Best Practices in Preventing Authorship Problems: Policies and Experiences of Biomedical and Life Science Journals

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Editorial Operations JAMA and The JAMA Network

Best Practices in Preventing Authorship Problems: Policies and Experiences of Biomedical and Life Science Journals

• Common Problems in Authorship
• Journal Practices and Policies
• Guidelines for Journals and Editors
• “An ounce of prevention is worth a pound of cure.”

Common Authorship Problems

• Authorship disputes
  – Who is an author?
  – Who is not an author?
  – Order of authorship - who goes first?
• What is a contributor?
• What are the responsibilities of the corresponding author?
• How to handle group authorship?
• Who should be acknowledged?
• Changes to authorship after manuscript submission and after publication
Authorship disputes are common

- 10% of researchers who had received an NIH grant admitted to assigning authorship "inappropriately" (Nature. 2005;435:737–738).
- 29% of plastic surgeon authors reported being involved in a dispute with a colleague over authorship issues in 2003, 22% in 2011. (Plast Reconstr Surg. 2013 Aug;132(2):303e-310e.)
- "As authorship is our academic currency, it tends to be a hot-button topic"…one-fifth of the disputes adjudicated are about authorship.

Committee on Publication Ethics, disputed authorship

- Stolen data
- Accusation of non-attribution of authorship
- Dispute between authors and a reviewer
- Disputed authorship
- An authorship dispute and a question about when a paper is considered published
- Author dispute over internal report
- Order of authors changing between a submitted manuscript and a published paper
- Authorship issue
- Author dispute over need for retraction
- Undeclared conflicts of interest and potential author dispute
- Dispute over plagiarism
- The missing author
- A(uthor) vs C(omplainant) authorship dispute
- Dispute over authorship and usage of research protocol
- Claims from an author that his name should not have been included as author on a paper
- The discontented and abandoned contributor
- Submission without knowledge of the corresponding author
- A claim of stolen data and a demand for retractions
- Possible serial misconduct in relation to coauthors and other activities
- A lost author and a new hypothesis
- Author's name removed from submitted article
- Request to withdraw as an author of an accepted but unpublished paper
- A falling out
- The author not affiliated to an institution
- Anonymous information
- Late reinterpretation and a new author
- Plagiarism of a PhD thesis
- Co authors' unwillingness to support retraction of a review

Research documenting authorship problems

- Increase in numbers of authors
- Order of authorship
- Meaning of authorship – who did what?
- Inappropriate authorship: ghost authors and honorary (gift or guest authors)
- Industry sponsorship and outcomes of sponsored studies with regards to named authors, ghost writers, etc
- Roles, contributions, and attitudes of authors, writers, and other contributors
Multiauthorship Articles and Subsequent Citations: Does More Yield More?

- Study objective: To assess if articles published with large numbers of authors are more likely to be cited in subsequent works than articles with fewer authors.
- Data on all research and review articles extracted from Thomson Reuters' Web of Knowledge data (Web of Science and MEDLINE) from top 3 general medical and multidisciplinary science journals published in 2010: JAMA, Lancet, NEJM, Nature, PNAS, Science
  - Numbers of authors, group authors, and numbers of citations per article (N = 6337 articles)
- Author count was divided into quartiles (1-3, 4-6, 7-10, ≥11 authors)
Authorship

Order of authorship – why does it matter?

- Exposure and academic currency
- Some journals limit the number of authors allowed on some article types (e.g., opinion pieces, letters)
- Reference styles limit the number of authors listed in reference citations (e.g., 3 or 6 and et al)
- Many journals limit the number of authors on journal covers, table of contents, home pages, and email alerts
- But, PubMed/MEDLINE does not limit the number of authors listed in a citation
- In some countries/disciplines, position on the byline is given a numerical rank and multiplied by the journal's Impact Factor, which is used to assess value of the author's work by promotion committees

We know that authorship matters – but what does it mean?

- Study on authorship contributions of authors, 1994
  - Shapiro DW, Wenger NS, Shapiro MF. Contributions of authors to multi-authored biomedical research papers. JAMA. 1994;271(6):438-442
- Survey of 184 first authors of 10 leading science journals (e.g., Nature, Cell) and medical journals (e.g., JAMA, NEJM)
- These 184 authors reported good or excellent knowledge of the contributions of 1014 co-authors
First authors’ assessments of co-author’s contributions to specific tasks

<table>
<thead>
<tr>
<th>Task</th>
<th>Authors, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial conception</td>
<td>42</td>
</tr>
<tr>
<td>Design</td>
<td>47</td>
</tr>
<tr>
<td>Provision of resources</td>
<td>68</td>
</tr>
<tr>
<td>Data collection</td>
<td>54</td>
</tr>
<tr>
<td>Analysis/interpretation of data</td>
<td>52</td>
</tr>
<tr>
<td>Writing and revision</td>
<td>57</td>
</tr>
<tr>
<td>0 or 1 of above tasks</td>
<td>24</td>
</tr>
<tr>
<td>2 or 3 of above tasks</td>
<td>32</td>
</tr>
<tr>
<td>&gt;4 of above tasks</td>
<td>43</td>
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Who is an author? Criteria for authorship
Recommendations from the International Committee of Medical Journal Editors (ICMJE), revised in 2013

4 criteria = substantial contributions to:
1. Conception and design, or acquisition of data, or analysis and interpretation of data, and
2. Drafting the manuscript or revising it critically, and
3. Final approval of the version to be published, and
4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.
Authors must meet each of these criteria.

Who is an author? ICMJE additional criteria

- Each author should be able to take public responsibility for appropriate portions of the work
- Acquisition of funding, collection of data, or general supervision, alone, does not justify authorship
At JAMA, we advise authors

- That usually, in biomedicine, the first author has contributed the most or may be the principal investigator
- That order of authorship should be decided jointly by all the authors as early as possible - before the manuscript is written - and reevaluated as often as needed later; consider putting this in writing
- Disputes should be handled among authors. Tips (Dance. A. Authorship: who's on first? Nature. 2012;489:591-593)
- Any changes in authorship after manuscript submission and before publication should be explained in writing to the editor in a letter or e-mail from all authors
- Any requests to change authorship (other than errors in author’s names) after publication should be considered carefully (order, adding, removing authors):
  - should be explained in writing to the editor in a letter or e-mail from all authors
  - If a decision is made to make this change, a formal correction notice should be published, perhaps also with a formal letter to the editor explaining what happened

Corresponding author

- Serves on behalf of all coauthors as the primary correspondent with the editorial office during the submission and review process
- Is responsible for ensuring that the manuscript submission is complete
  - identifying all authors, contributions, affiliations, assistance, funding for the work, and conflict of interest disclosures for all authors
- If the manuscript is accepted, the corresponding author...
  - Reviews the edited manuscript and proof, consulting coauthors as needed
  - In collaboration with the journal, makes decisions regarding release of information in the manuscript to the news media, federal agencies, etc
  - Is identified as the corresponding author in the published article
  - Serves as primary correspondent on any post-publication communications, letters to the editor, online comments, corrections, and allegations of misconduct

Group authorship

- Usually involves multicenter trials, research networks, working groups, or consensus/guidelines panels
- These groups can comprise 100s of participants
- How many of these participants actually qualify as authors?
**Group authorship example: article with 100 contributors**

- If all 100 meet authorship criteria, then usually a group name appears on the article byline
  - “The Carotid Atherosclerosis Study Group”
- If the group name appears as the byline
  - Provide complete list of all authors and affiliations elsewhere in the article
  - Have one author serve as corresponding author
- If all 100 do not meet authorship criteria
  - Those who do meet authorship criteria can be named individually in the byline or with a smaller group name for the study group
  - “HD Smith and RB Brown for the Carotid Atherosclerosis Study Group”
  - “The Writing Group for the Carotid Atherosclerosis Study Group”
  - Indicate and tag all authors/writing committee members as “authors”
  - All others are listed and tagged as “collaborators”

**Concerns about authorship criteria**

Studies have shown that
- many authors do not recognize or understand the International Committee of Medical Journal Editors (ICMJE) authorship criteria
- many authors do not think the criteria are practical
- many authors do not meet the criteria for authorship
- many journals apply inconsistent policies on authorship

**To address authorship concerns**

- The idea of contributorship was first proposed in 1997 by Rennie et al. *JAMA*. 1997;278:579-585.
- Each author is asked to identify how they have contributed to the work
- 2 methods of identifying contributions
  - Authors are asked to self-identify contributions
  - Journals provide a checklist of contributions
- Used by many journals and endorsed by ICMJE and CSE and others since the late 1990s
- 2014 Project CRediT (Contributor Roles Taxonomy)
  - See http://credit.casrai.org/
<table>
<thead>
<tr>
<th>JAMA authorship form - contributions</th>
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<tbody>
<tr>
<td>D. I have made substantial contributions to the intellectual content of the paper as described below.</td>
</tr>
<tr>
<td>1. (check at least 1 of the 2 below)</td>
</tr>
<tr>
<td>- conception and design</td>
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<tr>
<td>- acquisition, analysis, or interpretation of data</td>
</tr>
<tr>
<td>2. (check at least 1 of 2 below)</td>
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<tr>
<td>- drafting of the manuscript</td>
</tr>
<tr>
<td>- critical revision of the manuscript</td>
</tr>
<tr>
<td>3. (check at least 1 below)</td>
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<tr>
<td>- statistical expertise</td>
</tr>
<tr>
<td>- obtaining funding</td>
</tr>
<tr>
<td>- administrative, technical, or material support supervision</td>
</tr>
<tr>
<td>- no additional contributions</td>
</tr>
<tr>
<td>- other (specify)___________________________________</td>
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A link to an electronic authorship form is sent by email to all authors when revision is requested
Must be completed by all authors
Includes information on authorship criteria and contributions, disclosures, conflicts of interest and funding, acknowledging other contributions, and copyright transmittal
Is kept on file permanently
Can be used by collaborators to help determine who merits authorship on a paper
Each authors’ contributions are published
Publication of authorship contributions

For all research articles, contributions of each author are published in the Article Information at the end of the article.

At least 1 named person, usually the corresponding author, “had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.”

Research on authorship - Prevalence of ghost and honorary authors in general medical journals


- Study Objectives: To determine the prevalence of honorary authors and ghost authors in leading general medical journals with policies on authorship and contributions and to compare prevalence in 2008 with 1996
- Survey respondents (n=630; 70.3% response rate)
  - 75% male, 88% with academic appointments, 63% were from US/Canada and 29% were from Europe, 63% had published >20 articles in previous 5 years
Ghost authors – definition

An article had a ghost author if the corresponding author reported that
An individual who was not listed as an author made contributions that merited authorship or
An unnamed individual participated in writing the article

Honorary authors – definition

An article had an honorary author if
The corresponding author reported
A. That he or she did not do any of the following: conceive and design the work, or analyze and interpret the data, or collect the data
B. And did not write all or any part of the manuscript or revise the manuscript to make important changes in content
C. And did not approve the final version of the manuscript or
The corresponding author did not feel comfortable explaining the major conclusions of the article or
The corresponding author reported that a coauthor performed only 1 function, and nothing else, from a list of 17 activities

17 Author Tasks

- Supervising the work or any of the coauthors
- Recruiting coauthors
- Recruiting study subjects
- Analyzing/Interpreting data
- Conducting literature search
- Analyzing/Interpreting literature
- Reviewing the manuscript
- Communicating with journal editor(s)
- Signing statement of copyright transfer to a journal
- Conceiving and designing the work
- Collecting data
- Obtaining funding or material support
- Performing statistical analysis
- Writing the manuscript or part of the manuscript
- Approving the manuscript before submission to a journal
- Revising the manuscript, making important changes in content
- Reviewing page proofs or the journal’s edited version of the manuscript
Authorship study results, 2008
Among 630 articles published in 6 high impact journals

<table>
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<tr>
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<th>Ghost Authors, %</th>
<th>Honorary Authors, %</th>
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<tbody>
<tr>
<td>Total</td>
<td>7.9</td>
<td>17.6</td>
</tr>
<tr>
<td>Original research</td>
<td>11.9</td>
<td>25.0</td>
</tr>
<tr>
<td>Reviews</td>
<td>6.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Editorials</td>
<td>5.3</td>
<td>11.2</td>
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Ghost author prevalence, 1996 vs 2008

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<tr>
<th></th>
<th>1996</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>11.5</td>
<td>11.9</td>
</tr>
<tr>
<td>Original research</td>
<td>7.9</td>
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<td>Reviews</td>
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<td>11.9</td>
</tr>
<tr>
<td>Editorials</td>
<td>5.6</td>
<td>6.5</td>
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Honorary author prevalence, 1996 vs 2008

<table>
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<tr>
<th></th>
<th>1996</th>
<th>2008</th>
</tr>
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<tbody>
<tr>
<td>Total</td>
<td>20.8</td>
<td>25.5</td>
</tr>
<tr>
<td>Original research</td>
<td>16.3</td>
<td>25.5</td>
</tr>
<tr>
<td>Reviews</td>
<td>19.3</td>
<td>25.5</td>
</tr>
<tr>
<td>Editorials</td>
<td>11.2</td>
<td>15.0</td>
</tr>
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</table>
Authorship studies – conclusions

- Ensuring appropriate authorship and contributorship designation remains an important issue.
- Additional research is needed to assess the effects of current policies on
  - Appropriate authorship in publication
  - Use and understanding authorship criteria
  - Disclosure of author contributions
- Additional research is needed to differentiate ghost authors from other ghosts (writers, statisticians, etc)

What about the nonauthor contributors?

Acknowledgment

- In the Acknowledgment, authors identify important sources of financial and material support and assistance and give credit to all persons who have made substantial contributions to the work but who are not authors.
- Permission to be named in an acknowledgment is needed.

Acknowledgment

- General advice, review, guidance, supervision
- Data collection or analysis
- Statistical assistance or advice
- Research or technical assistance
- Writing, editorial, bibliographic, or assistance
- Clerical assistance or manuscript preparation
- Financial, material, and grant support
- Relevant conflicts of interests of all authors
• NLM encourages authors, editors, and publishers to consult the authorship guidelines of ICMJE and CSE.

  “Personal author names are included in MEDLINE when the author names appear in the article byline, or are explicitly identified anywhere else in the text of the article as the authors or as the members of the writing group or writing committee for the article.”

  “Group author names (also known as corporate, organization or collective names) are included in MEDLINE when such names appear in the article byline.”

• Authors and collaborators may be linked from bylines appendices, footnotes, or supplementary documentation.

• NLM prefers that authorship and collaborator data be in the full text of the article rather than in a supplementary online file. If these data are recorded in a supplementary file, 2 conditions must be met:
  1. Clear indication in the main article of how to find these data (eg, footnotes that can be easily found from the byline area, the bottom of the first “page” of an article, or near the acknowledgements area at the end of an article), and
  2. Publication of the supplementary file with the article (ie, do not link out to another Web site).
Where to find information on journal-specific guidelines for authors to aid in responsible publication?
http://jama.jamanetwork.com/
CSE White Paper on Publication Ethics

ICMJE Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly work in Medical Journals

Guidelines on authorship – prevention is always better than the cure

Journal Instructions for Authors – see JAMA example
jama.jamanetwork.com/public/instructionsForAuthors.aspx

International Committee of Medical Journal Editors (ICMJE)  www.icmje.org

Council of Science Editors (CSE) White Paper on Publication Ethics
www.councilscienceeditors.org/resource-library/editorial-policies/white-paper-on-publication-ethics/

Committee on Publication Ethics (COPE)  www.publicationethics.org

US National Library of Medicine Authorship in MEDLINE

AMA Manual of Style: A Guide for Authors and Editors
www.amamanualofstyle.com
Thank you.

annette.flanagin@jamanetwork.org