

## SPECIAL ARTICLE

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# Conflicting interests involved in the process of publishing in biomedical journals

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## Summary

*This short discussion on conflicting interests in publishing is designed to help all participants (authors, editors and peer reviewers) in the publication of biomedical papers. Authors who submit manuscripts to a journal are responsible for the overall quality and integrity of the paper. The main goal of the editor is to provide readers with the most relevant information by insuring proper presentation and interpretation of scientific data. The editor informs readers on potential conflicting interests of the authors to enable the reader to judge a paper in a more informative way. However, the editor must also consider potential conflicting interests of peer reviewers. If a peer reviewer has a potential conflicting interest in evaluating a manuscript, he/she should not accept the job of reviewing it. If the editor or any member of the executive board has a similar conflict of interest for an article under consideration, including an editorial for this journal, such persons should not participate*

*in the vote to endorse the article, and the journal should publish a note to that effect. When an article is published in the local language for a "small scientific community," there is always a risk that peer review could reflect personal relationships and animosities. Blinding the reviewer to the author(s) might eliminate a reviewer's conflict of interests, but this is not always possible or even desirable. A better solution would be to have the journal publish all scientific articles in English. This would provide both wider readership and a larger group of international reviewers. To gain better reviewers, the journal staff could educate young local investigators by publishing educational articles. Advantages and disadvantages of publishing a statement on conflicting interests are discussed.*

**Key words:** authors, conflict of interest, editors, peer reviewers, statements of conflicting interests

## Introduction

Authors submit manuscripts according to acceptance criteria for specific journals. Editors, with help of reviewers, assess the manuscripts and make final decisions on publication. The main goal of the editor is to fulfill the needs of his readers, providing the most current and relevant information by proper presentation and interpretation of research data. It is well known that participants in the publication process, authors, peer reviewers, and editors, sometimes have potential financial interests or other concerns related to the

articles under consideration.

This brief discussion on conflicting interests of all participants in the publishing process may help readers to understand what can be done to provide better evaluation of manuscripts and increase the credibility of published articles.

## Authors

The author who submits a manuscript to a scientific journal is responsible for the quality and in-

tegrity of his research. The journal presumes that the findings and ideas of the authors are truthful and accurate [1]. In the process of the manuscript evaluation, the journal editors have significant help from expert reviewers before making a decision for acceptance for publication or rejection. This process also gives the author an opportunity for correcting errors prior to publication. Publishers, editors and authors have discussed continually and extensively how to improve fair evaluation of submitted manuscripts; these discussions necessarily include how to avoid inappropriate influence of dual commitments at various levels that could damage a journal's credibility and its contribution to science. The continuing puzzle of how to deal with competing interests or dual commitments remains unsolved.

When financial relationships between scientists and a pharmaceutical company produced an article favorable to the manufacturer's positions on the safety of calcium-channel antagonists [2], medical professionals sought an effective policy to prevent future conflicts of interests [3,4]. Authors are now compelled to disclose all financial and personal relationships that might influence or bias their work, so that readers can judge a paper in a more informative way. Potential conflicts of interests include financial ties, academic commitments, personal relationships, institutional affiliations, as well as the authors' political or other beliefs that could influence their research or scientific judgments. In addition to the possible personal conflicting interests of authors, there are conflicting interests at institutional levels, such as grants, patents, and various non-financial commitments.

As a result, authors must disclose any potential conflicting interests along with the manuscript submission. This applies to original research results, review papers, letters to the editor, editorials, and any other articles related to any aspect of medical practice or basic science.

Most journals now request a written statement on the conflicts, submitted on a form prepared either by the International Committee Medical Journal Editors (ICMJE) [5] or the journal. All authors must sign it before the manuscript is submitted to the journal. They should disclose all financial, personal relationships, and possible institutional conflicts of interests that might influence the work presented. A manuscript that is submitted with declared competing interests will not be rejected; the signed declaration is needed for the reviewers of the manuscript and also the

readers to know if there is a possibility that the data or interpretation of the findings could be viewed as potential interferences to this publication. All relevant conflicting interest disclosures will be published, but irrelevant disclosures will not be published.

The disclosures are usually presented under a heading titled "Competing Interests" or "Conflict of Interests" that is generally located above "References." Some editors [6] use the title "Additional Information and Declarations" that contains subtitles such as: Funding, Competing Interests, Author Contributions, and Supplemental Information. Another way to show competing interests is to use a footnote on the title page of the article. In order to save space, author names are often presented as their initials, and the statements follow for each person who disclosed the conflicting interests.

The following six examples show how conflicts of interest may be indicated. Some reports include the approximate amount of received money for a speaking fee, honorarium, travel grant or financial aid. However, it is more appropriate to simply report the fact that an author received such support without mentioning the amount.

### 1. Conflict of interests

*R.I. received consultant fees, speaking fees, and/or honoraria (less than 5.000 EU each) from Galenika, Zorka Pharma and Zdravlje, and more than 10.000 EU from Merck and served as a paid investment consultant for Bosnalijek (less than 5.000 EU). P.S. received speaking fees (less than 5.000 EU) from Novartis and a travel grant from the same company to attend two scientific meetings, one in Thessaloniki, Greece and the other in Leeds, England (less than 5.000 EU total). D.T. served on advisory boards (less than 5.000 EU for each) for Belupo, Hemofarm, and Pliva. A.T. received a research grant from the PIO, Novi Sad (less than 20.000 EU), and served as a paid investment consultant for Galenika (less than 5.000 EU). K.U.M. declared no conflicting interest. P.V. received traveling support (less than 5.000 EU) for a scientific meeting in Moscow, Russia from Pfizer and speaking fees and/or honoraria (less than 5.000 EU each) from Pfizer and Bosnalijek. This work was funded by the grants from the American Heart Association (120.000 US\$) and by Hemofarm (50.000 EU).*

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## 2. Conflict of interests disclosures

The author has completed and submitted the IC-MJE Form for Disclosure of Potential Conflicts of Interest, and none were reported.

## 3. Conflict of interests disclosures

The author has completed and submitted the IC-MJE Form for Disclosure of Potential Conflicts of Interest. He reported receiving research grant support and consulting fees from the Scientific Fund, Bosnia and Herzegovina.

## 4. Conflict of interests

None declared.

## 5. Conflict of interests

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## 6. Additional information and declarations

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**Author contributions:** C.B conceived and designed the experiments, performed the experiments, analyzed the data, contributed reagents/materials/analysis tools, and wrote the paper.

**Supplemental information:** Supplemental information for this article can be found online at <http://dx.doi.org>.

Disclosures of conflicting interests are important for editors, peer reviewers, members of editorial board of the journal, and for readers. Each journal should state in its instructions for submission what the authors should disclose. How the disclosures are published is then up to the editor(s).

## Editors

Journal editors play a major role in the publishing process, including notation of the potential conflicts of interests of authors, peer reviewers, journal's editorial board members, and publishers. Any editor, or any member of the executive board, who has conflicts of interests relating to articles under consideration should absent himself from editorial decisions.

In the case that an editor writes an article, including an editorial to be published in the journal he/she edits, it is necessary to state any conflicting interests. In general, it is not good practice for an editor to publish his own research contributions or review papers in his journal. This also applies to a journal's executive editorial board members. If they do publish, they must disclose the conflicting interests, and preferably include a statement to the effect that he/she did not participate in the editorial board vote to endorse the article. Such manuscripts are then subjected to the same evaluation procedure as the other articles. Perhaps the editor may publish information related to the historic article in the journal, provided it is peer-reviewed.

The following example appeared in the *Cardiovascular Diagnosis and Therapy*: [7]

*Disclosure: As a WAME Director, Lorraine Ferris did not participate in the WAME Board vote to approve the statement or the vote to endorse the editorial.*

Conflicting interests for the editorial written by the editor and/or a member of the editorial board could be presented in various ways. For example:

*Conflict of Interests: As the editor and a member of the executive editorial board of this journal, M.N. and K.T., respectively, did not participate in the board vote to endorse the editorial, they declared no other relevant potential conflict of interests.*

Such disclosures or declarations are not necessary for all editorials written by the editorial staff. Only those that are potential conflicts of interest should be published. Editorials written by invitation to amplify an interesting article published in the same issue of the journal should always contain a statement on the disclosure of conflicting interests.

## Peer reviewers

Peer-review is a process of critique a manuscript before publication. The word "peer" means

“a person of the same rank, or a person who is a member of the same group as another (*Webster's New World College Dictionary*, fifth edition, 2014). The role of the manuscript assessor (reviewer or referee) is that he/she advises the editor on the originality, quality and suitability of manuscript for publication and provides written feedback that will be transmitted to the authors. An ideal reviewer is as knowledgeable as the author(s) on the subject, and he should also be familiar with the goals and rules of the manuscript review.

When the first periodical journals, *Le Iovrnal des Sçavans* (January 5, 1665) and *Philosophical Transactions of the Royal Society* (March 6, 1665) were introduced in Paris and London, respectively, the peer review process did not exist, but 66 years later The Royal Society of Edinburgh published the first peer reviewed collection of medical articles. Development of the peer-reviewed process over the next two centuries and beyond followed various paths to ensure the quality of scientific information. It has not been always accepted that peer reviewing is necessary, but over time most researchers agree that a peer review system is a necessary tool for publishing.

An objective critique of a scientific manuscript is an essential element of the peer review assessment [9]. Current scientific peer-review system is not perfect [8], but it is a required step in the editing process of the majority of biomedical journals. Peer review system has gradually developed to the present day, where experts in the field examine the scientific quality and determine the novelty of the study, clarity of presentation, ethical validity, and technical quality of a manuscript. By the end of the 20th century, the majority of medical journals used the peer-reviewed system. The reviewers recommend acceptance, rejection, or revision. The editor then communicates with both reviewers and authors in order to improve the manuscript before he makes a final decision on publication.

From the beginning of the peer-reviewed system, there have been pros and cons, and many discussions propose improvements, such as blinded reviewers or authors, unmasking the identity of a reviewer to co-reviewer, open review process or even elimination of the review process. The recommendations of the reviewers, in a journal published in the so called “small scientific community” [10] especially if it is published in a local language, sometimes may be either uncritically positive or negative, but that is no reason to avoid this step in publishing.

Omission of the review process would cause serious consequences, including the fact that authors would not have an opportunity prior to publication for response to criticisms of the experts and make needed corrections. When the *Scripta Medica* (Banja Luka), decided to publish all scientific contributions only in English, this change allowed wider readership and possibility of selecting foreign reviewers. The problem of the uncritical or superficial manuscript evaluation soon disappeared; the reviews became more objective and efficient.

In the conventional review system, the authors do not know who the reviewers are. In a double blind system, neither reviewers nor author know each other. However, simply removing the names of the authors and their institutional affiliations from the title page, along with acknowledgments, statements on conflicting interests, and reduction of self-citations in the manuscript does not guarantee concealment of identity. Successful blinding of reviewers occurs in only 50-60% of accepted papers [11,12]. Blinding a reviewer is even less successful in a small country or when a particular journal covers a narrow research area.

To find better reviewers, a journal might organize seminars for the peer review. The best place to do this is at the scientific meetings or other gatherings where many young scientists are participants. Another way is to publish educational articles on preparing a peer review [1,13,14].

In order to minimize the subjective evaluation, a potential reviewer should disclose to the editor any conflict of interest that could influence his opinion of the manuscript, and he should not accept the task of reviewing it. The editor and the journal staff follow the objectivity of the reviewers, and in certain cases they may remove a reviewer's name from the journal's list of reviewers.

A reviewer (and his collaborators) must not use the information from the work he is reviewing for his own purposes before the publication of the paper. When an editor sends a review by one peer-reviewer to another, this procedure may help to build up better and more objective journal reviewers. In a double blind system there is less chance that the reviewers' conflict of interests will be a problem. Today the majority of journals communicate with authors and reviewers electronically to facilitate the process of manuscript evaluation. This speeds the process, whether the publication is in printed and/or electronic format.

In addition to the conventional review system, an alternative peer-reviewed system has emerged. For example, *Biology Direct* publishes a

paper when three editors agree to write the critique. The names and comments of the reviewers are published together with the article. This system enables authors to defend their work and post their response to the reviews.

## Comment

The greatest attention in medical publishing is paid to direct financial conflicting interests because biased information can have adverse effects on medical practice [15]. The financial influence of the pharmaceutical industry must be considered, especially for articles focused on therapeutics. However, publishing a statement on competing interests could affect the reader of an article. On the one hand, it may influence the readers find the article less interesting, relevant and important than if it were published without a conflict of interest statement [16]. On the other hand, the

reader's recognition of the influence of conflicting interests on the validity of research is obviously important.

Statements regarding competing interests are also of great importance to the reviewer. Thus, hiding conflicting interests of the authors from the reviewer by a blinding review system could affect the quality of the review. The same is true if the reviewers (and editors and readers) have unreported conflicts of interest. Because many journals use blinding, editors need to find a way to mask an author's conflicting interest to the reviewers without compromising the quality of the review.

## Conflict of interests

The author accepted travel and local living expenses while Editor-in-Chief of the *Scripta Medica*, Banja Luka (2010 to 2013).

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