

Medical research is broken: Here's how we can fix it

September 8 2020, by Kelly E Lloyd, Stephen Bradley



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Every year, around [US\\$200 billion \(£150 billion\)](#) is spent globally on health research. Meanwhile, millions of people volunteer their time to be participants in health studies. Despite all the resources that go into

creating medical research, though, there is a glaring issue—almost all of that time and money achieves nothing. In fact, [about 85%](#) of all research is simply wasted.

This might seem too large a figure to be true, but it is much easier to imagine when you consider that around 50% of medical trials are [not published at all](#). Studies that tend not to be published are those with results that are [inconclusive or negative](#) – so-called "null results." To put this into context, this means studies that find that a drug helps to treat a disease are much more likely to be published than those finding no evidence that the drug works.

Even of the studies that are published, many are badly designed. When studies aren't published or the research is of [poor quality](#), precious resources can be wasted on [treatments that don't work](#), or may even [harm patients](#).

Many published studies also fail to fully and accurately report how the study was conducted and what was found. This can lead to researchers engaging in [questionable research practices](#) such as selectively reporting results (leaving out negative results) and not reporting their financial or political conflicts of interest. This failing in transparency means doctors and patients can't fully review the evidence they base healthcare decisions on.

In medicine, these problems have been [talked about for decades](#), but this is a scandal that appears to be barely known by the wider public. However, [COVID-19 has now](#) made the problems with [medical research](#) impossible to ignore.

The solutions

Luckily, this colossal waste of research is avoidable. Because of the

discipline of [meta-research](#) (research about research), there is a great deal of understanding of the solutions to these problems. Yet we still have COVID-19 trials that are [badly designed and lack transparency](#).

Nowadays, the question isn't "what are the solutions we can use to fix research waste?" but instead, "why aren't these solutions being used widely across medical research?"

In response to these issues, an international group of doctors, researchers and patients has created the [Declaration to Improve Biomedical and Health Research](#). The declaration describes three actions that are available, right now, to improve [health research](#). These are:

(1) All research that is funded by the public or a charity should be cataloged and stored in a central website open to everyone. This should include detailed study documents, such as protocols and a summary of the results. Cataloging all research would help increase the number of studies with negative results being read and would be a huge first step to reducing research waste.

(2) Mandatory publication of all authors' interest. Examples include any financial or political interests that may bias the study's results. There have already been documented cases of funders influencing the findings of studies, which has already led to patients being [irreversibly harmed](#). In several countries, so-called ["sunshine acts"](#) require doctors to disclose financial interests. But this has not yet been made mandatory in all countries.

While these actions will help improve transparency, they won't help fix poorly designed research. This is where registered reports come in.

(3) [Registered reports](#) is a publication format where authors submit their study protocol to a journal for review before recruiting any patients.

That way, reviewers can give feedback on the [study design](#) before it starts, rather than the current process of reviewing after it is complete and too late to change. A bonus of registered reports is that they've also been found to [increase the number of studies](#) with negative results being published. This is a promising solution currently in use by [over 250 journals](#), but it's a format that can be used by all journals.

These actions won't solve all problems in research, but they are a start. With high-quality medical research needed now more than ever, we believe it is essential to start using these solutions now to change [health science](#) for the better.

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