VIEWS AND REVIEWS

NO HOLDS BARRED

Margaret McCartney: Swapping systematic reviews for celebrity endorsements

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The actor Ben Stiller has written an essay on prostate specific antigen screening, called *Taking the PSA Test Saved My Life*. He finishes by saying, “I believe the best way to determine a course of action for the most treatable, yet deadly cancer, is to detect it early.” The piece prompted widespread, mainly uncritical, media coverage.¹

The social media star Kim Kardashian promoted Diclegis, a tablet promoted for morning sickness in Canada, on her Instagram feed. The US Food and Drug Administration subsequently told its manufacturers to take “corrective action,” as safety information was lacking.² It’s also clear that the 40 year old study on which the drug’s approval was partly based had a lot of data missing, meaning that it shouldn’t be used to support the drug’s efficiency.^{3,4}

But this is nothing compared with Michael Parkinson’s test for prostate cancer (“The test is, if you can pee against a wall from 2 ft, you haven’t got it”),⁵ or the nonsense on Gwyneth Paltrow’s *Goop* website, which has hosted a welter of advice from vaginal steam cleaning to how we can detoxify using the “alive” water in lemons.

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Celebrity based medicine may be fact-free. Well intentioned personal stories urging action may unknowingly represent cases of lead time bias.

They may also represent the popularity paradox of poor screening tests, such as PSA screening. This paradox arises because a test with a high false positive rate can lead to people feeling relief at a “lucky escape” when they don’t develop a disease, rather than anger at the inaccurate test result. As more people think that they’ve had a “lucky escape,” even if this is from a disease they were never destined to develop, the test becomes more popular.

Pointing out the harms, flaws, misconceptions, evidence, paradoxes, and boring small print is hard work. I appreciate the

efforts many scientists make to correct media wrongs, but corrections are always printed smaller than the headlines. As Brandolini’s law states, the amount of energy needed to refute bullshit is of an order of magnitude bigger than that needed to produce it.⁶

What we’re doing is clearly not working. We can learn from climate change scientists who have found that scientific facts need to be framed in ways that appreciate different world views,⁷ from researchers who have found that evidenced corrections to beliefs may actually backfire and make misconceptions worse.⁸ The challenge for evidence based public science communication is acute, and it must be researched seriously and urgently.

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Follow Margaret on Twitter, @mgmtmccartney

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