

Editors' Requests of Peer Reviewers: A Study and a Proposal

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Background. Despite the pivotal role of peer review in the scientific process, there has never been a formal study of the way in which reviewers' opinions are elicited. This article describes such a study and makes recommendations for a more standardized approach to the peer review process. We hope, through this publication and related efforts, to encourage such a process in *Preventive Medicine* and in other journals.

Method. The study population included the top 100 journals (as rated by the 1989 Institute for Scientific Information citation frequency index). Only journals with primarily U.S.-based editorial offices are included ($n = 73$). Participants provided their reviewer forms, cover letters for reviewers, and instructions for reviewers that were used routinely. All data were collected in February 1992.

Results. The response rate was 97.3%. Journals varied substantially in many of their reviewer requests. While 96% of journals asked reviewers to recommend acceptance or rejection, only 72% asked reviewers to assess manuscripts' novelty, 69% requested assessments of clarity, and only 51% asked for assessments of the reasonableness of manuscripts' conclusions. Similarly, only 46% of journals reminded reviewers that manuscripts were confidential documents, 51% provided a separate cover letter, and 25% provided extensive (>1 full page) reviewer instructions.

Conclusions. While review uniformity is not requisite, differences between review protocols may not be a function of specific journals' needs, but of some journals' excluding important review components from explicit mention. Based in part on the Council of Biology Editors' recommendations, standard components of reviews and of instructions for reviewers are suggested. If editors' expectations were more explicit, reviewers' comments could better serve editorial needs.

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INTRODUCTION

The peer review process is frequently criticized for its subjectivity and its secrecy. It is true that many messages are encoded in the confidential communications between editors and peer reviewers. For example, editors often ask reviewers for separate narrative com-

ments for authors; it is implicit in such requests that observations should be substantive but courteous. In addition to these author-specific comments, reviewers are usually asked for editor-specific comments to which authors are not privy.

The secrecy inherent in such encoded and confidential communications may be appropriate and necessary. What is probably inappropriate and unnecessary is the shroud surrounding manuscript assessment; reviewers may be unaware of editors' needs or publishing ethics, and authors are often uncertain of the criteria by which their manuscripts are evaluated. This is the first published study of judgments routinely requested in peer review; this article examines these parameters and proposes an ideal.

METHODS

I studied the review systems used by the top 100 journals as rated by the 1989 Institute for Scientific Information (ISI) citation frequency index (1); these are the most frequently cited journals through 1988. For reasons of consistency, access, and budget, I included only journals with primarily U.S.-based editorial offices; this left a population of 73 journals, 71 of which agreed to participate. One listed journal has since discontinued publication, and 3 ISI-designated journals are actually books and therefore not representative of the journal peer review process; I therefore used the 67 remaining journals as my denominator for all calculations. I requested that these journals fax any reviewer forms, standard reviewer cover letters, and instructions for reviewers that they used. All data were collected in February 1992.

I assessed whether there was a standard reviewer form used, a standard cover letter, a sheet for separate author comments enclosed with the manuscript or a request for the reviewers to provide one if necessary, a discussion of reviewer anonymity (and if so, if it was routinely given or given at the discretion of the editor or the reviewer), and a discussion of manuscript confidentiality or other ethical issues and whether extensive (>1 page) reviewer instructions were given. I also examined whether reviewers' opinions were specifically solicited for recommendations on acceptance or rejection; on

TABLE 1
Percentage of Journals Using Various Forms
and Common Form Components

Forms and instructions provided to reviewers	
Reviewer form	92.5%
Cover letter	50.7%
Separate author comments—enclosed	64.2%
Separate author comments—as needed	13.4%
Reviewer anonymity—discussed	53.7%
Always given (72.2%)	
Editor's choice (5.5%)	
Reviewer's choice (22.2%)	
Confidentiality	46.3%
Other ethical issues	35.8%
Extensive instructions	25.4%
Assessments requested	
Acceptance/rejection	95.5%
Priority/importance/significance/interest	88.1%
Soundness/quality	79.1%
Originality/novelty	71.6%
Clarity	68.7%
Reasonableness of conclusions	50.7%
Appropriateness for journal	50.7%

the manuscript's priority, importance, significance, or interest; on its soundness or quality, originality or novelty, or clarity; on the reasonableness of its conclusions; and on its appropriateness for that journal.

RESULTS

The response rate was 97.3%. Table 1 shows the percentage of journals that use various forms and the common constituents of those forms. While some components of peer review are used fairly regularly (such as standard reviewer forms and requests for separate author comments), many potentially important parameters (such as reviewer anonymity, manuscript confidentiality, or other ethical issues) were frequently inexplicit.

DISCUSSION

These data demonstrate that the peer review process is not now uniform. This finding may be of concern to authors, reviewers, editors, readers, publishers, and patients.

There are two major counterarguments to concerns about this nonuniformity. The first is that it does not matter; everyone knows the rules and it is superfluous to make them explicit. Yet peer review is a subtle and still-imperfect art that includes reviews of variable effort and quality (2); providing more explicit guidelines might produce responses that better address editors' and authors' needs. The second counterargument is that distinct journals have distinct needs and therefore provide differing types of reviewer guidance. Yet, there

appears to be no particular pattern to their variability. Furthermore, reviewer guidance seems routinized within journals, rather than being a manuscript-, topic-, or reviewer-determined condition.

If we wish to know what peer reviewers routinely provide in the peer review process, this study has several limitations. First, I examined what editors ask of peer reviewers, not what the peer reviewers actually give the editors. What reviewers actually provide may be a more interesting, but a more complex, study ques-

TABLE 2

Proposed Ideal for Editor-Reviewer Communications^a

Reviewers should be asked to

- Maintain manuscript confidentiality
- Disclose conflicts of interest
- Be objective
- Be specific in comments to authors and editors
- Respond promptly (and comply with a specified date for review completion)
- Designate areas in which they would like to review

Reviewers should address manuscripts'

- Quality
- Importance
- Scientific rigor
- Novelty
- Clarity (in text and in tables/figures/illustrations)
- Ethics (including divulged and undivulged authorial biases)
- Specific merits and problems, as contained in its title, abstract, key words, introduction, methods (including interventions/procedures, statistics, and descriptions of hazards), results, interpretations and other components of the discussion (including the appropriateness of its claims and conclusions and statements of study limitations), tables, figures, acknowledgments, and citations
- Need for an accompanying editorial (based on controversialism and newsworthiness)
- Appropriateness and priority for the journal in question
- Appropriateness in its current form (versus, for example, reduction to a letter to the editor)

Editors may wish to

- Provide thorough instructions for reviewers (especially first time reviewers)
- Allow reviewers to share manuscripts with appropriate colleagues, in a confidential manner, for the purpose of assistance with review
- Permit reviewers to write minor suggestions directly onto manuscripts
- Permit reviewers to shred and recycle the manuscript
- Encourage reviewers to fax reviews to the editorial office
- Blind reviewers to authors' identities
- Allow reviewers to sign reviews
- Send reviewers copies of others' reviews
- Send reviewers copies of the revised manuscript
- Inform reviewers regarding manuscripts' final disposition
- Ask reviewers to specify other areas in which they would like to review
- Provide reviewers a token of gratitude

^a Some of the listed items were suggested by narrative in the *Style Manual* of the Council of Biology Editors (3).

tion. Second, I included only the most cited journals. These are the most prominent (and, arguably, the most important) journals, and it is likely that these journals, because of their high volume and visibility, may have more stringent and standardized review criteria than do less prominent journals. This would, therefore, likely provide a conservative estimate of the noninclusion of review criteria. Third, I included only domestic journals, partly because of a desire for homogeneity and comparability, but largely for practical constraints. Fourth, several sets of journals were edited from the same offices (and hence had similar editorial processes); this also would produce a conservative estimate of heterogeneity.

The Council of Biology Editors has outlined an outstanding model for the relationship between editors and reviewers (3). In Table 2 I have listed these suggestions and have added several additional parameters to create a model review system.

The peer review process is not uniform now, and I would not suggest that it should be. There are, however, several areas that should be routinely explicitly addressed which are often neglected. These areas include ethical issues (including specific requests for confidentiality and disclosures of conflicts of interest) and journal-specific, explicit criteria for what is needed of reviewers. Some of these criteria can be routinized; oth-

ers can be customized in reviewer cover letters. The more explicitly editors identify their needs (e.g., by specifying some of the parameters listed in Table 2), and the more clearly editors communicate this to authors and reviewers, the more appropriate the manuscripts could be that are submitted to journals, and the fairer, more efficient, and better the peer review process should become.

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