

VIEWPOINT

Peer review: economy, identity, diversity

Jocalyn Clark ✉

The Lancet, London, UK; jocalyn.clark@lancet.com; ORCID 0000-0002-8014-3989

Reshma Jagsi

Center for Bioethics and Social Sciences in Medicine, University of Michigan, Ann Arbor, USA; ORCID 0000-0001-6562-1228

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Abstract

To meet the needs of their wide-ranging audiences, journals and editors must publish science that reflects the diversity of the communities they serve. And yet we collectively neglect the importance of optimizing the diversity of peer reviewers. This viewpoint explores the vital economy and identity of peer reviewers, and how these can help improve diversity in peer review. Economy, because this form of labour props up a publishing system, doling out the main form of currency within academia, and identity, because what peer reviewers contribute extends beyond their disciplinary expertise to their sense of self and what they represent: the backgrounds, values, and views they bring to the work of reviewing scientific papers.

Keywords: Gender equality, health equity, peer review

Introduction

Publishing in journals, which allows dissemination and testing of scientific ideas, is essential to academic careers, and peer review is the cornerstone of journal publishing. What often goes unappreciated is the vital economy and identity of peer reviewers. Economy, because this form of labour props up a publishing system, doling out the main form of currency within academia, and identity, because what peer reviewers contribute extends beyond their disciplinary expertise to their sense of self and what they represent: the backgrounds, values, and views they bring to the work of reviewing scientific papers. Diversity is at the heart of all of this; in a globalized and multidimensional world of ideas and health challenges, a diversity of perspectives is essential. And to meet the needs of their wide-ranging audiences, journals and editors must publish science that reflects the diversity of the communities, readers, authors, and patients they serve. And yet we collectively neglect the importance of optimizing the diversity of peer reviewers.

This year's Peer Review Week (21–28 September 2021) allowed publishers, leaders of professional societies, editors, librarians, funders, researchers, and other producers and consumers of scientific research from around the globe to celebrate the importance of the peer-review process for good science and to reflect on how best to optimize it. The theme this year focused on identity, highlighting the role of personal and social identity in peer review and the ways the scholarly community can foster more equitable, diverse, and inclusive peer-review practices. We hosted a webinar on diversity in peer review (accessed by <https://info.thelancet.com/the-lancet-webinars-peer-review>) that illuminated and discussed the role of identity and how to better source and use a wide range of experts in peer review.

Peer review – evaluation of scientific papers by experts in the field – has been depended upon for quality control for as long as journals have existed, and yet relatively little research on peer reviewers has been done. What we know from the fields of medicine and science suggests that a narrow group of experts is called upon for peer review of research that fills journals, media reports, and health policy.

What is the problem?

In 2017, just 22% of reviewers for *The Lancet* were women,¹ a number that rose to 30% in the first half of 2021 after the editors made commitments to improve.² For *The New England Journal of Medicine*, the proportion was just 18% in 2017.³ Across a range of medical journals, Steinberg and colleagues estimated just 13% of reviewers were women and 87% were men, despite 44% of practising clinicians in the USA and 31% of clinical academics in the UK, for example, being women. We are not aware of studies reporting journal peer reviewers by race or ethnicity, but a recent survey of 151 psychiatry and neuroscience journals found that just 13% of editors-in-chief and 19% of members of editorial boards identified as non-White.⁴ When available, data on journal peer reviewers by race and ethnicity might be expected to follow the worrying trends concerning grant reviewers: just 2.4% of the pool of peer reviewers at the US National Institutes of Health are Black.⁵

Across geography, the top journals, even those publishing in the fields of global health, poorly reflect their audiences. *The Lancet* reported that in 2017 a full 73% of reviewers were men from high-income countries,¹ and *Lancet Global Health* said that although 64 countries were represented among peer reviewers in 2018, nearly a third came from the USA alone and 15% from the UK;⁶ in the first half of 2021 the *Lancet Global Health* editors reported their peer reviewers to be split about equally between the high-income world and the low and middle income world.⁷ These pools of peer reviewers are unacceptably narrow. What is needed are experts with diverse, relevant lived experience and expertise, so they can raise salient questions, check contextual

fit with the research question and interpretation, and properly evaluate the methodology and interventions used. As Guy and colleagues argue,⁸ the best science addressing the health of increasingly diverse patient populations requires the involvement of peer reviewers who reflect such diversity, uniquely able to review the credibility and quality of work. As last year's scandal at the *Journal of Vascular Surgery* where authors, editors, reviewers, and editorialists – all men – negatively targeted young women surgeons as displaying unprofessional social media conduct showed, the problem with having a lack of diversity and inclusion throughout the editorial and peer-review process was a failure to detect the implicit biases present in the manuscript.⁹ Similarly, scientific journals have drawn criticism for publishing studies with questionable hypotheses, such as when the *American Journal of Emergency Medicine* found it worth publishing a study showing that women can perform endotracheal intubation as well as men,¹⁰ or flawed analyses, such as a *Nature Communications* paper, since retracted, that suggested working with women mentors could be detrimental to young scientists.¹¹ These examples reflect an apparent and striking lack of input during the peer review process from experts who could have recognized the studies' shortcomings prior to publication.

Furthermore, the perspectives of underrepresented groups, such as women and experts from racialized minorities, lead to the incorporation of inclusive perspectives such as sex-, gender-, and ethnicity-related reporting.¹² The case is clear for implementing strategies to broaden the pool of peer reviewers.

How can we improve?

Optimizing the inclusion of peer reviewers with a diversity of experience and expertise is not just for the benefit of journals—serving as a peer reviewer can help an academic contribute to her field and become visible to journal editors, which may lead to opportunities to write editorials or commentaries or serve as an editorial advisor and accumulate experience to improve publishing acumen. More publishing success leads to more competitiveness for funding and awards, which fuels the ascent up the career ladder and seniority, resulting in more women and minority groups among the academic leaders and experts, ensuring that those directing scientific inquiry, including peer reviewers, reflect the whole population that research should serve.

Indeed, accruing experience to fill the editorial ranks is sorely needed: in the JAMA journals, for example, across 346 editors and editorial board members, 71% are White, 19% are Asian, 6% are Black, and 4% are Hispanic—38% are women.¹³

But the labour is not inconsiderable. That the economy of peer review needs fixing has become especially apparent during the COVID-19 pandemic. Reading and reviewing a paper, and writing a succinct report, takes time—a resource increasingly scarce. In a pandemic, time and space are both particularly rare commodities for women academics disproportionately burdened with care responsibilities as children, illness, and virtual working infiltrate the home.¹⁴ For those carrying more than one marginalized identity, for example, Black, Latinx, LGBTQIA+, or disabled women, the challenges are exacerbated. For our colleagues in low- and middle-income countries, the burdens of peer review may exceed capacities.

How can we fix the economy of peer review?

Diversifying the pools of peer reviewers and appropriately compensating the efforts must go hand in hand. Peer review is a legitimate form of service, and this labour should be valued within academic institutions just as publication is. The quality of peer review reports can also be evaluated, and those who consistently produce excellent work merit rewards. Some journals publish the names of reviewers, providing recognition, and others issue awards for top producers. Peer reviewers who provide high-quality and timely reviews are also viewed favourably for positions such as associate editor. Pairing the diversification of peer reviewers with their evaluation and elevation was recently described by editors at the 'Red Journal', the *International Journal of Radiation Oncology Biology Physics*,¹⁵ the editors of which said they have taken this deliberate approach to incentivize previously invisible and unrewarded service and to democratize access to positions of greater influence in the field. This approach seems worthy of replication in other journals.

We also need better study of the interventions to reduce bias, increase diversity, and create impact. Consensus does not exist on what outcomes should be measured, especially those that allow us to understand how we create and ensure cultural change.

How do we incentivize editorial or behavioural change?

Neither high-quality peer review nor the high-quality science that depends upon it can exist without inputs from diverse perspectives. The vital economy of peer review can no longer remain unrecognized. Instead, we must intentionally cultivate and appropriately reward the work of peer reviewers to ensure that it includes meaningful representation from individuals with varied identities and life experiences. In so doing, we not only secure the crucial final step in the labour of rigorous scientific studies but also take a necessary early step towards ensuring the vitality and diversity of the future leaders of the field.

Competing interests

Jocelyn Clark is an Executive Editor of *The Lancet*, former editor at *Journal of Health, Population and Nutrition*; *PLOS Medicine*; and *The BMJ*, and co-chairs The Lancet Publishing Group's Gender and Diversity Taskforce. Reshma Jagsi serves on the editorial boards of *JAMA Oncology* and *Journal of Clinical Oncology: Oncology Practice*.

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