined as consideration of whether the harms caused to animals are outweighed by the benefits associated with the research objectives. Requesting 'local approval' is therefore insufficient if journals do not wish to be open to criticism on ethical grounds. Editors and publishers may have a fine line to tread, ensuring that they do not do anything that might be seen as censorship, but progress is possible, as illustrated by the statements made by some journals. For example: 'The *Annals of Surgery* is dedicated to the humane and ethical conduct of all studies involving living subjects',⁶ and the *Basic and Clinical Pharmacology & Toxicology* Ethical Guidelines: 'In general, manuscripts in which animals are used without reasonable respect to their lives and sufferings will not be accepted.'⁷

Related to this point is the suggestion by many journals that animal research should be carried out in accordance with legal standards, and/or local guidelines. However,

both can be very variable in scope, level of detail, and standards required, so merely citing them does little to ensure that a robust ethical evaluation has taken place, or that the 3Rs have been implemented. In addition, or as an alternative, some journals refer authors to general publishing standards such as the International Committee of Medical Journal Editors (ICMJE) guidelines – Uniform Requirements for Manuscripts Submitted to Biomedical Journals.⁸ This mentions animal research in only one sentence: 'When reporting experiments on animals, authors should indicate whether the institutional and national guide for the care and use of laboratory animals was followed.' Not that they *were* followed, but *whether*. This does not seem to be much of a policy. Other organizations, such as the Committee on Publication Ethics (COPE), also make brief statements relating to ethics and animal welfare, but none could realistically be said to offer any real guidance to journals or authors.

This leads me to wonder whether a major obstacle to progress in this area could be the lack of meaningful 'off-the-shelf' editorial policies, author instructions, or guidelines, which journals can easily adopt as a starting point. For this reason I and others have been working with interested parties to develop principles that might help editors and/or publishers to develop editorial policies on animal research. This is still a work in progress, but we have published a leaflet⁹ outlining what we would like to see in a policy, and a basic good practice model 'instructions to authors' that could be used as a point of reference when reviewing existing publication policies. The ALPSP has also produced an advice note¹⁰ that is based upon the information that this leaflet contains. It is clear, however, that a single 'off-the-shelf' policy is unlikely to be

appropriate for all the different areas of animal research that journals are likely to encounter. The hope is therefore that individual journals will adapt and adopt what is appropriate to their own circumstances. Hopefully this paper will have highlighted why I believe developing and implementing editorial policies on animal research is worthwhile, and includes enough pointers to practical help for anyone wanting to rethink, or review their editorial policies.

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