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European Urology: Serving Our Readership Through Systematic Peer Review, Use of Reporting Standards, and Encouragement of Postpublication Review

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The world of medical and biological publishing is evolving quickly. Historically, although publishing could enhance career progression for individuals and advance science as a whole, the number and depth of manuscripts were limited by technology and the slow process of writing and publishing manuscripts. Once published, few papers were corrected or retracted, and scientific discussion was usually pursued through letters to the editor or follow-up reports. All this is changing.

The pressure to publish has never been greater for members of the medical and scientific community. It is now expected that medical students and residents must publish if they aspire to academic posts [1]. Competition for funding means that researchers are often judged primarily by the quantity and quality of their published manuscripts. In addition, technological and structural advances in both medical and biological fields offer faster, deeper, and larger perspectives on every biological system and aspect of health care, whether sequencing the genome of thousands of cancers or determining the outcome of medical interventions across whole continents. This vast collection of information is now broadly accessible through data repositories. Finally, the technology of publishing and reading has changed beyond recognition in recent years. Peer review now occurs at an accelerated rate, and online proofs of manuscripts appear almost simultaneously with acceptance e-mails. In 2014, the default version of *European Urology* became a digital file

accessible through e-mail or our Web site and readable on computers, laptops, tablets, and phones. We now know that almost half of our readership uses a tablet or a phone to read the journal, and many completely bypass the journal by using social media to consume our content [2].

These changes are challenging for the traditional medical publishing model, and adaptation is required if our patients, readers, and authors are to be protected. It has become more important than ever that we—as editors, reviewers, and authors—work together to generate high-quality, rigorous work for our readers and that readers accept a role in postpublication review. In this forum, we outline steps that we feel are vital to ensuring scientific rigor.

1. Reporting standards and statistical guidance

The purpose of a scientific report is to disseminate knowledge. To do this succinctly and accurately, we encourage all authors to adhere to appropriate reporting standards (as outlined in the journal's submission guidelines [3]). These standards offer structure to authors when writing manuscripts, define key information necessary to allow comparisons with matching data from other groups, and improve reporting quality [4]. Reporting guidelines increase the rate of inclusion in subsequent meta-analysis, the highest level of evidence within medicine. Despite these efforts, many published reports contain statistical errors [5].

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To help our authors, in this month's issue of *European Urology*, the journal's statistical team offers guidance [6]. The golden rule is to ignore all subsequent rules if there is a good scientific reason to do so. However, an author would be bold not to read this valuable statistical advice, given that the reports we now publish have undergone a separate statistical peer review by a professional statistician.

2. Authorship responsibilities

The expansion of medical journals, often through author-funded open access sources, has created an environment in which it can be easy to publish work [7]. This includes work of low quality, which adds little to patient care and may not be reproducible. Evidence suggests that the majority of retractions arise from author misconduct [8]. In an attempt to reduce this, all manuscripts submitted to *European Urology* undergo plagiarism checks prior to entering peer review and, if selected, subsequent peer review (as detailed below). To protect our readership, we expect our authors to know and adhere to their responsibilities (as outlined in the *European Urology* author conduct code [9]). *European Urology* is a member of and uses the guidelines from the International Committee of Medical Journal Editors (<http://www.icmje.org>). As such, we take transgression of author responsibilities seriously and act accordingly.

3. Peer review

External review is central to evidence-based medicine. Peer review is an active process that aims to assess and critique the quality, importance, and limitations of a manuscript; however, peer review can fail through reviewer bias or author manipulation. To minimise the risks of abuse, at *European Urology* we use up to five external experts for each report. All published reports have undergone both peer and editorial review. Authors are blinded to the names of each peer reviewer in the hope that anonymity will allow reviewers to be honest and critical. However, anonymous peer review can also allow conflicts of interest, and reviewers may offer strong, inaccurate opinions. Alternatively, some journals use open peer review (ie, the reviewer is named) to increase transparency, to support reviewer responsibility, and to reduce conflicts of interest; however, a recent analysis suggests this approach still fails to improve reporting standards [10]. Regardless of anonymity, the effectiveness of peer review is judged by the final quality of published reports and their acceptance within our community.

Manuscript retractions, once a rare event, are becoming more common [11]. Most retractions follow the identification of a serious error, which may occur through deliberate misconduct or an innocent mistake. The rise in the detection of these errors reflects either failings in prepublication peer review or increasing postpublication surveillance. Recent high-profile retractions suggest that both elements are important [12,13]. To encourage experimental replication and to discourage data manipulation, we require authors to

deposit large molecular datasets in open access repositories for use by others.

4. The importance of postpublication review

Changes in the way in which we read journals online or learn through social media have increased the role of postpublication surveillance. This is important because the number of publications is now greater than the amount of time that a reader has to survey the field. Initiatives such as PubPeer, PubMed Commons, and Open Review are attempting to augment and surpass traditional commentary methods by creating central sources of postpublication surveillance [14]. In the future, it is likely that citation count and peer use (eg, measured through social media counts) will become the measures by which time-poor readers select their material (see Altmetric's tab at www.europeaurology.com). *European Urology* encourages readers to comment online about our manuscripts and engage in postpublication surveillance.

5. Conclusions

The world of medical publishing is changing, and journals must adapt to protect their readers and authors. Although the measures of importance and the routes of reporting may change, high-quality peer-reviewed manuscripts are likely to remain central to judging, disseminating, comparing, and delivering scientific knowledge. Editors, authors, reviewers, and readers should embrace change and strive to increase quality and rigor by working together.

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