

Our naive optimism about medical care

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Most people overestimate the benefits and underestimate the harms of medical intervention. Credit: Barbara M./Flickr, CC BY

"It might do me some good and it won't hurt to give it a go."

How often have you heard a phrase like this?

Most people have naïve optimism about medical care. That's the finding of a systematic review of all available research on common medical treatments we [published](#) today in the journal *JAMA Internal Medicine*.

We set out to synthesise all the research to date that asked people to quantify the benefits, and/or harms, of common medical treatments, tests and screens (where people are tested for a disease without any symptoms or signs). We also aimed to compare, where possible, people's expectations with the actual benefits and harms that are derived from research.

Most screening studies were about cancer screening and conclusions were similar regardless of the cancer of focus (breast, cervical, prostate, bowel).

Expectations for various treatments had been studied and included surgery (such as hip and knee replacement, back surgery, cataract surgery), medications (such as those for [inflammatory bowel disease](#), osteoporosis, statins for cardiovascular disease), and other things like cardiopulmonary resuscitation (CPR).

This was a big search: we screened over 15,000 papers to find the 35 studies which met our inclusion criteria. Together these had studied over 27,000 people.

In the majority of studies, most people overestimated benefits and underestimated the harms. There was only one study where the majority of participants underestimated the benefit and one where the majority overestimated the harm. Across most studies, the proportion of people who correctly estimated [intervention](#) benefits and harms was generally low.

In other words, people appear to have set a halo around medical care, expecting it to deliver better outcomes than is reality. In marketing terms, we [clinicians](#) have a dream sell: our "product" is thought to be far better than it really is.

For the most part, this finding was echoed across various interventions, settings (primary care and hospitals), and countries.

The first question, of course, is why do people have such great expectations about medical management? The answers can only be speculative.

There may be patient-related factors, such as: assumptions that more health care is better; optimistic bias (when individuals perceive that are at less risk than their peers); and [unrealistic expectations](#) may allow psychological needs such as hope and reassurance to be met.

Over-selling is something we come to expect in everyday marketing transactions and we are used to wearing a protective shield of scepticism, if not downright cynicism. But we seem to be generally less sceptical of [medical care](#).

There are also probably clinician-related reasons, such as: clinicians wanting to convey hope and encouragement; the [strong drive](#) to do something rather than nothing, and the related fear of litigation; and clinicians themselves sometimes being unaware of the true effectiveness or benefit-harm trade-offs of interventions.

But there may also be more subtle factors such as the regression-to-the-mean-effect. This means that as even when an intervention is ineffective, clinicians often see patients improve anyway and this can lead to the false belief that the intervention provided was responsible for the improvement.

Greed on the part of some clinicians who are less scrupulous is probably involved too, especially in largely fee-for-service environments.

But clinicians' enthusiasm for their speciality is also likely to be a larger contributor. To the man with a hammer in his hand, the world looks like nails. Surgeons are more likely to recommend surgery, radiotherapists radiation oncology, physiotherapists to suggest physiotherapy, and so on.

The next question is: Does this matter?

Very much so. Overly optimistic expectations undoubtedly contribute to the ever increasing use of health services and the growing problem of over-diagnosis, where disease labels are given even though the latent disease might not have ever caused symptoms, and over-treatment, where unnecessary treatments given.

There seems to be a [vicious cycle](#) in which people have overly optimistic expectations about interventions and request them from their clinicians, who then provide them because it was requested, even if doing so causes the clinician discomfort. Receiving the intervention subsequently reinforces people's belief that the intervention is beneficial and necessary and so the cycle continues.

Many payment systems favour providing an intervention rather than "just" talking with patients and there is the efficiency appeal of ordering a test or writing a prescription rather than taking the time and effort to explain to a patient why it may not be needed.

A third question is what can be done to counteract these unrealistic expectations?

Many groups have a role to play. Every intervention has benefits and harms and both should be acknowledged and communicated. This

applies to:

- **researchers** – harms are [notoriously under-reported](#), and even in our review, many more studies assessed expectations of benefit than harm, or benefit and harm
- **journalists** – media stories [often portray](#) interventions in a misleading way
- **health services and the pharmaceutical industry** – for example, [screening invitations](#) and [drug advertisements](#) often present information tilted towards or only about the benefits
- **clinicians** – conversations between patients and clinicians tend to focus on the benefits of interventions and may not address, or downplay, the harms.

Patients, and indeed any individual who is considering a screen, test, or treatment, can also be involved in the solution. Beyond being aware of this tendency to assume that interventions help a lot and harm little, asking their clinician three questions before consenting to any intervention is a good habit to acquire. They are:

- what are my options?
- what are the possible benefits and harms of each option?
- [how likely](#) is it that each of those benefits and harms will happen to me?

Asking these questions can trigger a conversation between clinician and patient that hopefully enables an informed decision to be made.

Similarly, the [Choosing Wisely campaign](#) underway in many countries (and on its way to Australia) provides evidence-based information for the public about interventions that are commonly used, yet may be unnecessary, and encourages a conversation between clinicians and patients.

Modern medicine is slowly moving towards a commitment to true partnerships between clinicians and their patients. Realising that people often come to consultations with preconceptions and expectations is a step closer to achieving this.

In the process of negotiating the best clinical option, clinicians should elicit the patient's expectations and preconceptions about what they are expecting from the intervention, discuss any misperceptions, and provide accurate information about the benefits and harms of each management option.

Only then can any genuine "[shared decision making](#)" start to occur and perhaps the impact of these great expectations lessened.

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