



Set up a public registry of competing interests

The problem of bias in published research must be tackled in a consistent and comprehensive fashion, says Adam G. Dunn.

Before publishing this article, the editors of *Nature* asked me to declare any competing interests. This is routine practice with most journals and is intended to address the serious issue of bias in research. The problem is that after competing interests are disclosed in published research, almost nothing is done with them.

Setting up a public registry of competing interests may provide a way to solve this problem.

Although journals have strengthened their requirements, disclosures are still far from complete. Around half of the studies that involve investigators who hold relevant competing interests fail to declare them. The reasons are rarely the result of a deliberate attempt to mislead readers. Instead, the common causes are inconsistent requirements across journals and negligence.

Some investigators and editors may think that disclosure is a bureaucratic requirement without much practical value. In the current system, it is hard to disagree. There is no reliable guidance on what readers should do when they encounter a competing interest, and no way to know for sure whether competing interests have compromised the integrity of the research findings. Ignoring research that might be biased is clearly wasteful, but allowing it to influence decision-making without knowing whether the results can be trusted might be worse.

Competing interests can cause significant harm by diverting a research consensus away from the truth — from which it can take years to recover. And the complex relationship between the pursuit of knowledge and the pursuit of profit can make such conflicts more likely. For example, internal company e-mails from 2001 from the makers of the diabetes drug Avandia (rosiglitazone) showed the reluctance of the company to publish trial results that may have revealed cardiovascular risk. These risks remained hidden until at least 2007, when an independent meta-analysis was published.

Other competing interests are more subtle. Research undertaken or funded by industry is more easily measured than are ideology, religion, politics or personal relationships, but all of these can influence the design and reporting of research. Defined in this way, competing interests blanket nearly every field of research. There is clear evidence that they are inextricably linked to bias. When studies that have competing interests are compared with studies without them, we find consistent differences in how those studies are designed and reported, or whether they are reported at all. Biases are hidden in subtle differences in study design, selective reporting of outcomes, and conclusions that don't match the results. It is difficult even for experts using well-developed tools to identify biases, so how can we expect readers to succeed?

➔ NATURE.COM
Discuss this article
online at:
go.nature.com/egzlvq

We need to move beyond occasionally publishing lists of competing interests alongside articles. We need precise, structured and comprehensive reporting of such interests so that we can treat them like any other confounder.

To achieve this, the research community should establish an online database of interests declared by researchers so that we can more precisely determine the association between competing interests and the potential for bias. It should be publicly accessible, available in formats that can be used by humans and machines alike, designed to allow for updates and corrections, and provide a way to uniquely identify researchers. Because of their openness and independence, organizations such as the US National Library of Medicine and the ORCID

researcher registry are well placed to act as central locations supporting compliance and standardization. In turn, publishers, funders and institutions can introduce policies that encourage or mandate the use of a registry.

To encourage broad support, it should be easy for journals, institutions, funders and the public to use registry data for their own purposes. For example, a suitable interface could support publishers that want to develop tools to automatically generate disclosure statements by extracting relevant entries.

To judge the risks of bias associated with different forms of competing interests, the registry will need a taxonomy that can consistently map competing interests into a fixed set of classes. These should include employment or funding by companies that may benefit from

the research, remuneration paid directly to a researcher, and ideological, religious or political views that may be reasonably perceived to predispose a researcher to reach a certain conclusion.

A comprehensive, accessible record of competing interests could be used to produce more-precise estimates of their impact on research findings. Using these results as a basis, tools could be developed to help readers to interpret individual studies and to flag up uncertainty caused by competing interests to systematic reviewers when they pool the results from multiple studies.

Despite years of improvements by publishers, funders and institutions, our system for disclosing competing interests is still fragmented, inconsistent and inaccessible. Although we can't avoid the fact that people can be swayed if they think they may benefit from distorting their work, we can do much more than to demand complete disclosure and then to do nothing with the information we get back. ■

Adam G. Dunn is a senior research fellow in the Centre for Health Informatics at Macquarie University in Sydney, Australia.
e-mail: adam.dunn@mq.edu.au