

Clinical trials: Around half of new treatments perform better than existing treatments

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On average, new treatments perform better in clinical trials only slightly more often than existing treatments, according to a new systematic review published in *The Cochrane Library*. The fact that experimental treatments are not more effective may seem disappointing, but the authors of the review say their findings satisfy an important ethical requirement for clinical trials.

Randomised trials compare the effects of one treatment to another. In a [randomised trial](#) patients are randomly allocated to different treatment groups to ensure that like will be compared with like. When a new treatment is being tested, it is hoped or even expected that it will be better than the established treatment with which it is being compared. These expectations lead to an [ethical dilemma](#). If the researchers already know that one treatment is better, they would be knowingly allocating some people to an inferior treatment. If randomised trials are to be ethical, therefore, only half of new treatments should turn out to be better than existing ones.

Cochrane researchers looked at evidence from 743 publicly funded randomised trials involving 297,744 patients in total. The trials included new, experimental treatments for cancer and neurological disorders, as well as a range of other diseases. On average, only very slightly more than half of new treatments proved to be better than established treatments.

"When we compared the effects of new treatments to established ones, the pattern was almost symmetrical. This is good news, because it means researchers genuinely don't know whether new treatments are going to be any better," said lead researcher Benjamin Djulbegovic, who works at USF Health [Clinical Research](#), and the H. Lee Moffitt Cancer Center & Research Institute, at the University of South Florida in Tampa, Florida, US. "So, overall, what we show is that we can expect the new treatments to perform better a little bit more often than established treatments, at least in publicly funded trials like the ones we considered."

The researchers found the same pattern in trials going back five decades. The results provide an answer to the question posed 15 years ago in the British Medical Journal by Iain Chalmers, a founder of the Cochrane Collaboration and one of the authors of the review. "In 1997, in a letter published in the BMJ, I asked 'What is the prior probability of a proposed new treatment being superior to established treatments?' I think this review currently provides the best answer to that question," said Chalmers.

More information: Djulbegovic B, Kumar A, Glasziou PP, Perera R, Reljic T, Dent L, Raftery J, Johansen M, Di Tanna GL, Miladinovic B, Soares HP, Vist GE, Chalmers I. New treatments compared to established treatments in randomized trials. *Cochrane Database of Systematic Reviews* 2012, Issue 10. Art. No.:MR000024. [DOI: 10.1002/14651858.MR000024.pub3](#)

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