Scientific misconduct still an unknown

- Audit urged at congressional hearing
- Legal position of journals questioned

Washington

WOULD it not be better for the US scientific community to come up with a convincing measure of the extent of scientific misconduct before Congress begins legislation to create stricter controls? That was the question posed by Drummond Rennie, deputy editor of the *Journal of the American Medical Association* (JAMA), at a US congressional subcommitee hearing on the integrity of scientific research last week.

The subcommittee, of the House of Representatives Science, Space and Technology Committee, stimulated congressional interest in scientific misconduct when it held the first hearing on the subject in 1981. Eight years later, congressmen are still asking the same two basic questions : How common is misconduct? Does more need to be done to combat it?

Unlike many scientists, Rennie acknowledges that congressmen have a right to be "surprised and upset" when the scientific community can produce no clear answer to the first question. Rennie asked the subcommittee to encourage an audit of scientific papers to try to find out if there really is a problem. He sees an audit as the simplest way to "resolve the standoff between those who allege that cheating is common and wish to impose a federal bureaucracy to police it, and those who say it is non-existent".

The idea of an audit is not new, having been first publicly proposed in 1987 by Walter Stewart and Ned Feder (*Nature* **325**, 213; 1987). But the idea has never won much backing.

Last month, Benjamin Lewin, the editor of the journal *Cell*, argued that the cost of uncovering fraud by an audit might be greater than the price paid for dealing with frauds as they come to light (*Cell* **57**, 699; 1989). But Lewin's argument presupposes that misconduct is so exceedingly uncommon that a gigantic effort is needed to uncover it. Rennie is not after the one case of fraud in 10,000. He points out that routine audits for the Food and Drug Administration (see *JAMA* 5 May 1989) found invalidating defects in 7–12 per cent of cases, although only a small proportion of these may be due to fraud.

Rennie proposes a pilot audit of 300 papers to see if the prevalence of defects is at the "totally unacceptable level" of one in ten, or closer to one in a thousand which he says the scientific community could live with. Clinical journals are the natural choice because that is where problems concentrate: while doctors of medicine receive just 28 per cent of National Institue of Health grants, surveys show that they are responsible for 65 per cent of cases of reported misconduct.

Auditors, who could be retired scientists, would look for major errors, such as "whether the patients ever existed and whether the information given in the paper corresponds in any way to the data gathered". They would not, Rennie says, try to "adjudicate complex and arguable questions of science".

To the second basic question, of whether more needs to be done to combat misconduct, congressmen at the hearing received only one specific request, that for better legal protection for scientific journals. The subcommittee was looking at the roles of journals for the first time, with the editors of *Nature*, *Science* and the *Journal of the American Medical Association* providing testimony.

Journals were seen as an important layer of defence, detecting error (more easily than fraud) before it entered the scientific record, providing a forum for disagreement (journals without correspondence columns were urged to provide them), and ensuring that notice be given of research found fraudulent.

But in that latter role, journals fear legal action and surveys have shown that it is very difficult to get them to correct the record even though they are protected by the truth of the factual statements made. Barbara Mishkin, an attorney and former deputy director of a presidential commission on medical ethics, asked the subcommittee for "legislation that would afford immunity for good faith reporting of scientific misconduct by academic institutions and scientific journals". Mishkin foresaw that immunity would extend to reports of disciplinary and peer review committees and to the printing of retractions "requested by academic or government officials", whether or not all authors of a contested paper agree.

Of the journal editors present, Rennie supported immunity for those acting in good faith, but neither Daniel Koshland, editor of *Science*, nor John Maddox, editor of *Nature*, agreed. Both told the subcommittee that new legislation was unnecessary, Koshland pointing out that procedures for dealing with misconduct are being taken much more seriously than in the past and these should be "given a chance before new legislation".

Alun Anderson

New 'integrity' offices appear in Washington

Washington

The new office set up within the National Institutes of Health (NIH) to deal with scientific misconduct already has 77 cases on its books. But representatives of the Office of Scientific Integrity (OSI) are anxious to stress that they do not have an avalanche of fraud on their hands; the figure is simply the total number of all cases transferred to OSI as it took over central responsiblity for misconduct from the many agencies of the Public Health Service. According to Martin Blumsack, an OSI staff member, a "case" is a catch-all term that may amount to nothing more that a single letter of complaint. Many of the cases will never amount to anything significant.

Both OSI and the new Office of Scientific Integrity Review (OSIR) made their first public appearances at last week's congressional hearing on the integrity of science (see above). In keeping with its role in overseeing misconduct operations, developing policy and reviewing investigations when they go wrong, OSIR keeps at a slightly greater distance from scientists by living in the office of the Assistant Secretary for Health, rather than at the National Institutes of Health.

Neither of the two new offices is yet fully staffed and both have only acting directors. But although they are both just getting started, a long life is by no means guaranteed. New legislation that may try to take more authority away from NIH is expected soon from the House of Representatives Energy and Commerce Commitee.

All misconduct investigations face the fundamental problem of balancing protection of the reputation of those accused (perhaps unjustly) with the need to give a fair hearing to the complaints of a "whistle-blower", whose own career may also be at stake from the fact of having made an accusation. OSI says it will adopt a policy of non-disclosure, neither confirming nor denying that any particular individual is under investigation, preliminary or otherwise.

While this certainly protects the accused (no one would like lists of allegations to be made public), experience with OSI's predecessor shows that whistle-blowers can have a hard time finding out what has happened to their cases, what evidence was or was not examined and why a particular decision was made. Blumsack says that OSI is aware of the risks of an investigation ending in cries of "white-wash" and will try to be flexible. Alun Anderson