

Authorship in science

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Authorship of scientific
research is not straightforward!



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John R. B. Perry,^{3,4} Nigel W. Rayner,^{1,2} Rachel M. Freathy,^{3,4}
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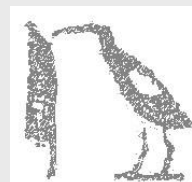


[Journal of Instrumentation](#) > [Volume 3](#) > [August 2008](#)Create an alert  RSS this journal The ATLAS Collaboration *et al*/2008 *JINST* 3 S08003 doi:10.1088/1748-0221/3/08/S08003

The ATLAS Experiment at the CERN Large Hadron Collider

OPEN ACCESS THE CERN LARGE HADRON COLLIDER: ACCELERATOR AND EXPERIMENTS

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An International Randomized Trial Comparing Four Thrombolytic Strategies for Acute Myocardial Infarction

The GUSTO Investigators

N Engl J Med 1993; 329:673-682 | [September 2, 1993](#)

The GUSTO study

- 1081 hospitals in 15 countries
- 41,021 patients
- 972 authors



Biomedicine (life sciences)

- Often refer to ICMJE (International Committee of Medical Journal Editors)
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ICMJE criteria (2013 version)

- 1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; and
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Journal authorship guidance

(n=234 biomedical journals)

No guidance	41% (100)
ICMJE criteria	29% (68)
Partial ICMJE (authors must approve ms)	14% (33)
Own criteria	14% (33)

but 9/25 cited outdated ref!

Wager, *Medscape Gen Med* 2007;9:16



Many people don't know / disagree with ICMJE criteria

Of 66 UK researchers
(univ med faculty)

- 51% unaware of any explicit criteria
- 62% disagreed that all 3 criteria should be met

Bhopal et al *BMJ* 1997;**314**:1009-12



Many people don't know / disagree with ICMJE criteria

Of 39 French researchers (PIs)

- 49% unaware of ICMJE authorship criteria
- 77% disagreed that all 3 criteria should be met
- 41% had been left off articles
- 62% had learnt they were an author after publication

Pignatelli et al *JME* 2005;31:578-81



American Institute of Physics

- Authorship should be limited to those who have made a significant contribution to the **concept, design, execution, or interpretation** of the research study. All those who have made significant contributions should be offered the opportunity to be listed as authors. Other individuals who have contributed to the study should be acknowledged, but not identified as authors.



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also American Society of Mechanical Engineers



One solution

- Contributorship
- List individuals' contributions (who did what)
- *“S&T were involved with study design and data interpretation, U performed statistical analysis, V&W collected data, T prepared the first draft, all authors reviewed the final version”*
- Can still acknowledge others



How many journals list contributors?

- No recent global data
- ICMJE strongly recommends this
- Survey of 234 journal IforAs in 2006 found only 21 (9%) described individuals' contributions
 - *Wager Medscape General Medicine 2007;9:16*
- Survey of 59 Indian medical journals in 2010 found that 30 (51%) required contributions to be described
 - *Jaykaran et al Indian J Med Ethics 2011;8:36-8*
- Survey of 49 Pakistani medical journals in 2008 found that only 1 (3%) required contributions to be described
 - *Samad et al Pak J Med Sci 2009;6:879-82*



How are “contributions” measured?

- Authorship is still used to measure research productivity / for appointments / tenure, etc.
- Do funders / institutions recognise that contributors may be different from authors?
- First authors usually get most ‘credit’ ...



ICMJE: contributors

- “Contributors who meet fewer than all 4 of the above criteria for authorship should not be listed as authors, but they should be acknowledged. Examples include ... writing assistance, technical editing, language editing, and proofreading.”

There is confusion
around the term
'contributor'



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N Engl J Med. 2013 Dec 12;369(24):2283-93. doi: 10.1056/NEJMoa1310669. Epub 2013 Nov 19.

A pharmacogenetic versus a clinical algorithm for warfarin dosing.

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Collaborators (198)

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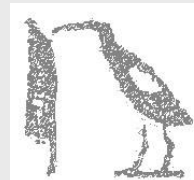
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Abstract

BACKGROUND: The clinical utility of genotype-guided (pharmacogenetically based) dosing of warfarin has been tested only in small clinical trials or observational studies, with equivocal results.

METHODS: We randomly assigned 1015 patients to receive doses of warfarin during the first 5 days of therapy that were determined according to a dosing algorithm that included both clinical variables and genotype data or to one that included clinical variables only. All patients and clinicians were unaware of the dose of warfarin during the first 4 weeks of therapy. The primary outcome was the percentage of time that the international normalized ratio (INR) was in the therapeutic range from day 4 or 5 through day 28 of therapy.

RESULTS: At 4 weeks, the mean percentage of time in the therapeutic range was 45.2% in the genotype-guided group and 45.4% in the clinically guided group (adjusted mean difference, [genotype-guided group minus clinically guided group], -0.2; 95% confidence interval, -3.4 to 3.1; P=0.91). There also was no significant between-group difference among patients with a predicted dose difference between the two algorithms of 1 mg per day or more. There was, however, a significant interaction between dosing strategy and race (P=0.003). Among black patients, the mean percentage of time in the therapeutic range was less in the genotype-guided group than in the clinically guided group (44.1% vs 46.8%; adjusted mean difference, -2.7; 95% confidence interval, -4.9 to -0.5; P=0.02). There was no significant difference in the percentage of patients with a major bleeding event or a thromboembolism event between the two groups (P=0.88).



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