How to review well: Perceptions of training needs for reviewers

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Peer review at Wiley

- Peer Review Management department established in 2014

- Global department with three regional teams (EMEA, NA, APAC)

- ~250 journals with publisher-based editorial offices, cross-discipline

- Development of best practice in peer review, editorial office systems, adherence to ethical publishing standards

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The problem

'Currently peer review is thought to be slow, expensive, profligate of academic time, highly subjective, prone to bias, easily abused, poor at detecting gross defects, and almost useless for detecting fraud'

Richard Smith, *The future of peer review*, in *Peer review in health sciences*, ed Godlee and Jefferson, London 2003

'Peer review is dead...long live peer review!'

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Who decides what makes a good reviewer?

'Industry-wide agreement on core competencies may facilitate the reward and recognition of reviewers.'

'It was asked whether there is a lack of trust in the reviewing ability of emerging and high-growth market researchers. A training and recognition mechanism based on core competencies could help alleviate this issue.'

The net promoter score – 'would you use this reviewer again?' – in lieu of any more substantial measure: simple and fairly consistent application

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External drivers

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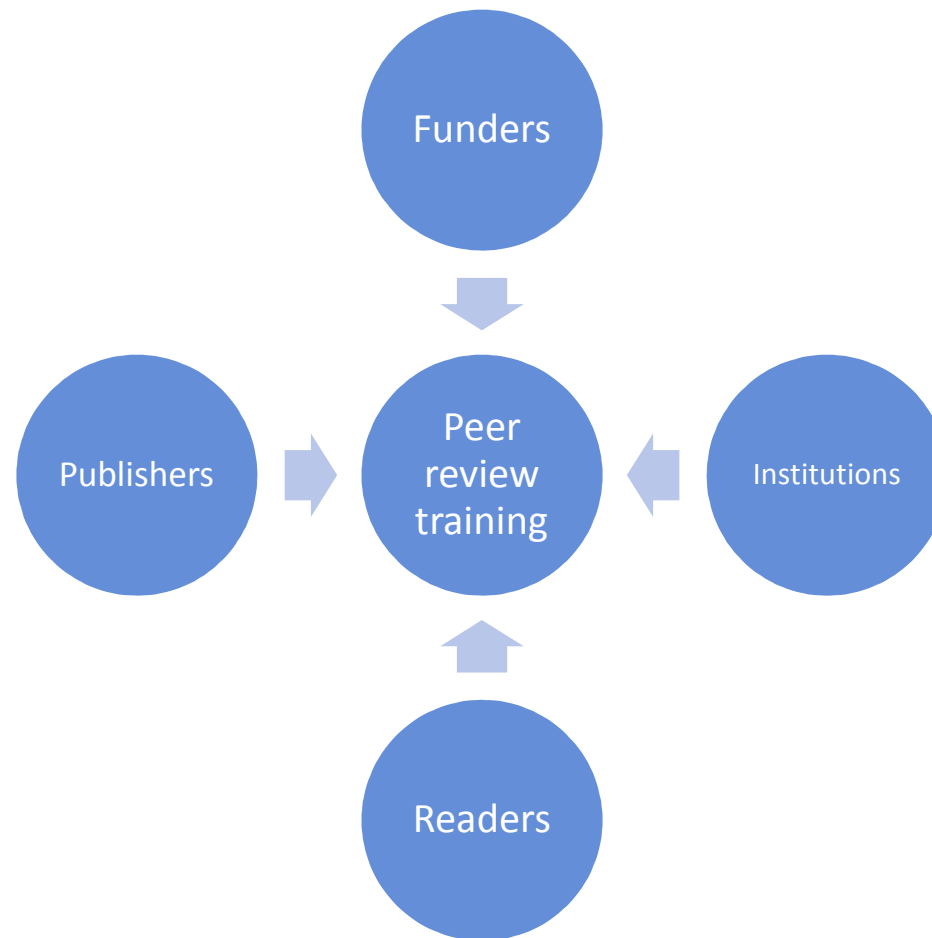
External drivers

'Given the importance of peer review across the research spectrum, from grant applications to publications, we consider that all **early-career researchers should be given the option for training in peer review**.'

House of Commons
Science and Technology Committee

Peer review in scientific publications

Eighth Report of Session 2010–12

Volume I: Report, together with formal minutes, oral and written evidence

Additional written evidence is contained in Volume II, available on the Committee website at www.parliament.uk/science

Ordered by the House of Commons to be printed 18 July 2011

External drivers

'We welcome the fact that the publishers we have heard from are training authors and reviewers on **an international level, particularly those from countries which are not traditional scientific leaders**, and we encourage others to do the same. This should help alleviate the current imbalance between publication output and participation in peer review.'

House of Commons S&T Committee report, 2011

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External drivers

'…major organizations including **medical schools, medical regulatory and accreditation organizations** (such as the General Medical Council and Royal Colleges in the UK), **funding bodies, publishers and journal editors and lay people** need to come to a consensus on the definition, purpose, standards and training requirements of peer review of RCTs. Training should begin in medical schools and be ongoing.'

Opinion   Highly accessed   Open Access

Why training and specialization is needed for peer review: a case study of peer review for randomized controlled trials

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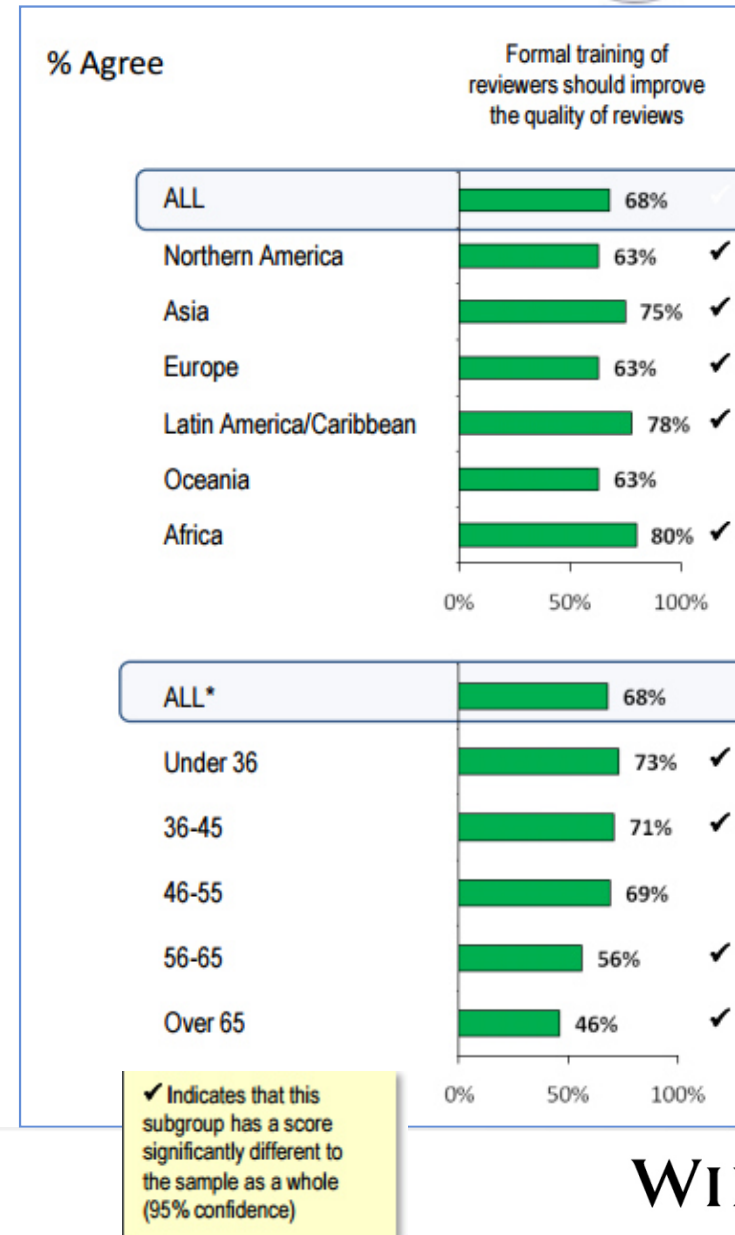BMC Medicine 2014, **12**:128   doi:10.1186/s12916-014-0128-z

The electronic version of this article is the complete one and can be found online at:
http://www.biomedcentral.com/1741-7015/12/128

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Internal drivers

Sense About Science peer review
survey:

• ~4k researchers selected from ISI database

• July/August 2009

• available at
http://www.senseaboutscience.org/pages/peer
-review-survey-2009.html

% Agree	Formal training of reviewers should improve the quality of reviews	
ALL	68%	
Northern America	63%	✔
Asia	75%	✔
Europe	63%	✔
Latin America/Caribbean	78%	✔
Oceania	63%	
Africa	80%	✔

ALL*	68%	
Under 36	73%	✔
36-45	71%	✔
46-55	69%	
56-65	56%	✔
Over 65	46%	✔

✔ Indicates that this subgroup has a score significantly different to the sample as a whole (95% confidence)

9

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Internal drivers: the Wiley survey

- 170,000 authors contacted

- Wiley authors and authors publishing in journals with IF in 2014

- 2,892 usable responses received

- broad geographical and disciplinary representation

- self-selection bias is a weakness of the study

- Warne, V. (2016) Rewarding reviewers – sense or sensibility? A Wiley study explained. *Learned Publishing*, 29: 41–50. doi: 10.1002/leap.1002

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wileypeerreview.github.io

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Who are the reviewers?

US researchers bear a disproportionate burden of peer review: ~33% of papers reviewed but ~23% of papers published

Contrast China, where researchers publish ~x2 as many papers as they review

A possible solution to the 'reviewer crisis' (shortage of reviewers)?

'There is a need to increase the reviewer pool especially in **high growth and emerging markets** and among **early career researchers**'

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Do reviewers want training?

Most reviewers would welcome further training support:

'Early career respondents rate **guidance and mentoring** as important, while late career respondents rank **general ethics guidelines** for peer reviewers as more important'

TABLE 6 The number of respondents who would participate in peer review training sessions if offered the opportunity.

	Responses by number of years reviewing (%)						All responses (%)
	<1	1–2	3–5	6–10	11–15	15+	
No	6	8	14	25	36	50	23
Yes	94	92	86	75	64	50	77

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Do reviewers want training?

'The findings of this survey suggest that training support for reviewers is needed **throughout the researcher career arc**, not just for those new to reviewing'

77%

Most Reviewers Desire Training
Desire was high among both early career and established researchers.

Demand for training by reviewing experience

less than 5 yrs	89%
more than 6 yrs	65%

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What training do reviewers want?

Specific training areas that are in most demand.

Constructing a Report

Providing Feedback

Handling Plagiarism Issues

Demand for training on fundamentals of reviewing crosses all experience levels.

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How do training needs vary by discipline?

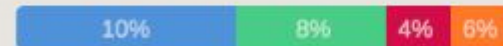Health Sciences

Life Sciences

Physical Sciences

Social Sciences and Humanities

Notable differences between disciplines include

	Health Sciences	Life Sciences	Physical Sciences	Social Sciences and Humanities
Reviewing Systematic Literature Paper	9%	6%	6%	8%
Performing a Statistical Review	10%	8%	4%	6%
Reviewing a Quantitative Research Article	8%	7%	9%	8%
Reviewing Data	6%	7%	5%	5%

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How do training needs vary by region?

Providing constructive, useful feedback
was most popular training topic for
50% of all regions

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What training do reviewers want?

TABLE 7 The type of training that respondents would find beneficial. Respondents were allowed to select up to three types of training.

	Responses by number of years reviewing (%)						All responses (%)
	<1	1–2	3–5	6–10	11–15	15+	
Introduction to becoming a peer reviewer	14	11	9	7	6	7	9
Handling conflicts of interest	4	3	3	4	5	5	4
Handling plagiarism issues	8	9	9	11	11	11	10
Constructing a review report	11	12	11	12	10	12	11
Providing constructive, useful feedback	8	10	10	12	13	13	11
Working with editors during the review process	7	7	8	9	9	9	8
How to review a qualitative research article	9	9	8	8	8	6	8
Reviewing a quantitative research article	5	6	6	6	6	5	6
Performing a statistical review	8	8	8	7	7	7	7
Reviewing a clinical paper	5	5	5	5	3	4	5
Reviewing a systematic literature review paper	6	7	7	7	7	7	7
Reviewing data	6	6	6	5	5	4	6
Handling re-reviews	4	4	5	5	5	7	5
Understanding/checking against reporting standards guidelines	4	4	4	3	3	3	3

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Notable (but unsurprising?) variations

Social sciences and humanities: main interest in how to review a qualitative research article

Health and life sciences: main interests in
- performing a statistical review
- reviewing a systematic literature review
- reviewing data
- handling re-reviews

'Asian reviewers express much higher demand for an **introduction to becoming a peer reviewer**, **working with editors**, and **reviewing a qualitative research** paper than Western counterparts'

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How do reviewers learn at the moment?

TABLE 5 Types of reviewer training received by respondents to date.

Training received	Responses by number of years reviewing (%)						All responses (%)
	<1	1–2	3–5	6–10	11–15	15+	
Guidance from my PI/supervisor	25	22	20	17	15	14	19
Participation in a journal-level reviewer mentoring scheme (across multiple journals)	2	4	5	4	2	4	4
Physical workshops/seminars on how to review	7	5	4	4	3	3	4
Live webinars on how to review	2	2	2	2	1	1	2
Videos on how to review	2	4	3	3	2	2	3
Reading of general review ethics guidelines (e.g. COPE)	14	17	18	19	20	17	18
Reading of journal-level guidelines for reviewers	30	29	30	33	34	37	32
Informal counselling from peer network	16	14	15	15	17	17	16
Other	2	2	2	3	5	6	3

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How do reviewers learn at the moment?

Informal

Mentoring and advice from senior colleague

Journal club with colleagues

Formal

Publishers

Institutions (postgraduate course modules)

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How do reviewers learn at the moment?

'Part of the training of a scientist is peer review. For example, journal clubs, which are an almost ubiquitous part of the training of scientists, bring people together to criticise a piece of published work. That is a training in peer review. Can more be done to train peer reviewers? Yes, I think it probably can. **PhD courses increasingly have a significant generic element to them. It is reasonable that peer review should be part of that**.'

Sir Mark Walport, Wellcome Trust, quoted in House of Commons S&T committee report

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How do reviewers learn at the moment?

Publisher resources

Wiley: www.wileypeerreview.com

Elsevier Reviewers Hub: https://www.elsevier.com/reviewers

Springer peer review academy: https://www.springer.com/gp/authors-editors/journal-author/peer-review-academy

BioMed Central reviewer tips: http://www.biomedcentral.com/series/peerreview

Journal initiatives

Journal of Morphology reviewer mentoring and workshop

http://exchanges.wiley.com/blog/2014/11/07/mentoring-the-next-generation-of-reviewers/

Austral Ecology ECR reviewer programme

https://www.ecolsoc.org.au/austral-ecology-early-career-reviewer-program

Learned societies

British Academy of Management workshop at annual meeting

Industry bodies

COPE www.publicationethics.org

ISMTE www.ismte.org

EASE www.ease.org

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Peering into the future

Institutions and funders making reviewing activity more accountable/transparent > efficiencies in research and review output

Publishers and societies providing greater training opportunities for researchers, specifically in reviewing

More formal training courses required/provided by institutions

Drive towards core competencies/what makes a good reviewer

Increasing globalisation of reviewer pool

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Questions?

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