Essays

The role of editors in reducing waste in research: the REWARD campaign

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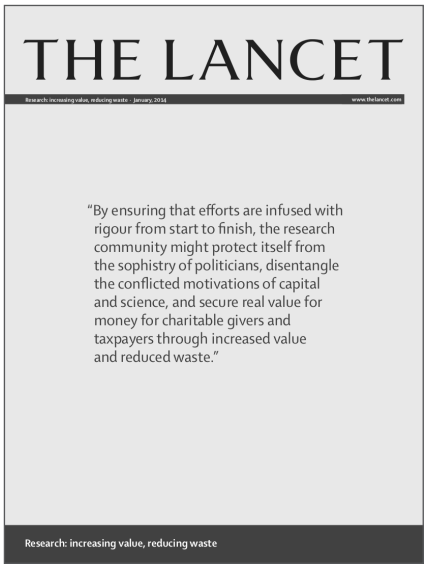
One concern within the research community that has become increasingly prominent in the past decade is the quantity of waste in research. The REduce research Waste And Reward Diligence (REWARD)[1] campaign, launched in 2015 at a meeting in Edinburgh that was attended by many EASE members, is an initiative that aims to increase the value of research contributions and reduce waste. EASE is one of many partners, including funders, pharmaceutical companies, journals and regulatory authorities that actively collaborate on the project. The foundation of the REWARD campaign is the acknowledgement that research potential is at its greatest when research priorities are appropriate; when research design, conduct and analysis are robust; when regulation and management are proportionate to the risks of the research; when all information on methods and findings is available and accessible; and when the research reports are complete and usable.



There are methods by which avoidable waste can be reduced or addressed.[2] In a Series paper published in *The Lancet* in 2014, Ian Chalmers and colleagues[3] recommended an increase in research on research and encouraged the assessment and strengthening of existing evidence before investing in new research on the same subject.

As part of this effort, the Lancet group of journals has been taking internal measures to increase the value of research. A new three-part Research in context panel was developed for use in all research articles across all *Lancet* journals. First, Evidence before this study must include details of a literature search, to establish the evidence that the authors considered, ideally before initiating their active research. The second section requests the Added value of this study, wherein authors detail the ways in which their new findings complement the evidence identified previously. Finally, the authors provide Implications of all the available evidence, in which they outline the importance and potential effect of new and previous research on clinical practice, policy or subsequent study.

Another Series paper, by John PA Ioannidis and colleagues,[4] highlighted the negative effect of correctable weaknesses in the design, conduct and analysis of studies. One recommendation was to make public full protocols, analysis plans or sequence of analytical choices. To that end, efforts have been made within *The Lancet* editorial team to better ensure the quality and consistency of the reporting with respect to the trial protocol. All interventional trials are expected to be registered in a primary register that conforms to the WHO International Clinical Trial Registry Platform. Full public disclosure of the trial registration dataset is encouraged.[5] Protocols must be submitted with study reports, which must in turn be reported consistently according to CONSORT 2010 guidelines.[6] Moreover, all prespecified primary and secondary outcomes should be reported at the same time, unless otherwise specified in the protocol. In fact, it seems that very few protocols include a publication plan or any details beyond 'the results will be published in peer-reviewed journals'. Within *The Lancet* group of journals, peer review editors cross-check the reported outcomes against those stated in the protocol, and follow up and negotiate with the author where these data are missing or incomplete. However, many journals do not include standard protocol checks, and preregistration, as described in detail by the Centre for Open Science,[7] has the potential to improve editing continuity and adherence to protocols. At *The Lancet* group, we think that the inclusion of the protocol at peer review has contributed to a higher standard of accepted manuscripts that are more consistent with the protocol and thereby has encouraged more robust behaviour during study conduct, data analysis and reporting.

We aim to have a complete report of all clinical outcomes for all time points, with the exception of long-term studies in which a preliminary analysis has been specified, particularly when the trial is complete at the time of manuscript submission. Among many other actions, assistant editors at *The Lancet* check calculations for accuracy, ensure numbers are supplied as well as percentages for statistical analyses and ensure complete reporting of the randomisation and masking procedures.

In the 5th *Lancet* series paper,[8] Glasziou and colleagues described the missing or misreported information in study reports, as reported by a number of reviews. Many sections were found to be incomplete, including inadequate reporting of patient progression through the study in more than half of reviewed studies, and in the 56% of papers

including CONSORT flow diagrams, many of the diagrams themselves were incomplete. Use of the CONSORT and other guidelines, including STARD, PRISMA, STROBE and ARRIVE, ensure consistent, complete reporting. Adherence to a standard reporting format based on these guidelines can help to ensure that readers are able to find the relevant information more consistently and easily than when formats differ greatly, particularly in the construction of the all-important abstract. We now provide the CONSORT trial profile in our Instructions for Authors, which helps authors to include all stages of participant recruitment and follow-up, including reasons for all those lost to follow up. We encourage other medical journals to do similar.

These and other requirements, such as the use of International Committee of Medical Journal Editors (ICMJE)[9] forms for consistent disclosure of potential conflicts of interest, are outlined in clear, concise guidelines that are readily available to authors before submission. The availability of these guidelines, and the encouragement to use them, has decreased the amount of time from manuscript acceptance to copy finalisation. When authors submit subsequent manuscripts, these are noticeably better at first draft. Another particular duty of Assistant Editors at *The Lancet* is the identification and removal of 'spin'. Glasziou and colleagues[8] reported that distorted reporting of results was a common problem in studies with non-significant differences in primary outcomes. Use of casual causal language, focus on lack of harm over effect and inadequate or missing declaration of limitations are some of the ways in which authors have presented their results in a more positive light than appropriate. Careful comparison of declarations to the data and of the data to the prespecified protocol can help minimise the effect of any of these issues. However, it behoves us all as editors to understand that bias in presentation may be unintentional, and authors are highly unlikely to be intentionally misleading readers. Any major changes should be identified at peer review and corrected before the paper reaches the editorial process, and those changes made at this stage can be presented politely and with coherent justification in order to maintain appropriate and productive communication with authors. Moreover, an open-minded approach to these changes can result in mutually agreeable compromises that maintain author voice while satisfying reporting standards.

There are numerous sources of waste that still need to be addressed, many of which fall outside the purview of editorial staff, such as monitoring, metrics, regulation-definers and the integration of study data into clinical practice.[10] Moreover, we acknowledge that *The Lancet* has the advantage of a large team of full-time, permanent staff, whereas many other groups have much more limited resources. However, through the standards we keep in the peer review and editorial process, we can have a positive influence on the reporting, interpretation and even the design and conduct of clinical trials. Provision of what we hope to be a gold standard of reporting can filter back through the research process at all levels and help to encourage a high standard of scientific reporting for our and other publications.

Conflict of interest

Rhiannon Howe is a Senior Assistant Editor with *The Lancet*.

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