

Two sides to every study

→ Margaret McCartney*

If research is worth funding at all, isn't it worth paying a little extra to make the results – positive or negative – available as freely and speedily as possible?

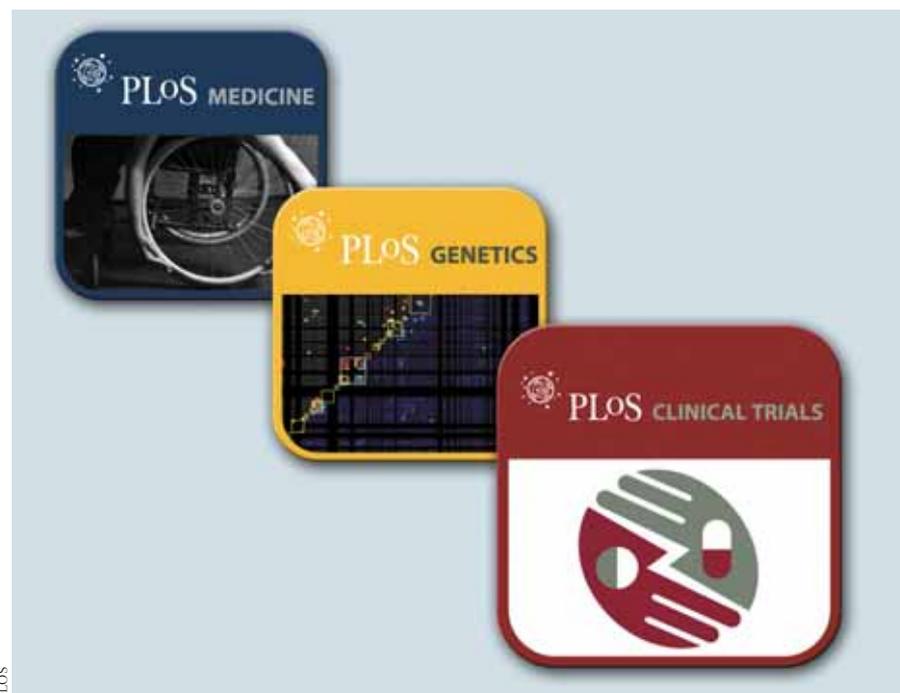
We hear an awful lot about some research findings. But what about the research we never find out about at all? Put it another way. You may spend several years slaving over high-quality, relevant research, but fame is never guaranteed. Your study may have been beautiful, statisticians may swoon over your elegant way with chi-squares, but if your results were indeterminate, or you didn't get to disprove your null hypothesis, you can probably kiss goodbye to a call from the Today radio news programme. For we know from detailed investigation that "publication bias" shapes what the world hears about most often. Basically, the most widely read journals, those that make most media impact, carry positive findings more often than negative ones. In other words, if your trial shows that a drug is effective, you will have a better chance of publishing it in a well-known journal than if your trial has shown that the drug made little or no difference. In these circumstances, the chances are that only a small or obscure journal will publish it – if it is

published at all. No Today programme, no headlines; back, my dear, to the lab. This is important because we need 'negative' studies. In fact, we should treasure them just as much as 'positive' ones. If negative studies are ignored and not published, we end up with a skew of results sitting – artificially – in a treatment's favour. We end up with a treatment or drug thought to be better – or less harmful – than it actually is. Yet it is understood that about 50% of clinical trials never reach publication. Unless we can be certain that we are in possession of all the research relating to a drug or treatment, we cannot be confident in our assessment of it.

We can hardly blame the media for over-hyping medical stories when medical presses are guilty of much the same thing. Most medical journals are a business – the more popular UK journals cost between £20 and £360 (30–530 euros) for an individual subscription. Institutions are charged a great deal more again, and certain journals can cost thousands of pounds a year. The big journal names need to

remain in the public eye and need to effectively 'sell stories' in order to remain medical must-reads. This has to be part of the reason why negative studies tend not to get the attention of the wider media. Then there is the issue of reprints. Small and slender extracts of favourable research from journals are handed out in quantity to doctors at conferences or by pharma reps as a PR exercise. Richard Smith, ex-editor of the *British Medical Journal*, this year wrote in *Medicine*, the online Public Library of Science (Plos) journal, that: "Publishers know that pharmaceutical companies will often purchase thousands of dollars' worth of reprints, and the profit margin on reprints is likely to be 70 per cent. Editors, too, know that publishing such studies is highly profitable and editors are increasingly responsible for the budgets of their journals and for producing a profit for the owners. An editor may thus face a frighteningly stark conflict of interest: publish a trial that will bring \$100,000 of profit, or meet the end-of-year budget by firing an editor."

If negative studies are not published, the results become artificially skewed in a treatment's favour



Some of the titles published by the Public Library of Science (Plos).

Many funding bodies, including the powerful Wellcome Trust in the UK, support Plos and factor the cost of open-access publication into their research grants

nals, you have to pay. By contrast, Plos aims to make all its published research – peer-reviewed just like any other journal – available online for no charge. As far as publication goes, it is a model of excellence. There can be no logic in the current situation, whereby you could decide to participate as a patient in a clinical trial, even over several years, spending time and effort in undertaking follow-up tests, only to find that not only must you pay to access the results but also that neither the scientific nor the medical communities at large have immediate access to the results. The scientific advances the trial promised, and which you thought you were aiding, instead end up trickling down to the medical community over months and years.

Some publishers may feel threatened by open-access publishing, but organisations including the Wellcome Trust have made their support clear. It has said it will include the cost of open-access publication in research funding. The open-access model results in a bigger, faster impact for research – better for patients, better for funders – whether the results make headline news or not.

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A GOOD ALTERNATIVE

Is there another way? Yes, and the mess that is medical research might actually be beginning to get cleaned up. The non-profit organisation Plos, which mainly publishes online, recently launched another journal, entitled *Plos Clinical Trials*. Already, there are several Plos titles – *Genetics* and *Pathogens* as well as *Medicine* – which have attracted a great deal of attention because of the stark difference between the way they accept and publish research compared with most other medical publications.

Firstly, the authors or researchers pay in the region of \$2,000–\$2,500 (1,700–2,150 euros) to have their publications printed in Plos journals.

But this is no vanity publishing. While this fee is waived for researchers unable to afford it, it is logical that, in the main, the cost of publication is simply part of the overall costing for a piece of research. If the research was important enough to do in the first place, it is surely just as important to make the results as freely and rapidly available as possible – no matter what they are.

I have started to put references to research or papers I mention on the *Financial Times* website but, if you click to the links on ft.com, you will find that in many cases only the abstract, or summary, of the research is available free. To gain access to the full body of research on most jour-

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