Authorship

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Authorship

- Implications of authorship
- Authorship guidelines
- Misuse of authorship
- Prevention and resolution of authorship disputes
- Role of editors in authorship misuse and disputes
- Where can we go from here?

Implications of authorship

Why authorship and publication are important
Am J Health Behav 29:579, 2005
- According to the Department of Health and Human Services (HHS), Office of Research Integrity (ORI) ... “research has no value if it is not made public.”
- The gold standard for open exchange of information has been publication in prestigious, peer-reviewed professional journals

Importance of authorship

- “… used appropriately, authorship establishes accountability, responsibility, and credit”
- “… used inappropriately, it undermines the integrity of science and the validity of scientific information

Why authorship and publication are important
- Contribution to the progress of science
- Personal sense of achievement
- Evidence of intellectual effort
- Career advancement and contribution to professional reputation
- Academic appointment, promotion & tenure, merit pay increases
- Successful awarding and productive use of research funds
- Access to professional organizations and speaking engagements
Authorship guidelines

International Committee of Medical Journal Editors (ICMJE)

- Authorship credit should be based on:
  - Substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data
  - Drafting the article or revising it critically for important intellectual content
  - Final approval of the version to be published

International Committee of Medical Journal Editors (ICMJE)

- All persons designated as authors should qualify for authorship, and those who qualify should be listed
- Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content
- Acquisition of funding, collection of data, or general supervision of the research group alone does not constitute authorship

International Committee of Medical Journal Editors (ICMJE)

- The group should jointly make decisions about authorship before submitting the manuscript for publication
- It is not the role of editors to make authorship decisions or to arbitrate conflicts related to authorship
- All contributors who do not meet the criteria for authorship should be listed in the acknowledgments

Legitimate authorship

Examples of substantial contributions

- Hypothesis generation and experimental design
- Organizing and conducting the experiments
- Interpreting and analyzing the results
- Writing and revising the manuscript

Activities that should be acknowledged

- Suggestion of a research question
- Provision of research funds
- Involvement in patient recruitment, patient care or provision of patient samples
- Provision of reagents, instrumentation or laboratory space
- Data collection and entry
- Purely technical advice or help
- Advice about data analysis and statistical support
- Technical editing to improve written expression
- Typing the manuscript
- General supervision or encouragement
Should technicians be authors?

- YES, if they contributed to the paper in an *intellectually significant* way (i.e., beyond data collection alone)
- NO, if they have NOT made contributions to experimental design, data analysis, data interpretation, or writing and revising the paper (*use acknowledgment instead*)

What about authorship of large multi-center studies?
Am J Health Behav 29:579, 2005

- List all names of the research team in the by-line (currently there is no MEDLINE limit to the number of authors)
- List only the names of those who meet the ICMJE criteria for authorship in the by-line and indicate that they are writing for the group
- List the name of the research group as author

Authorship order

- Order usually conforms to extent of contribution to project but authorship order has never been specifically codified
- Order is a joint decision among co-authors but all authors should be prepared to defend their contribution and the order of authorship
- Too many authors dilutes the work of those who have substantively contributed

Authorship order
Shapiro et al. JAMA 271:438, 1994

- First authors consistently made substantial contributions to every element of research with the possible exception of funding
- Second authors contributed less than first authors but still contributed to most elements of the research
- Middle authors were least likely to have contributed to intellectual aspects of the research, but to believe their contributions are always minimal is a potentially false assumption
- Last authors contributed similarly to first and second authors. They were most likely to have contributed resources and least likely to have collected data. Often a senior member of the research team.

Authorship order
Levels of oversight responsibility

- Authors
- Academic and research institutions
- Journal editors
International Journal of Cardiology
Principles of ethical publishing
(Int J Cardiol 131:149-150, 2009)

- Corresponding author has approval of all other listed authors for submission and publication of manuscript
- All who have a right to be recognized as authors have been included and everyone listed as an author has made an independent, material contribution
- Work submitted is original, has not been published elsewhere, and is not under consideration for publication elsewhere
- Material has been acquired according to modern ethical standards and does not contain material copied from anyone else without their written permission
- All material derived from prior work, including from the same authors, is properly attributed to the prior publication by proper citation
- Manuscript maintained on the servers of the journal and held to be a valid publication only as long as the above statements are true
- If any of the statements ceases to be true, the authors have a duty to inform the journal as soon as possible so the manuscript can be withdrawn

General principle

- Journal editors do not adjudicate disputes about authorship because they typically do not have enough information to judge these cases

Misuse of authorship

Misattribution

- “Misattribution of authorship undermines the integrity of the system, the prestige of the scientific community, and the public trust. In academic settings, authorship, particularly first authorship, in peer-reviewed journal is the currency used to achieve promotion and tenure, merit pay, professional prestige, and competitiveness for research funding.”
- Laflin MT. Am J Health Behav 29:579-587, 2005

Types of author misattribution

- Honorary authorship (guest or gift authorship)
  - Listing as an author someone who fails to meet accepted criteria for authorship
- Ghost authorship
  - Failing to list as an author someone who meets accepted criteria for authorship

Ghost authorship

- Failure to include as an author someone who contributed substantially to the project and meets accepted guidelines for authorship
- Benevolent ghosts (“good guys” who should have been included) and malevolent ghosts (“bad guys” who were not included to avoid real or perceived conflict of interest)
Ghost authorship

Industry employees may write the article but not be listed as authors to mask industry involvement, and a prestigious academician or researcher is invited (and sometimes paid an honorarium) to serve as author.

Malevolent ghost

The Vioxx® (rofecoxib) case

- Merck industry employees worked independently to prepare manuscripts and then recruited external academic investigators to serve as first or second authors on the manuscripts.
- Recruited authors often were paid for their participation.
- 92% of clinical trials acknowledged Merck’s financial sponsorship but only 50% of review articles did.
- In 2 papers, data showing that Vioxx® may contribute to heart attacks was not reported. Ultimately, Vioxx® was taken off the market.

Ghost authorship

- A graduate student or junior faculty member may participate substantially in a project and qualify as an author according to accepted guidelines but not be listed as an author.
- An example of plagiarism.

Benevolent ghost

Honorary (gift or guest) authorship

- Coercion ("pressured") authorship:
  - A more senior person in a position of authority uses that position to compel a more junior person to include him or her on a manuscript despite the fact that the more senior person does not meet accepted authorship criteria.
  - "Pressure" may be subtle or blatant.

An unwelcome (uninvited) guest!

The Korean stem cell paper in Science

- Dr. Woo Suk Hwang of South Korea published a paper in Science indicating that embryonic stem cells could be generated by somatic cell nuclear transfer.
- Dr. Gerald Schatten of the University of Pittsburgh was included as senior and corresponding author although he had not participated in or overseen the research.
- The data were determined to be fraudulent and the paper retracted.
- Although Dr. Schatten had not falsified any information, he was found guilty of "scientific misconduct."
What to do if you’re a victim of author misattribution (COPE 2003)

- If your name has been included without your consent ("gift" or "guest"):
  - Ask the other authors to remove your name (before publication)
  - Contact the journal editor and ask that a correction be published (after publication)

- If your name has been omitted despite meeting accepted criteria for authorship ("ghost"):
  - Discuss the issue with the other authors
  - Journal editors usually will not add your name (or publish a correction) without written agreement from the other authors

Other misuses of authorship

**Fragmentary publication**

- Also known as divided publication, the "least publishable unit" (LPU) approach or "salamis slicing"
- Author attempts to publish several short papers that could have been combined and published as a single, longer paper
- Increases editorial workload (e.g., peer review, editing, indexing, abstracting)
- Difficult for editors to detect because they usually are unaware of other papers derived from the work under consideration
- Reviewers may be able to help because they usually are more familiar with the area of study
- Editors should require authors to provide copies of published papers (or those under consideration by other journals) that contain data from the same project
- If published already, the authors should cite the other papers in their current submission

**Duplicate publication**

- Publishing the same material in more than one journal (self-plagiarism)
- The author should cite the previous publication and not duplicate the material
- If a previously published manuscript is to be reproduced in another journal, permission should be obtained from the original publisher and the original article should be appropriately cited
- Reviewers can help editors identify duplicate publication because they often are familiar with the other publications of an author
- SPiLT is an example of a software tool to detect self-plagiarism [http://splt.cs.arizona.edu/](http://splt.cs.arizona.edu/)

**Multiple submission**

- Submitting the same manuscript to several journals at the same time
- Some authors view this practice as expedient (i.e., "If it's accepted by more than one journal, I'll just withdraw it from the other less desirable journal") This approach is ethically wrong
- Multiple submission duplicates efforts for editors, reviewers, and other members of the journal’s editorial staff

**Incremental publication**

- Has features of both fragmentary and duplicate publication
- Example: Author publishes a case report of an uncommon disease, then a small case series that includes the index case, and then a large case series that includes the index case and all of the cases in the smaller series
- Creates a false impression of prevalence of the disease and may cause distortion of evidence in subsequent meta analyses
- Results in unjustified "padding" of an author’s CV

Other misuses of authorship

- Fragmentary publication
- Duplicate publication
- Multiple submission
- Incremental publication
Prevention and resolution of authorship disputes

Principles for preventing authorship problems (COPE 2003)
- Encourage a culture of ethical authorship
- Start discussing authorship when the project is first planned
- Decide on authorship and order of authorship before starting to write the manuscript
- Continue to communicate throughout the process

Recommendations for minimizing and resolving authorship disputes
- All research institutions, journals and scientific societies should have formal authorship policies
- All research institutions should have a mechanism in place to address authorship disputes
- Dispute resolution committees should be advisory (not decision-making) bodies
- Committees should have the authority to recommend disciplinary action if abusive authorship practices are uncovered
- Letters of submission of manuscripts to journals should include an “authorship verification statement” signed by all authors and indicating each author’s contribution
- The specific roles of the authors (“contributorship”) should be listed in the published article
- Authorship should be negotiated and defined in writing at the beginning of the project. Frequent communication should occur during the project.

Role of editors in authorship misuse and disputes

Potential consequences for violation of authorship requirements
Arthritis Rheumatism 55:345, 2006
- Warning letters
- Refusal to publish the manuscript in question
- Retraction of a published paper
- Statement of loss of confidence in the author, published in the journal
- Exclusion of publication of manuscripts by the author in the journal for a specified period of time

Where do we go from here?
Where do we go from here?

- Contributorship and guarantorship
- Conflict of interest disclosure
- Schemes to determine authorship and arrange order
- Academic institutions and granting agencies should evaluate the QUALITY of publications rather than simply the QUANTITY!

Contributorship and guarantorship

- **Contributorship** Each author must describe his or her contribution to the manuscript and these are published with the article (increased transparency)
  - May raise suspicion of "guest" or "gift" authors ("provided overall guidance") and at least raise suspicion of "ghost" authors (e.g., failing to credit anyone with an obvious part of the project)
  - Cannot prevent simple dishonesty
  - May raise consciousness about authorship order
  - First articulated by Rennie et al (JAMA 278:579-585, 1997)
- **Guarantorship** One author takes responsibility for integrity of the work as a whole, from inception of the project to publication

Editors should require authors of submitted papers to disclose real or perceived conflicts of interest (Err on the side of "too much" disclosure!)

- Membership on advisory board, review panel, or board of directors
- Consulting
- Employment
- Gifts
- Patents (planned, pending, or issued)
- Payment for development of educational materials
- Royalties
- Accepting honoraria for speaking or writing
- Stock or stock options
- Travel and accommodations covered or reimbursed

An objective method to quantify author contributions and assign authorship order


- Each potential author’s contribution is scored in 7 categories and the scores used to rank the authors in the authorship list
  - Conception
  - Design
  - Implementation
  - Data analysis and interpretation
  - Writing the first draft
  - Review and revision of the manuscript
  - Public responsibility for the work

QUAD system


- Authors state their "percentage share of total credit" in 4 categories
  - Conception and design
  - Data collection
  - Data analysis and conclusions
  - Writing the manuscript
- Authors are listed in decreasing percentage of contribution with a minimal contribution of 10% required for authorship

References

References

- Shapiro DW, Wenger NS, Shapiro MF. The contributions of authors to multi-authored biomedical research papers. JAMA 271:438-442, 1994.


Websites

- International Committee of Medical Journal Editors (ICMJE): www.icmje.org
- Committee On Publication Ethics (COPE): www.publicationethics.org
- Council of Science Editors (CSE): www.councilscienceeditors.org
- World Association of Medical Editors (WAME): http://www.wame.org/