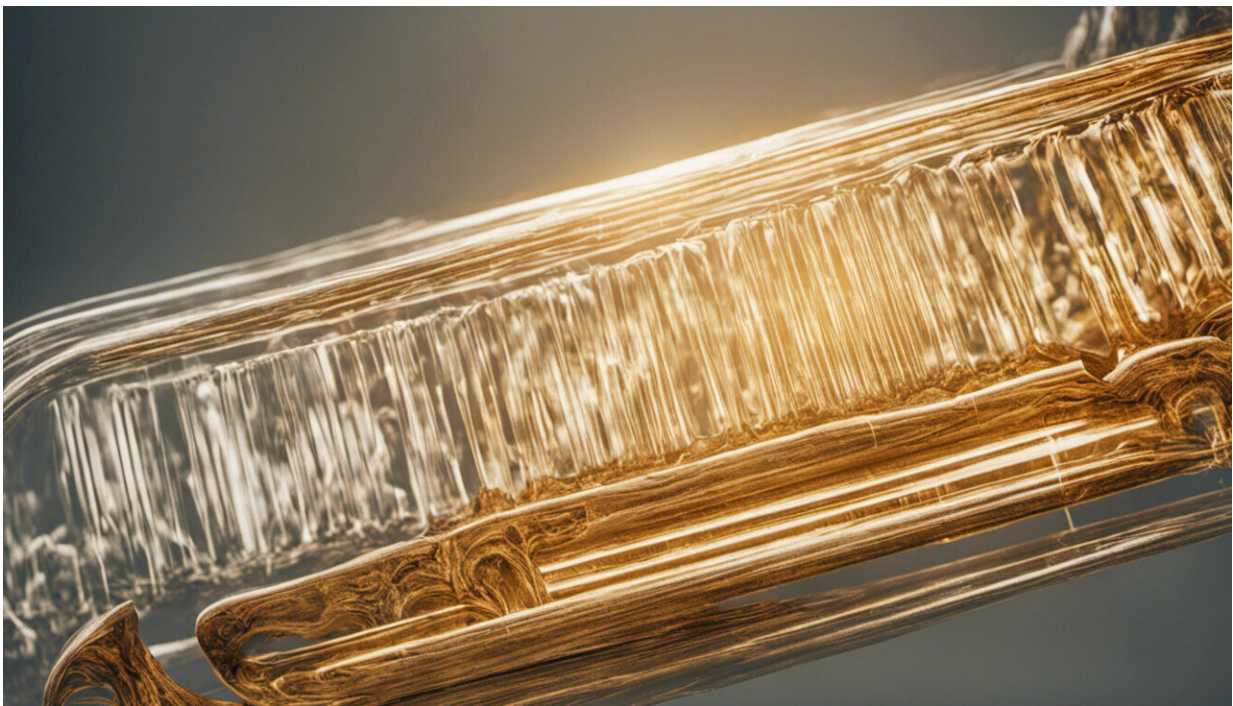


Does my treatment work? How major medical reviews can be 'gold standard' evidence, yet flawed

May 23 2023, by Gideon Meyerowitz-Katz



Credit: AI-generated image ([disclaimer](#))

Medical decision-making is complex. There are often hundreds, if not thousands, of published studies that may impact how to manage your medical condition.

Some studies look at which drug is best in a particular situation, or whether pain is better treated by, say, avoiding exercise or seeing a physio for therapeutic massage.

In this morass of difficult choices, [Cochrane reviews](#) stand out as internationally trusted and [independent](#). They are considered the "gold standard" in evidence-based medicine.

They involve teams of researchers looking through all the published academic research on a topic to produce an overall answer on what the best evidence says about different treatments.

However, Cochrane has recently come under fire after a controversial [review](#) that looked at whether wearing masks in the community during COVID worked to reduce the spread of respiratory viruses.

Studies like this can [raise the question](#) of how useful Cochrane reviews are, particularly for the general public.

Issues with evidence-based medicine

As with any [research process](#), Cochrane reviews are not perfect. And they cannot answer all medical questions.

The entire process—from gathering data based primarily on randomized [clinical trials](#), to reviewing that data and coming to some conclusion about the evidence—was mostly developed in the context of clinical interventions. Randomized trials are a type of medical study where people are given treatments in a controlled, random way, giving a robust estimate of whether the treatment works for the condition that's being studied.

People regularly question whether this "gold standard" framework deals

well with things other than surgery, drugs and the like.

For example, take the mask review mentioned above. Much of the criticism was focused not on the specifics of the included papers, but on the general idea of whether randomized clinical trials are an appropriate way to measure the impact of masks on respiratory disease.

What is the "gold standard" if randomized trials are impossible, unethical, or otherwise inappropriate? For example, if an intervention like vaccination is already proven effective, you can't ethically randomize people into a group that doesn't get the treatment.

This gets at the underlying question of what a Cochrane review is actually there to do. The key aim of aggregating research this way is to filter out the noise and provide the most accurate data on a specific question.

Sometimes, the most honest answer is that we just don't have enough evidence to make a conclusion.

In other cases, there is evidence, but not from randomized clinical trials. Then the debate becomes about how much weight to give this evidence, whether and how to include it, and how to draw conclusions based on this data.

This may seem arbitrary, but there are good reasons to be wary of findings based only on observational research. A systematic review of observational trials of hormone replacement therapy led to widespread use in the late 90s for preventative health, until randomized trials [showed](#) the therapy had little to no benefit.

This isn't actually a new problem. Indeed, it's something Cochrane has been [grappling with for years](#).

For example, [a recent Cochrane review](#) into vaping to help people quit smoking included quite a few non-randomized trials. These were not given the same weight as randomized research, but did provide support for the central finding of the review.

Cochrane is OK about being criticized ...

There have been many issues raised with Cochrane teams over the years. This includes [problems](#) with how reviewers [rate trials](#) included in the reviews.

However, the organization is famously transparent. If you have an issue with a particular review, you can post your comments publicly. [I did this](#), sharing my concerns about a review on using the drug ivermectin to treat COVID.

Cochrane is also good at incorporating criticism. It even has [a prize](#) for the best criticism of its work.

... even if reviews take time

There's a reason so many experts trust Cochrane. The occasional controversy aside, Cochrane reviews are generally the most detailed and rigorous summary of the evidence on any question you can find.

This attention to detail comes at a cost. Cochrane reviews are often the final word on a subject, not just because they are so robust, but because they take a [very long time](#) to come out.

Cochrane aims to publish reviews within two years. But more than half take [longer](#) to complete. Cochrane reviews are also meant to be updated regularly, but many have not been updated for [more than five years](#).

In a nutshell

Cochrane reviews can be flawed, cannot answer all medical questions and, while comprehensive, can take long to complete.

But there's a reason that these reviews are considered the gold standard in medical research. They are detailed, lengthy, and very impressive pieces of work.

With [more than 9,000](#) Cochrane reviews so far, these are still usually the best evidence we have to answer a range of medical questions.

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