How to Read Health News

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If you've just read a health related headline that has caused you to spit out your morning coffee ('Coffee Causes Cancer' usually does the trick), it's always best to keep calm and carry on reading. On further inspection, you'll often find the headline has left out something important, such as, 'Injecting five rats with really highly concentrated coffee solution caused some changes in cells that might lead to tumours eventually' (Study funded by The Association of Tea Marketing).

The most important rule to remember is: don't automatically believe the headline. It is there to draw you into buying the paper and reading the story. Would you read an article called, 'Coffee pretty unlikely to cause cancer, but you never know'? Probably not. To avoid spraying your newspaper with coffee in the future, you need to analyze the article to see what it says about the research it is reporting on.

Does the article support its claims with scientific research?
Your first concern should be the research behind the news article. If an article touts a treatment or some aspect of your lifestyle that is supposed to prevent or cause a disease, but doesn't give any information about the scientific research behind it, then treat it with a lot of caution. The same applies to research that has yet to be published.

Is the article based on a conference abstract?
Another area of caution is if the news article is based on a conference abstract. Research presented at conferences is often at a preliminary stage and usually hasn't been scrutinized by experts in the field. Also, conference abstracts rarely provide full details about methods, making it difficult to judge how well the research was conducted. For these reasons, articles based on conference abstracts should be no cause for alarm.

Was the research in humans?
Quite often, the 'miracle cure' in the headline turns out to have only been tested on cells in the laboratory or on animals. These stories are regularly accompanied by pictures of humans, which creates the illusion that the miracle cure came from human studies. Studies in cells and animals are crucial first steps and should not be undervalued. However, many drugs that show promising results in cells in laboratories don't work in animals and many drugs that show promising results in animals don't work in humans. If you read a headline about a drug or food 'curing' rats, there is a chance it might cure humans in the future, but unfortunately a larger chance that it won't. So there is no need to start eating large amounts of the 'wonder food' featured in the article.

How many people did the research study include?
In general, the larger a study the more you can trust its results. Small studies may miss important differences because they lack statistical 'power' and are also more susceptible to finding things (including things that are wrong) purely by chance.

You can visualize this by thinking about tossing a coin. We know that if we toss a coin the chance of getting a head is the same as that of getting a tail – 50/50. However, if we didn't know this and we tossed a coin four times and got three heads and one tail, we might conclude that getting heads was more likely than tails. But this chance finding would be wrong. If we tossed the coin 500 times – i.e. gave the experiment more 'power' – we'd be more likely to get an even number of heads and tails, giving us a better idea of the true odds. When it comes to sample sizes, bigger is usually better.

Did the study have a control group?
There are many different types of studies appropriate for answering different types of questions. If the question being asked is about whether a treatment or exposure has an effect or not, then the study

needs to have a control group. A control group allows the researchers to compare what happens to people who have the treatment/exposure with what happens to people who don't. If the study doesn't have a control group, then it's difficult to attribute results to the treatment with any level of certainty.

Who paid for and conducted the study?
This is a somewhat cynical point, but one that's worth making. The majority of trials today are funded by manufacturers of the product being tested – be it a drug, vitamin cream or foodstuff. This means they have a vested interest in the results of the trial, which can potentially affect what the researchers find and report in all sorts of conscious and unconscious ways. This is not to say that all manufacturer-sponsored trials are unreliable. Many are very good. However, it's worth seeing who funded the study to sniff out a potential conflict of interest.