

Research Funders get tough on Science



Alan Malcolm of The Institute of Biology reports on the importance of Quality Control in obtaining contracts and research grants from Funding bodies

IT HAD TO HAPPEN. Research Funders now need to be assured that the correct systems for quality monitoring are in place in laboratories, before they will sign contracts and award research grants.

There have been just too many occasions recently where the public has demanded to know how they can trust scientific results. Regrettably, peer review prior to publication is not sufficient for many 'experiments' of interest and relevance to the traveller on the Clapham omnibus.

The Bovine Spongiform Encephalopathy (BSE) cow/sheep brain mix up was the straw that broke the camels back (to mix a metaphor), but there have been court cases that collapsed because the scientific evidence was not robust enough, genetic tests recalled because of lack of confidence in the results, food scares such as plasticisers in baby foods that weren't, toxins in cockles that may not have been there after all, and pharmaceutical companies have been chastised for not revealing ALL their data gathered during the testing of potential new drugs.

The recent announcement regarding conditions for the award of research funding (grants, contracts etc) from The Biotechnology and Biological Sciences Research Council (BBSRC), Department for Environment Food and Rural Affairs (DEFRA), Natural Environment Research Council (NERC) and Food Standards Agency (FSA) include the following:

- managers have a responsibility to ensure a climate of good scientific practice
- project plans must be developed in collaboration with the funding body, including risk assessment
- the organisation must have processes in place to assure the quality of research
- all samples and experimental materials must be comprehensively labelled and tracked
- all research procedures and methods must be documented



- the project leader must regularly review the records of each scientist

Individually, some of the above are not too onerous and are undoubtedly already in place in most universities, but collectively they have the potential to increase bureaucracy considerably and place pressure on the project leader.

The funders maintain that researchers have been given ample opportunity to air their grievances. The head of the UK Deans of Science Committee recently said that most universities were unaware of the code.

It is unlikely that many potential recipients of Research Funding Body largesse have viewed the news with delight.

We all know that "good laboratory practice", adherence to Health and Safety Executive (HSE) codes, etc., does not guarantee the absence of mistakes. However the climate of opinion has shifted such that the absence of such controls lays the research funder open to severe criticism should things go awry.

We therefore need to find a way forward that does not involve overworked

scientists drowning in yet more (electronic) form filling.

There are two separate (and both probably essential) components to this.

The first involves systems for laboratory practices such as ISO 9000 and its congeners.

The second relates to the personnel rather than the methods. The usual approach to this (as used by the medical profession, lawyers, engineers and accountants) is a verifiable programme of Professional Development using leading to Chartered status (or inclusion on a central register). All worthy scientists are virtually certain to be doing this anyway. What is required is appropriate external validation with the lowest level of intrusion into the working life of the individual. Such a scheme needs to be flexible enough to meet the varying needs of biologists who work with dangerous pathogens (whether HIV, foot and mouth, or aspergillus), or who assay metabolites or who monitor cod populations, or who follow butterfly migration, or who teach (whether in school, higher or tertiary education) all of the results of such work.

The Institute of Biology (which was granted its Royal Charter more than 25 years ago) has been working with all these various aspects of the profession during the last few years to develop such a continuing personal and professional development (CPD) scheme. It has now been adopted by the Defence Science and Technology Laboratory (as its preferred scheme for its increasing number of biological scientists. Discussions with both DEFRA and the Department of Trade and Industry (DTI) are under way, and have been initiated with the FSA.

The programme was launched recently in the House of Lords, with warm support from the Ministers for Science and for Education.

Further Information

- <http://www.iof.org>

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