C|O|P|E COMMITTEE ON PUBLICATION ETHICS

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▶ 1 WHAT'S IN A PICTURE? THE TEMPTATION FOR IMAGE MANIPULATION

Mike Rossner, executive editor of the *Journal of Cell Biology* and executive director of Rockerfeller University Press, emphasised how image manipulation has become part of our everyday culture, with several websites specialising in it, and tools, such as Photoshop, making it easy to do. ''Authors don't understand what is acceptable and what is unacceptable,'' he said.

Why is it wrong to manipulate images?

There are ethical and practical reasons, said Dr Rossner.

Ethically, scientists expect and assume basic scientific honesty, and that the data presented are actual representations of what was observed.

Practically, an image usually carries information beyond the specific point being made. The frequent assumption is that the experiment had to be carefully repeated many times to obtain the quality required.

Manipulating images to make them more convincing or simple by removing background information may deprive people of seeing other information hidden in a picture.

Detection

By the time a reader detects it, it is usually too late. Before publication, the first line of defence has to be the principal investigator in the laboratory. S/he has an obligation to compare all prepared figures for all manuscripts going out of the laboratory with the original data, said Dr Rossner.

''This shouldn't be construed as mistrust of trainees; it's just part of their responsibility to instruct trainees on proper handling,'' he suggested.

It's no good expecting reviewers to detect it. Reviewers usually look at PDF print-outs and the quality of these masks any image manipulation, he warned.

Electronic submission provides new opportunities for editors to detect image manipulation, in a way that would not have been possible with print. At *J Cell Biol* all figure files are scrutinised for evidence of manipulation by checking simple adjustments of brightness and contrast, using Photoshop.

''The irony of the digital age is that PhtotoShop makes it easier for authors, but it also makes it easier for editors to detect it,'' he said.

Software was also being developed for this purpose at Dartmouth College in New Hampshire, he added.

Guidelines

The journal has developed a comprehensive set of guidelines for authors and reviewers:
- No specific feature within an image may be enhanced, obscured, moved, removed or introduced
- Adjustments of brightness, colour balance and contrast are acceptable if applied to the whole image AND as long as these don't obscure, eliminate, or misrepresent any information present in the original
- The grouping of images from different parts of the same gel, or different gels, fields, or exposures is acceptable, but it must be made explicit by the arrangement of figure, using dividing lines, and in the text of the figure legend
- If the original data cannot be produced on request by an editor, acceptance of the manuscript may be revoked

Many journals have come up with instructions and guidelines, but few routinely screen all images, he said.

It guidelines are included in the Instructions to Authors, but are not enforced, journals are ''actually perpetrating a fraud, because the implication is that images in your journal are up to the standards of your guidelines,'' Dr Rossner contended.

If a violation is suspected, the journal and editorial office can conduct an initial investigation, by asking the author for the original data. If it doesn't match, is the manipulation acceptable or does it constitute misconduct?

Categories of manipulation

There are two major categories: inappropriate or fraudulent:
- Inappropriate manipulation violates guidelines for image data presentation but does not affect the interpretation of the data; authors are asked to resubmit the original data
- Fraudulent manipulation is defined as fabrication or falsification that affects interpretation of the data; any piece of data that has been manipulated qualifies for acceptance to be withdrawn

The journal does not consider the legal elements of intent or damage to third parties, on the grounds that it would be impossible to investigate to the depth required for that.

Most cases are inappropriate manipulation, but at least 25% of all manuscripts contain at least one figure that has to be redone. Around 1% of all accepted manuscripts contain fraudulent material.

''This rate has remained consistent over five years. But if this rate is applied to all of the publications in PubMed, that is a worry,'' he said.

Worryingly, when authors were challenged, they often failed to understand why the issue was being raised. The implication is: ''everybody does it,'' said Dr Rossner.

Recording misconduct

The managing editor, the monitoring editor, the senior editor, and the editor in chief all have to agree that the manipulation is fraudulent before acceptance is revoked.

An Office of Research Integrity (ORI) document in 2000 says that editors should contact the ORI and the author's institution when fraud is suspected and the research has been supported by federal funds.

"We don't do that. We go case by case. If the principal investigator takes responsibility for the problem, we leave it at that," said Dr Rossner.

When the principal investigator refuses to do this, the case is reported first to the department head, or the ombudsman, which every institution funded by the National Institutes of Health (NIH) is required to have.

For overseas institutions the first choice is to report to the department. Some have someone who signs the letter of assurance.

"We only make an allegation of misconduct to someone we know and trust, and there are plenty of people on the board who know someone in a position of authority to whom we can report misconduct," said Dr Rossner.

He admitted that in one case where acceptance had been revoked, the paper had been published elsewhere.

He completed his talk with a call to action: journals should develop guidelines for handling digital images, but they should be sure to enforce them.

Questions and comments

Matt Hodgkinson of Biomed Central wanted to know if looking for image manipulation at submission would save reviewers' and editors' time? Did one aspect of manipulation throw into question the probity of the rest of the research? He also felt that it was paternalistic only to report to someone who was known. What about European authors?

Dr Rossner agreed it would be better to do this on submission, but it was not practical when less than 20% of all submissions were accepted. But all authors were treated the same, irrespective of where they hailed from, he said.

Virginia Barbour of PLoS Medicine wanted to know if authors responded by saying they would take their paper away?

Dr Rossner said of the 240 cases in five years where the original data had been requested, the principal investigator had usually been mortified. "I take them at their word, and they are perfectly happy to send in original data even though they know it won't match original figures, because we have protected them as well as the published record," he added.

Dr Barbour asked whether the journal had considered always rejecting papers where there was any evidence of manipulation?

Dr Foreman said that most cases of inappropriate manipulation were splicing problems and contrast adjustments, which don't affect interpretation of the data.

Irene Hames, of *The Plant Journal,* wanted to know whether this policy had significantly increased the workload.

Dr Rossner said this was hard to estimate, because the amount of work varied from a single email request to months of correspondence. But on average, there were two cases a week, and it added half an hour to each manuscript.

Scientists did not always prepare samples properly, which had some bearing on the quality of the photos, he added in response to a complaint that sample preparation was often poor. But principal investigators had to check what their students were producing, he said.

Liz Wager, of COPE Council, wanted to know why the journal reported only to trusted persons? Wouldn't that allow some people to get away with it, she suggested?

"My editors are academics and they are very wary of bringing an investigation down on someone's head. If we don't know them, how can we be sure the person will get a fair hearing? Mightn't they be fired without a proper investigation?" responded Dr Rossner.

Anthony Wierzbicki of *International Journal of Clinical Practice* said that it was very tempting in basic science to take slides and turn them into graphs. How was that spotted?

Dr Rossner said that the presentation of data was left to reviewers, and they should pick up issues where data were presented as a graph instead of an image. There were few guidelines for numerical data, probably because images were easier to deal with. But the journal did not look at tables and data for fraud/manipulation.

Ana Marusic of the *Croatian Medical Journal* wanted to know what action was taken when the paper containing supposedly fraudulent data was published elsewhere?

''I called the editor immediately, who said he would investigate. Three weeks later they had obtained the original data, and in their opinion, they felt there was no problem,'' responded Dr Rossner.

2 PRACTICAL STEPS EDITORS CAN TAKE

A: Authors and transparency

Ana Marusic, joint editor of the *Croatian Medical Journal* (CMJ), said that it was important for editors to research what they did so that they had evidence on which to base their procedures.

She suggested that authorship was not typical publication misconduct, more an inappropriate research practice. But it was a critical issue, because it ensured advancement and promotion.

She provided the definition given by the International Committee of Medical Journal Editors Vancouver Group (ICMJE).

Any author who appears in the byline of a scientific article has to fulfil these criteria. S/he has to:

▶ have contributed to the conception and design

or

▶ have contributed to acquisition of the data

or

▶ have contributed to the analysis and interpretation of the data

and

▶ draft/revise and critique the manuscript

and

▶ approve the final manuscript

In 1997 the ICMJE called for greater accountability, with all authors declaring their contributions. It was recommended that journals request and publish this information. But when the CMJ started doing this, it discovered many were not, in fact, authors.

Study looking at author responses

In 2002 the CMJ carried out a study of *JAMA*, the *BMJ*, and the *Annals of Internal Medicine* to see if there was any association between how this request was made and how authors responded.

▶ The *Annals* has a categorical disclosure form, offering a list for authors to tick off what they did
▶ The *BMJ* just asks what the contribution is
▶ *JAMA* states that qualification of authorship means fulfilling two of a list of criteria on the form

The proportion of undeserving authors changed according to the questions asked. In the *Annals* nothing changed; in the BMJ this fell from 30% to 10%; In *JAMA* it fell from 18% in 1994 to 0.5% in 2002.

Survey psychometrics show that the way in which questions are asked and minor differences in the wording/format can lead to significantly different results, said Dr Marusic.

Answering questions requires five cognitive processes, she continued. These are:

- ▶ Understanding of the question
- ▶ Recall of relevant behaviour
- ▶ The ability to infer and estimate what you did
- ▶ The ability to map what you have to say to the question format
- ▶ Editing for ''social desirability''

Several studies in the CMJ were then analysed to see what aspects of these five cognitive processes occurred and whether the rules of psychometric research applied.

Submitting authors were then randomly allocated to three different ways of authorship contribution as per the *Annals,* the *BMJ*, or *JAMA*. The ICMJ criteria were stated in all three, but authors were either asked to describe their contributions, or to tick them off, or to check at least one of a list of criteria.

The results showed that:

- ▶ Open ended questions produced many undeserving authors
- ▶ More closed questions produced fewer undeserving authors
- ▶ When instructed how to answer, the percentage was very low

The conclusions drawn from this were that contribution disclosure and authorship forms are really self reports of past behaviour and follow the rules of survey psychometrics.

''Any behaviour is more likely to be endorsed when it is presented as part of a closed question than when it needs to be volunteered in response to an open ended question. Instructional questions increase ''socially desirable'' responses,'' she said.

Study looking at reliability of forms for declaration of contribution

In a bid to see if the forms themselves were reliable at all, the journal sent a contribution declaration form first to the corresponding author and then to each individual. The exercise was repeated within a couple of weeks.

This revealed that it is not possible to use the corresponding author as a proxy for co-authors' contributions, because they don't agree. The only agreement was about who gave the money for the research and the administrative/technical/logistic support, but for everything else there were significant differences.

Authors often didn't provide the same answer twice within the space of a few weeks. A high degree of reliability was found only for conception and design. Respondents knew who came up with the idea. They often didn't know who gave final approval, and they often didn't know who contributed the patients.

The conclusions were that:

- ▶ The contribution declaration form is not reliable
- ▶ It is not consistent when sent to the same people
- ▶ People have problems recalling past behaviour; they often lie

Perceptions about authorship

The journal asked students and researchers in Croatia what they thought authorship meant. Some were provided with ICMJE criteria; others were not.

All of them came up with conception/design/analysis and interpretation/drafting (''intuitive authorship criteria''), and these were always deemed to be the most important, irrespective of status.

To find out what difference 'yes' and 'no' answers or responding to a range of possibilities made, the journal then offered a group of authors the Y/N option or a Lickert type scale from 0 to 4.

The Y/N option produced many undeserving authors, but when offered a scale, many became true authors. Most authors on the Y/N scale were also authors on a moderate Lickert scale.

The only category where this did not apply was the final approval of the article, which should not be included as a criterion for the ICMJE definition of authorship, said Dr Marusic.

Half the journal's authors are international, but there was no difference in their responses. Culture and nationality have little bearing on this behaviour, she added.

The question of authorship is too important to be resolved by an inadequately designed self report, concluded Dr Marusic. ''Until we know more, we should just ask a simple question: why do you deserve to be an author on this article?''

Questions and comments

Jeremy Theobald of COPE Council said that if final approval was neither an important or necessary part of authorship, as Dr Marusic had suggested, if they say they did have final approval, didn't that imply that they were taking responsibility for everything published, he asked?

Dr Marusic responded that this was important for authorship and the manuscript, but that it should not be given the same intellectual weight as writing and researching. In psychometric terms, final approval behaved differently from other contributions, and contributing authors understand approval the least.

The ICMJE at first said all authors must be responsible for the whole content, but then retreated and said they should be responsible for part of the content. ''I think that's wrong, because we have to take responsibility for the whole article; it allows for responsibility to be taken for the good parts, but not when things go wrong,'' she said.

''We are doing a lot of research on moral reasoning among medical students, because we think this is the basis of good research conduct,'' she added. ''But a whole new hypothesis says that reasoning is not part of moral judgments, which are intuitive and emotional; reasoning is just used to support the judgment.''

The journal therefore carried out a further study of students who were given case histories of authorships where people did not deserve to be authors according to ICMJE criteria, but would deserve to be in the moral sense.

Regardless of the ICMJE criteria, the answers were the same, but when it came to the explanations, the students given the ICMJE criteria used these to justify their responses, whereas those without the criteria gave an emotional response, predicated on moral rights, she said.

Laragh Gollogly of *Bulletin of the World Health Organization*, asked if in publishing the responses to the contribution form, was the journal arbitrating authorship?

Editors are not there to police authorship, she suggested. Only *Medical Education* has a policy, which looks very carefully at contributions where there are more than six authors, asking for an explanation. ''If you go back to authors, they say they did it, but just forgot to say so.''

Liz Wager of COPE Council commented that it is easier to add people to a byline than remove guest/ghost authors. Asking who did the statistical analysis often ends up with the addition of a statistician, she said. ''It should work both ways, but it is easier to add a missing author than to take away an undeserving one. Editors feel more comfortable about that,'' she said.

David Jewell of the *British Journal of General Practice* said that trying to ensure that people who did contribute are recognised is what really matters. ''The problem with trying to enforce the Vancouver recommendations is that it merely makes people lie. It's not good for us to put people in that position. We ask them to justify. But they just find a way round it.''

Dr Marusic said that should then prompt the question: ''Are you sure there is no one who thinks s/he should be an author on this article?''

Richard Watts, editor of *Rheumatology*, wanted to know if this applied to conflict of interest statements?

"It's much easier for people not to remember so if you give them choices, they either answer more truthfully or just lie better," she responded.

A better question is: Do you think you can take full responsibility for this article? If we publish it, that gives an option for people to write it in their own words so others can judge for themselves, said a delegate.

Dr Marusic agreed, and said that it was difficult to measure perceptions and emotions. We are now asking authors if they think what they did was important. But she added that editors alone could not resolve this. "Editors can try to do something about this, but it's up to the academic community to think seriously about these issues," she said.

B: Software to detect plagiarism

Fintan Culwin, professor of software engineering education at South Bank University, London, referred to the Colwin Lancaster four stage model for the detection of plagiarism. This comprises:

▶ Collection of the corpus (body of evidence)
▶ Analysis of the corpus (can largely be automated)
▶ Confirmation of the output of the analysis (possibility of synergy of computer resources and human input)
▶ Investigation of the output to decide whether it's plagiarism

Collection of the corpus

There has to be a corpus against which to compare the document, for which there are various sources:

▶ Personal collections of published manuscripts
▶ Those of other publishers if these can be accessed
▶ The public web that is not protected by passwords or other devics
▶ Pre-electronic and non-published sources
▶ Non-English language sources
▶ Authors' previous publications (very useful)

Detection of non-originality

Two major considerations are collecting and defining the corpus and the characteristics of the non-originality detection engines.

The output of a detection engine is a list of hits in descending order of contribution of non-original content of the document under examination.

Undated research by Slatterwhite and Goering compared different detection systems and concluded that Turnitin and Google were the most effective systems.

Turnitin has got billions of pages; Google crawls the web, indexing billions of pages, including Google Booksearch and Google Scholar. Google has got a better corpus, but Turnitin has a better engine.

There are two basic mechanisms for the detection engine: fingerprinting and ranking.

Some research suggests that ranking is both cheaper and just as effective as fingerprinting. But for a very large corpus, fingerprinting would probably outperform ranking, said Mr Culwin.

Fingerprinting takes a compact representation of a document or a part of it. It can be applied to entire paragraphs and entire sentences. These compact representations are known as hashes.

Hashes can be checked against documents with similar hashes or parts of documents with similar hashes—vowel counts appearing in one sentence, for example. But when hashes match, they produce a large number of possible hits, which requires ranking to produce an ordered list.

Turnitin is believed to use fingerprinting, but no details have been published.

Google works by ranking. It counts some attributes of a document and matches documents according to attributes. Word pairs are computationally sufficient and sufficient for purpose. Google uses weighted ranking, weighted by location and value on the page, suggested by the number and value of links to it.

There are more complicated metrics to use, but no one has shown that these work better, said Mr Culwin.

Evaluation

False hits and missed hits are key here. False hits are easy: that's when the engine tells you that documents are similar, but this is not the case on visual examination. Missed hits can be found by seeding the corpus with similar documents and making sure these appear on the output.

Evaluation can also be done using the amount of processing power and disc space required, and the granularity of matching—minimum length of word strings needed for a hit—and the fuzziness of matching—the amount of disguise used, but which the engine will still detect—and the coverage of the corpus—which resources are being checked.

Tools for confirmation

Unpublished research strongly suggests that Turnitin provides a six word match and non-fuzzy. It provides a list of resources, web page hits that are colour coded. In the body of the report, the output is coded by colour. Interpretation can differ with large documents. There's a tool, which takes a Turnitin report and turns it into a map of colours.

In a document of about 20 000 words in length, about 30% of which is compromised, different patterns give some indication that it's been copied and pasted. Interspacing indicates some attempts at disguise.

There are several different tools to help. Visual Analysis of Similarity is the fuzziest tool. It provides a two dimensional map of two documents, which gets darker and darker the more non-originality there is. The output will produce a pdf. A vertical alignment tool is needed for evidential purposes. This shows how text can be aligned and where words have been inserted or removed in one version.

The alternatives are horizontal alignment tools, which are much more common. Vertical alignment tools help to make much more rapid decisions.

Trying to find the source of a plagiarised document on Google can take a great deal of time. A tool is available that searches, analyses, and presents representations to suggest where non-originality has been detected.

But if all else fails, there are tools concerned with forensic linguistics which help to locate a section in a document that is demonstrably different from other sections.

Investigation

The output needs to be produced in a way that allows it to be ergonomically investigated. ''You have a hunch two documents are similar, but you need to know by how much and where? How do you judge that it is not just similarity, but actual research misconduct?''

Emerald Publishing has recently announced that it is making all of its content available for use within the Turnitin detection system. Other publishers are also about to become involved in that as well.

''The more comprehensive the corpus, the more effective the non-original detection is likely to be,'' he concluded.

C: Application of plagiarism detection software

Sunil Moreker, of the *Journal of the Bombay Ophthalmology Association*, and member of the Committee of Plagiarism Detection in India, said that putting through all the presentations into plagiarism detection software would classify a good deal of content as non-original. This is because some of the material has been written about before.

There is therefore a fine line between stealing and repeatedly self copying as would be the case for review articles, etc, where there is likely to be an 80% match. What matters is whether the cited work or quoted author is acknowledged, he said.

"The act of stealing is borrowing, using, or copying and passing off as your own work, the ideas or words of another without acknowledgement. Acknowledging another author does not qualify as plagiarism."

Plagiarism also extends to creative production without acknowledging the source, including from DVD, radio, computer, film, etc.

Certain things are common knowledge, such as history, literary traditions, etc for which there is no need to acknowledge.

So how big is this problem? Not much has been written about it. There is no peer reviewed index, except in the *Croatian Medical Journal.*

"We have a duty to give readers something original and not something that is read over and over again," he said.

Some students don't like their work submitted to other sources (Turnitin), so journals need a public policy. Turnitin makes questionable use of students' original manuscripts.

Is it worth it?

The software the journal has used has picked up 13 articles in the past two years. In the two years before its introduction, there were just two, said Dr Moreker. It will also pick up extensive paraphrasing.

Going public on the use of the software has resulted in a fall in the number of plagiarised manuscripts over the past three years. "There were eight [cases] in the first year, five in the second, and none in the third year," said Dr Moreker.

Should it be used?

"Even if you can't use all of it, the mere fact that you are using it at all can deter potential offenders," he suggested.

"Research shows that simply giving stern warnings to plagiarists makes no discernible difference, but telling students that work would be run through software is a very strong deterrent and concentrates minds wonderfully," he added.

Where can it be applied?

Technically, it can be applied to every manuscript. But if applied to 1000 submissions, that could be very time consuming. It's probably best restricted only to articles accepted for publication. It can be applied retrospectively, but the question is then, how far back should you go?

Refine the search and concentrate on suspect areas, he suggested. These include:

▶ Paragraphs where the language is a little different from the rest of the manuscript or slightly out of place
▶ Figure legends that are out of place with the rest of the text can indicate photographic plagiarism
▶ Paragraphs with no citations in them, despite a technical description
▶ Sudden changes in form/spacing/size/justification. A change in font usually indicates a cut and paste job
▶ A PubMed search revealing an extremely high publication record
▶ A paper that is too technically sound for the job grade
▶ A manuscript that veers away from the subject matter

After detection

Deciding what to do in cases where there's a 20%, 10%, or 60% match is difficult, said Dr Moreker. "And have you got the right offender? There are occasions when the plagiarism is the handiwork of a reviewer, so it may require more thorough investigation."

''When a citation is omitted but then supplied on request, does that qualify as deliberate or a mistake, and how do you know? What happens when the software reveals extensive paraphrasing, but the author tells you: 'I tried to explain what the other person was saying in my own words'.''

He cited a case where the journal contacted all five authors on a paper in which plagiarism was detected. The fourth author was a big fish, but a ghost author. He explained that he had agreed to the corresponding author's request to add his name. He did not feel that this was punishable.

It is very important to have a clearly stated policy in place, and to enforce it, emphasised Dr Moreker.

Limitations?

How much can be investigated, or actions taken depends on the journal, its size, resources, policies, etc.

- ► What if you decide you don't want to take action?
- ► Are you competent to take action?
- ► And if you find out a colleague of yours is the perpetrator, are you really committed to take action?

Every action has an equal and opposite reaction (according to Newton). Someone might get back at you. Other pitfalls include the difficulties of running software on review articles, for which an 80% match is likely. Review articles are the most cited and quoted.

In summary:

- ► Turnitin has been criticised for discouraging good writing, on the grounds that it is better to inculcate good practice, rather than waving a stick.
- ► It can miss plagiarism (even in cases which were subsequently proved).
- ► Some students don't want copyrighted material to be submitted to another source.
- ► Turnitin makes questionable use of students' intellectual property because they don't get any benefit from it.
- ► It is important to display prominently the policy of using Turnitin, and a detailed plan of action.

Comments and responses

C: Plagiarism is sometimes duplication defined as plagiarism. We need to look at the grey literature to find out how often this happens. Grey literature is only circulated internally, but it is more difficult to trace and act on.

C: We should be worried about theft as plagiarism, not self plagiarism, where a way of expressing a knotty problem in a meaningful way is used again. But there are two types— one where you are pretending to present new data, but you don't acknowledge that this has been reported before, leading to double counting—should be sat on firmly. This was one of the reasons behind the registration of controlled trials. The other kind of self plagiarism that is justified is a study using exactly the same methods, but over a different time period.

C: Transparency is important. I state at the end of papers how much I have published before. It's then up to editors to decide whether it's plagiarism.

R: Look at the number of citable articles written by someone. Excessive citation, where an author keeps writing about what s/he has already written to boost citation is unethical. Citation needs to be more than self citation.

C: CrossRef is considering offering a plagiarism detection service, which will benefit from a large pool of members, and is in talks now with publishers about the impact on workflow. If we created a database, CrossRef could be searched by other publishers.

Chris Graf, from the publisher Wiley-Blackwell and editor of the *International Journal of Clinical Practice,* said that publishers could do more to help editors encourage ethical behaviour and transparency.

To that end, Wiley-Blackwell published a set of guidelines and best practice at the end of 2006—the first major publisher to deliver comprehensive guidelines on publication ethics.

The benefits:

▶ Big journals have plenty of resources, but society and smaller journals don't.
▶ They are useful for new editors learning on the job.
▶ They are part of good process and policy, which can help journals maintain integrity.
▶ Guidelines can boost prestige and avoid negative press coverage and author disputes.
▶ They may also reduce insurance premiums.

Blackwell guidelines comprise five sections:

▶ Transparency
▶ Editorial standards and process
▶ Ownership of ideas
▶ Responsible publication practice
▶ Promoting research integrity

All sections discuss common pitfalls, give examples of good practice, and provide background reading.

Flow charts, developed with COPE, help editors make consistent and appropriate decisions when faced with difficult problems.

Transparency

Who funded/who did it? Has it been published before? Authors must disclose all sources, and the involvement of funder(s) must be clearly stated. The list of authors should accurately reflect who did the work, with correct attributions of published work.

▶ Brief description of each individual's contribution
▶ Acknowledgment of the contributions of those not qualifying
▶ Declaration of work not previously published or under consideration
▶ Clinical trials should be registered
▶ Contributor criteria should match ICMJE criteria

Standards and process

This applies to:
▶ Peer review
▶ Selection and performance
▶ Appeals and conflict of interest
▶ Independence, accuracy, and academic debate

Peer review
▶ Editors have a responsibility to ensure that peer review is fair, and minimises bias, and they should choose a system best suited to their journal (instructional or open ended).
▶ They should clearly set out the policy for all the types of peer review they do, and if this differs for different article types, such as letters, for example.
▶ Material that is not peer reviewed should be clearly identified.
▶ Editors should be consistent in the standards they apply, regardless of source.
▶ Editorial board members and editors should not be involved in assessing their own work for publication; a process of deputisation should apply in these circumstances.

Conflict of interest
▶ Is it all about the money? Financial conflicts are easy to identify, but they are not always the most influential, says Richard Horton, editor of *The Lancet*.

- ► Editors, authors and peer reviewers have a responsibility to disclose interests that might appear to affect their ability to present or review data objectively.
- ► Editors must ask reviewers to decline to review if they believe they are compromised.

But a conflict of interest should not prevent an author from making a valid scientific contribution or being listed as an author. If policies are too strict, they may encourage authors to conceal relevant interests or go underground.

Ownership of ideas and expression

This covers:
- ► Plagiarism/copyright
- ► Protecting intellectual property
- ► Peer review conduct and intellectual property

Editors and readers have the right to expect to read that what is submitted is the author's own work, and that copyright has not been breached.

Authors have a right to expect that reviewers won't steal their own work or plagiarise work when in a privileged position.

Encouraging responsible publication practice

This section includes a list of useful resources to support ethical editorial practice, with links to position statements on what Wiley-Blackwell has published on misconduct and the sanctions available.

Promoting research integrity

Editors help promote research integrity by:
- ► Dealing with research misconduct
- ► Protecting the rights of research participants
- ► Respecting cultures ad heritage
- ► Informing readers about research misconduct

If editors suspect research misconduct, they should try and ensure that it is properly investigated by the appropriate body. Journals are not usually able to investigate themselves. But editors can, and should, inform readers when they have identified instances.

What are the outcomes we want to see?
- ► Changes in author guidelines, processes, and policy reflected in submission processes
- ► Changes in understanding among editors trickling down into author community

We will run a survey to find out whether we have done this right and what editors understand now, and in a year's time.

Even at this early stage, the 25 editors who contributed said the guidelines were helpful and that they had sparked ideas for improving practice.

Our resource is online and available to anyone.

A Wiley-Blackwell team is on hand to help editors who work with us.

We've established a help desk for queries from authors/readers/editors; these are farmed out to the right part of the organisation.

The merged Wiley Blackwell publisher has extensive new legal resources.

The feedback has been very positive. The new editor of the *American Journal of Hematology* has already used the guidelines twice to deal with plagiarism. The Journal is now working on personal guidelines based on ours.

Comments and questions

Helpful guidance is better than imposing restrictions from above, said Fi Godlee, *BMJ* editor.

Tim Albert of COPE council pointed out: "We're getting really good at detecting when things go wrong, and editors are good at telling people what to do, but no one seems to do anything about it. They find a million and one reasons not to do anything."

Mr Graf said that having a detailed policy and processes for action provided more comfort, "But we haven't found how to encourage editors to do unpleasant things," he said.

Liz Wager of COPE Council said that there was no good structure for reporting research misconduct, but even in countries where there was, there were still concerns.

Harvey Marcovitch, chair of COPE, said that editors felt that COPEs backing had helped them raise issues. It was very early days for the UKRIO, and there's an anxiety about how much it can achieve, because it has not statutory rights, and will depend on cooperation of universities and research bodies, he said. It is more reassuring when a publisher puts their weight behind it too, he suggested.

Mabel Chew of the *BMJ* said the issue of editorial independence was dear to many editors' hearts. But what about disputes about independence that arose between editors and publishers, she wanted to know?

Chris Graf replied that the principles of editorial independence can be defined in the contract. "The best policy is to deal with them through a good contract that explains clearly who is responsible for what," he said.

Pritpal S Tamber of COPE Council said that editors were "watchdogs on society." But the presumption was that what's best for them is best for the scientific record, and was that always the case? The primary concern of commercial entities was also to cut lawyers' fees, he suggested.

Jeremy Theobald of COPE Council said that editors take action when their publishers let them, but are hidebound when legal advice is based on commercial interests – in other words, do nothing because it costs money.

David Katz wanted to know if peer review held the answer, to which Mr Graf said the jury was still out. "Nevertheless, it's the best we've got," he commented.

▶ 4 COPE'S ACTIVITIES

- ▶ The best practice guidelines now being replaced by a general statement of intent and flow charts.
- ▶ A code of conduct for editors has been produced.
- ▶ 40 cases reported to COPE annually.
- ▶ A large number of informal requests have been received and people signposted to relevant bodies.
- ▶ COPE members have commented on issues to do with publication misconduct, thereby increasing the profile of COPE.
- ▶ It now has 277 members and has appointed an ombudsman.
- ▶ It has become a registered charity.

In response to a request for ideas on what COPE should do with its £50,000 annual spend, delegates suggested:

- ▶ A travelling roadshow for COPE to have a presence at other meetings
- ▶ Teaching students (and editors) about publication ethics
- ▶ Offer cheaper subscriptions
- ▶ Hold international congresses
- ▶ Hold seminars for new editors (Tim Albert reported that his hit rate was one editor in every 10,000 and the difficulty would be persuading them to attend)
- ▶ Video or a book on publication ethics
- ▶ Annual prize in recognition of editorial innovation
- ▶ COPE sponsored course work for universities for graduate student induction (Is that COPE's job or UKRIO, which is not doing it?)
- ▶ Distance learning module on responsible research practice
- ▶ Set up an accreditation scheme
- ▶ Suggest to GMC that medical schools might make use of COPE's expertise

5 WORKSHOPS: WHAT DO YOU DO NEXT......?

Case 1

As the editor in chief of a national European medical journal, you are informed that a review you published was largely copied from another paper. Your own analysis of the papers confirms that large amounts of text have been directly translated from English into your native language. There was no declaration on submission that the review was a translation. There are 10 authors on the paper, some of whom are on your editorial board.

Feedback

- Was there a citation or acknowledgement to the original paper? If not, it's a case of plagiarism. Contact first author, copying other authors into correspondence, and ask for an explanation.
- Look for overlapping authors between two papers.
- Approach Board of Trustees if it's a charity or Society.
- The paper should be retracted.
- Instructions to authors should contain circumstances under which you will publish papers in another language. That makes it easier when breaches occur.
- Code of practice for editorial board, which if breached, should mean that the individual should no longer sit on the editorial board for accepting gift authorship.

Case 2

As editor in chief of a renowned specialty journal, you receive notification from an author of a paper you published that it has already been published in another journal. The author who contacted you was the last and corresponding author on the earlier paper. The corresponding author on your paper was the first author of the earlier paper and of the paper you published. There are four authors from three institutions on the first paper. There are five authors from five institutions on the paper you published.

Feedback

- A letter should be sent to the authors.
- Number of institutions is a distraction.
- Notify other journal and institution.
- Issue a Notice of Retraction (second paper only).
- Take sanctions against other authors.
- Who takes ultimate responsibility, when a junior author is the corresponding author? When problems arise, senior author goes AWOL.
- There is confusion between what is meant by guarantor and corresponding author (this is purely administrative, even though academics feel it carries some seniority).
- The corresponding author doing the legwork during the reviewing process is junior, but it's the senior author at publication.
- Treat authors as individuals: not all of them are culprits.

Case 3

You published a clinical trial four years ago. Now you are contacted by the editor of another journal, which has a paper under review that consists of a further analysis of the trial data. The editor tells you that two of the peer reviewers have questioned the validity of the data on the grounds that they are too evenly distributed and some calculations don't add up.

At the same time you receive a letter for correspondence stating that while undertaking a meta analysis two researchers have detected implausibilities of serious concern in the same trial, such as too much balance in three important covariates. You send this correspondence letter to the author of the original trial, who has incidentally moved to

other institutions, asking for an explanation. The author responds with a superficial justification.

Feedback

▶ The data underlying the paper are dodgy, so get hold of it and get an independent assessment of it.
▶ Ask the authors to give you a detailed response to your concerns.
▶ There will be institutional ping pong, but you will need to go to the original institution.
▶ Issue a letter of concern and eventually a retraction
▶ Who owns the data? Institutional policies for clinical trial data say that it should be available on the site for seven years and archived for 15.
▶ The funders should be told; the editor should report this to them.
▶ Copies of the original review comments will be needed.

Case 4

An author contacts you after having seen a presentation at a conference that included a figure from their paper currently under review at your journal. The presenter was a reviewer on the author's paper. The figure is unique and had not been published elsewhere.

Feedback

▶ Ask for a copy of the presentation (in reality this was deleted).
▶ If the author was correct in his allegations, take steps against the reviewer, including banning him/her from the review board and explaining the rules of acceptable behaviour.
▶ Tell the author's institution.
▶ Wouldn't other people present be able to confirm or deny the content?
▶ It's how the figure was presented that is key.
▶ Contact the conference organisers.
▶ It's not possible to write reviewing into the institution's employment contract, but if you give a presentation you are representing the institution.
▶ Taking property without consent equals theft, so there may be some civil liability.
▶ Might it not be the presenter's legitimate figure, and could it be the author who is guilty?