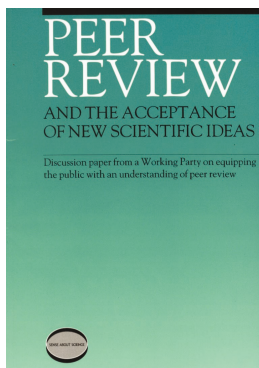


Comment

The role of expert judgement needs promoting

The public is constantly confused by the mixed messages they receive from scientists about controversial issues. Tracey Brown argues that if the practice of peer review was promoted and understood, then people would find it much easier to reach a balanced judgement.



'Peer Review and the Acceptance of New Scientific Ideas' is available free online from www.senseaboutscience.org or can be ordered in hard copy for £10 from publishing@senseaboutscience.org

● Please note that views expressed in *Comment* do not necessarily reflect official policy of the SGM Council.

"It is all very well to argue for the evidence-based approach," a leading clinician once told me, "but what happens when the 'evidence' put before the public is not evidence at all?"

We were discussing the controversy over the MMR vaccine, but we might equally have been talking about food safety, cot death, environmental exposure to chemicals, cloning, the SARS virus, or any number of hotly debated scientific issues.

It is true. Despite the current appeal of lay involvement in deciding scientific priorities, to most of the population one apparently scientific claim looks much like another. This perhaps explains why many of the people who try to investigate troublesome issues further, for example by looking for more information about the MMR vaccine on the Internet, end up declaring themselves even more 'confused'. It is borne out by the findings of social research on GM crops and on BSE, where members of the public are quoted as saying that they do not know whom to believe and that for every study that demonstrates a risk there is another study that apparently says the opposite.

It is not only the political and social contestation of scientific research claims that causes such confusion. Science is news, and the sheer volume of scientific material and comment that is broadcast to the public has increased dramatically. Where the BBC science correspondents of a decade ago were generally resigned to doing the 'fluffy' story at the end of the bulletin, they now find themselves reporting for headline stories. Popular science books fly off the shelves. Competition for academic profile has brought a new layer of media-savvy science promotion to the universities and institutes. Scientific papers at conferences and in journals are turned into press news. Almost every disease, medical procedure and safety issue has a leaflet, not to mention several websites, dedicated to it.

In response to these trends, scientists have become more focused on the need to improve the public communication of their research. In ever greater numbers they are seeking the skills to do this, which is often to the good. However, very little attention has been paid to the skills needed to receive and make sense of what is being communicated and this is arguably more significant to how scientific information is understood in the public domain. One very neglected area is the need to explain peer review. Few members of the public - including the professionally-interested public such as politicians, lobbyists, educators and news journalists - are aware that scientific research papers are reviewed for competence, significance and originality by independent experts in the field.

Whether or not research results have been peer-reviewed, how others in the field have responded to the work and how it compares to other reviewed work on the subject, are as essential to making sense of an issue as the research findings themselves. This was the conclusion of a Working Party on peer review, established by Sense About Science, which published its report in June this year. The report, *Peer Review and the Acceptance of New Scientific Ideas*, argues that the public should know how to ask about the status of the research results put before them. Questions about the response of peers and the status of work being reported are far more likely to help the public to assess issues of concern, where currently the implication is that it is necessary to become an immunologist or gastroenterologist to make a sensible decision about vaccinating your child.

There have been few attempts to set out the principles of peer review, or to promote the discipline that it imposes on what is, in the first instance, considered to be scientifically worthy.

From a public perspective, knowing about peer review is not only helpful for judging the relative merits of competing claims. It also demystifies the role of experts in determining the status of ideas. As our report noted, we seem, as a culture, to be drawn more to those stories that minister to suspicion about established authority or knowledge and that rely on 'alternative' and 'anti-orthodox' voices. The promotion of peer review as a basic assessment of quality can help to put everyone under equal pressure to explain the status of their work and the claims they make, including the 'alternative' beneficiaries of contemporary suspicion. The report recommends that scientists volunteer information about the status of research results and the context of other work in the field, whenever they discuss their findings or get involved in contentious debates. The more that this happens, the more likely such questions will also be asked by opinion formers, by policy makers and by journalists. If this happens even in some small measure, it will make for a more balanced discussion of scientific issues being set before the public.

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