Short articles for big impact

This month, we publish our first Comment articles. Here, we outline what authors and readers should know about these short, focused articles.

For a year now, *Nature Reviews Methods Primers* has focused on publishing Primer articles, which act as a guide for non-experts entering the field, providing an overview of the method, its data and analysis, as well as the advantages and disadvantages of using the technique and how to overcome its limitations. These articles are necessarily quite long and provide an in-depth and broad view of how a method can work for readers. Today, we publish our first Comment articles. Like Comments in other *Nature Reviews* journals, these short pieces are agenda-setting, authoritative and informed articles on topical issues important to our readers.

Alongside Primers, these shorter articles will allow us to explore specific issues and pitfalls of broader methods and provide snapshots of best practices within this context. In doing so, we hope to continue giving our readers the tools to design and guide their experiments. We intend for our Comments to look more closely at one aspect of a method, be it experimental design[1], data analysis[2] or improving reporting and reproducibility[3]. In this way, these shorter articles will shed light on a narrower aspect of using the method than our Primers, while still providing readers with useful advice.

Our first Comment by Pizzamiglio et al. discusses the challenges of designing clinical trials for drugs targeting rare diseases[1]. The authors outline issues with obtaining adequate statistical power and how to optimize study design to make use of small sample sizes, controls and available validated biomarkers. Furthermore, they discuss different strategies for designing rare disease clinical trials, including their advantages and disadvantages, to help readers determine which is best for them.

Getting a handle on data analysis can be a tricky part of using any method. Many methods generate large amounts of raw data that require either manual or automated processing. Analysis of electron cryo-microscopy (cryo-EM) data, for example, requires the selection of large amounts of single particles from micrographs. In their Comment, Wagner and Raunser discuss advances in automated particle picking techniques with the advent of deep learning[2]. They outline the different particle selection models and their training requirements, so that as a reader you will have a better idea of which tool is right for your needs.

We previously made the case for optimizing the way you report your methodology to improve reproducibility[4]. In their Comment, Faria et al. introduce reanalysis as the forgotten sibling of reproducibility and replicability. Reanalysis involves applying new analytical methods to existing data. Many researchers cite fear of scrutiny and additional work as their reasons for not providing sufficiently open data to facilitate reanalysis, and so Faria et al. provide practical tips that researchers can start using immediately to improve their data sharing and reporting.

For authors, Comments provide an opportunity to discuss solutions to common methodological problems in a concise way. Unlike Primers, Comments do not need to address a non-expert audience, providing authors with a chance to speak directly to their peers about workarounds and solutions pertaining to the field that may not be explicitly mentioned in the methods section but are talked about in the community.

Future Comments will explore issues with statistical analyses, integrating sustainability into experimental design and ways in which researchers adapted their labs and equipment to meet their needs during the COVID-19 pandemic. We are especially interested in having more conversations with you, our readers and authors, about the ways in which you have solved common issues in experimental design, data analysis and reproducibility. If you are interested in seeing a specific topic covered or you have a Comment idea for us, please get in touch to let us know at nrmp@nature.com.

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1. Pizzamiglio, C., Vernon, H. J., Hanna, M. G. & Pitceathly, R. D. S. Designing clinical trials for rare diseases: unique challenges and opportunities. *Nat. Rev. Methods Primers* https://doi.org/10.1038/s43586-022-00100-2 (2022).
2. Wagner, T. & Raunser, S. Recent developments in automated single-particle selection. *Nat. Rev. Methods Primers* https://doi.org/10.1038/s43586-022-00105-x (2022).
3. Faria, M., Spoljaric, S. & Caruso, F. Reanalysis: the forgotten sibling of reproducibility and replicability. *Nat. Rev. Methods Primers* https://doi.org/10.1038/s43586-022-00103-z (2022).
4. A helpful addition to the toolbox. *Nat. Rev. Methods Primers* **1**, 9 (2021).