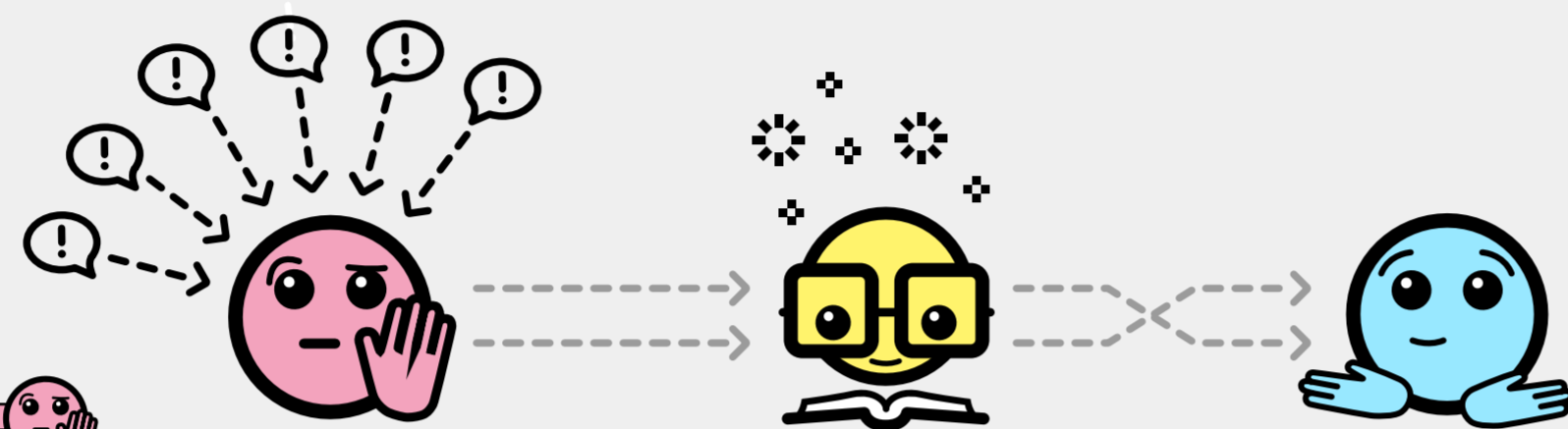


That's a claim!



Guides for students and teachers to think critically about health claims



BEWARE
of claims

THINK 'FAIR'
about the evidence

TAKE CARE
when you decide

BEWARE
Too good to be true
"100% safe!"
People often think about the benefits of treatments and ignore possible harms. But few treatments that work are 100% safe.

BEWARE
Too good to be true
"100% effective!"
Most claims that a treatment will make you 100% better or that it works for everyone turn out to be wrong.

BEWARE
Too good to be true
"100% certain!"
We can rarely, if ever, be 100% certain about the effects of treatments.

BEWARE
Faulty logic
"Treatment needed!"
People who are sick often get better without a treatment. Sometimes a treatment will not help and may even make things worse.

BEWARE
Faulty logic
"It works like this!"
Treatments that should work in theory often do not work in practice.

BEWARE
Faulty logic
"Associated with!"
Just because using a treatment is associated with people getting better or worse, that doesn't mean that the treatment made them better or worse.

BEWARE
Faulty logic
"Real world data!"
More data is not necessarily better data, whatever the source.

BEWARE
Faulty logic
"No comparison needed!"
Unless a treatment is compared to something else, it is not possible to know what would happen without it.

BEWARE
Faulty logic
"A study shows!"
If a single treatment comparison (study) shows that people who got one treatment did better or worse than people who got something else, it does not mean that is the final answer.

BEWARE
Unfair comparison
Dissimilar comparison groups
Look out for treatment comparisons where the comparison groups were not alike.

BEWARE
Unfair comparison
Indirect comparisons
Look out for comparisons of treatments between studies that are different.

BEWARE
Unfair comparison
Dissimilar care
Look out for treatment comparisons where the comparison groups were cared for differently.

BEWARE
Unfair comparison
Dissimilar expectations
Look out for treatment comparisons where people knew which treatment they received and knowing that could have changed how they felt or behaved.

BEWARE
Unfair comparison
Dissimilar measurement
Look out for treatment comparisons where what happened was measured differently in the comparison groups.

BEWARE
Unfair comparison
Lots of missing people
Look out for treatment comparisons where what happened was not measured in lots of people.

BEWARE
Unfair comparison
Outcomes counted in the wrong group
Look out for treatment comparisons where people's outcomes were not counted in the group to which they were allocated.

BEWARE
Advantages and disadvantages
Do the advantages outweigh the disadvantages for you?
Always ask yourself whether the possible advantages of a treatment outweigh the disadvantages of the treatment.

BEWARE
Faulty logic
"Old is better!"
Just because a treatment has been used for a long time or by many people, it does not mean that it helps or that it is safe.

BEWARE
Faulty logic
"New is better!"
Just because a treatment is new, expensive, technologically impressive, or brand-named does not mean that it is better or safer than other treatments.

BEWARE
Faulty logic
"More is better!"
Taking more of a treatment often increases harms without increasing how much it helps.

BEWARE
Unreliable summary
Unsystematic summary
Look out for summaries of studies comparing treatments that were not done systematically.

BEWARE
Unreliable summary
Selective reporting
Look out for unpublished results of fair comparisons.

BEWARE
Unreliable summary
Unfounded assumptions
Look out for treatment comparisons that are sensitive to assumptions that are made.

BEWARE
Misleading description
Just words
Look out for treatment effects that are described just using words.

BEWARE
Misleading description
Relative effects
Look out for treatment effects that are described as relative effects.

BEWARE
Misleading description
Average effects
Look out for treatment effects that are described as average differences.

BEWARE
Misleading description
Few people or events
Look out for treatment effects that are based on small studies with few people.

BEWARE
Advantages and disadvantages
How sure are you?
Always ask yourself how sure you are that the possible advantages of a treatment are better than the possible disadvantages of the treatment.

BEWARE
Faulty logic
"Early is better!"
Earlier detection of 'disease' is not necessarily better.

BEWARE
Faulty logic
"Personalised medicine!"
It is rarely possible to know in advance who will benefit, who will not, and who will be harmed by using a treatment.

BEWARE
Trust alone
"As advertised!"
Someone with an interest in getting people to use a treatment, such as making money, may exaggerate benefits and ignore possible harmful effects.

BEWARE
Misleading description
Subgroup analyses
Look out for results that are reported for a selected group of people within a study or systematic review.

BEWARE
Misleading description
No confidence interval
Look out for results that are reported using p-values instead of confidence intervals.

BEWARE of claims that have an untrustworthy basis

Many claims about the effects of treatments are not trustworthy. Often this is because the reason (the basis) for the claim is not trustworthy.

You should be careful when you hear claims that are:

- Too good to be true
- Based on faulty logic
- Based on trust alone

THINK 'FAIR' - and check the evidence from treatment comparisons

Evidence from comparisons of treatments can fool you. You should think carefully about the evidence that is used to support claims about the effects of treatments.

Look out for:

- Unfair comparisons of treatments
- Uncareful summaries of comparisons
- How treatment effects are described

TAKE CARE - and make good choices

Good treatment choices depend on thinking carefully about what to do.

Think carefully about:

- What your problem is and what your options are
- Whether the evidence is relevant to your problem and options
- Whether the advantages outweigh the disadvantages

BEWARE
Trust alone
"It worked for me!"
If someone got better after using a treatment it does not necessarily mean that the treatment made them better.

BEWARE
Trust alone
"Recommended by experts!"
Just because a treatment claim is made by an expert or authority, you cannot be sure that it is trustworthy.

BEWARE
Trust alone
"Peer reviewed!"
Peer-reviewed and published studies may not be fair comparisons.

BEWARE
Misleading description
Statistically significant
Look out for results that are reported as "statistically significant" or "not statistically significant".

BEWARE
Misleading description
No evidence
Look out for a "lack of evidence" being described as evidence of "no difference".

BEWARE
Right problem and options
What is your problem and what are your options?
When you are thinking about treatments, make sure that you understand what the health problem is and what your choices are.

BEWARE
Relevant evidence
What outcomes matter to you?
Always ask yourself whether the treatment outcomes that are important to you have been checked in fair comparisons.

BEWARE
Relevant evidence
Are the people (or animals) very different?
Always ask yourself if the treatment comparisons included only people (or animals) that are very different from you.

BEWARE
Relevant evidence
Are the treatments different from those available to you?
Always ask yourself if the treatments evaluated in fair comparisons are relevant.

BEWARE
Relevant evidence
Are the circumstances different from yours?
Always ask yourself if fair comparisons of treatments were conducted in circumstances that are relevant.

Introduction

What do you eat? There are lots of claims about what you should and should not eat. For example, there are claims that chocolate causes acne, that it stimulates sexual desire, and that it is good for your heart. How can you know which of these claims are trustworthy? And how should you decide when to act on claims like these, or other claims about what is good or bad for your health?

A "treatment" (for lack of a better word) can be anything you do for your health — for example, taking a medicine, exercising, eating chocolate, or not eating chocolate. It can also be something that we do for the health of a community — for example, making sure that water is safe to drink, making sure everyone has access to health care when they need it, or reducing the use of fossil fuels. A treatment effect is something a treatment makes happen — like making you feel better or worse, making people more or less likely to have a heart attack or a stroke, or curing someone who is sick.

People make lots of claims about treatment effects. How can we tell which claims are right or wrong? To do this, you need to look at what supports their claim — its basis. For example, someone's personal experience is not a good basis for a claim about what is good for your health. This is because we don't know what would have happened if that person had done something else.

To know if a treatment (like eating chocolate) causes an effect (like sexual desire), the treatment has to be compared to something else (like not eating chocolate). That way we can see what would happen if people did something else. Researchers compare a treatment given to people in one group with something else given to people in another group. Those comparisons provide evidence — facts to support a conclusion about whether a claim about treatment effects is right or wrong. For those comparisons to be fair, the only important difference between the groups should be the treatments they receive.

Good choices are ones that use of the best information available at the time. For health choices, this includes using the best available evidence of treatment effects. Good choices don't guarantee good outcomes (achieving your goals), but they make good outcomes more likely.

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