

#1 Lead Author: Shanon M. Badger: Calling BS on “70 Years After John Wayne’s Film ‘The Conqueror,’ a New Documentary Alleges Cancer-Causing Radiation Exposure Near The Utah Film Site”

There’s a long-standing claim that *The Conqueror*—a 1956 film starring John Wayne—was filmed near a nuclear test site in Utah and that radioactive fallout led to cancer in many cast and crew members. A SurvivorNet article revisits this theory, tying it to a new documentary exploring the supposed connection. It’s a compelling story, but does the science hold up?

At first glance, the numbers seem alarming—91 out of 220 people involved in the production reportedly developed cancer. But correlation doesn’t necessarily mean causation. The article doesn’t fully account for other risk factors, such as aging, genetics, and lifestyle choices. John Wayne, for instance, was a heavy smoker, which significantly increased his risk for lung and stomach cancers.

Another issue is the lack of hard scientific evidence. There’s no clear study proving that radiation exposure at the filming site directly caused these cases of cancer. Without precise radiation dose measurements or thorough epidemiological research, the theory remains speculative. The film’s cast and crew were exposed for only 13 weeks—nothing like the long-term, chronic exposure experienced by downwinders, people who lived near nuclear test sites and faced prolonged radiation risks through inhalation and ingestion. The comparison between these groups oversimplifies the difference in risk and risks diminishing the struggles of downwinders, who are still fighting for recognition and compensation.

Beyond the science, there’s the issue of sensationalism. The article leans into a dramatic, headline-grabbing narrative rather than an evidence-based analysis. While the story is intriguing, it risks fueling unnecessary fear and undermining trust in scientific research. A more balanced approach would recognize that cancer diagnoses have increased due to better medical awareness and detection. It would also consider occupational health risks—such as smoking, environmental exposure, and genetic predisposition—rather than simplifying the cause to radiation alone.

Spreading misleading claims like this can have real consequences. It can cause unnecessary panic among people living near former nuclear test sites, distract from the real challenges faced by downwinders, and weaken public trust in scientific research. Ultimately, exploiting a tragedy for dramatic storytelling risks distorting history and obscuring a more nuanced discussion about the effects of radiation exposure.

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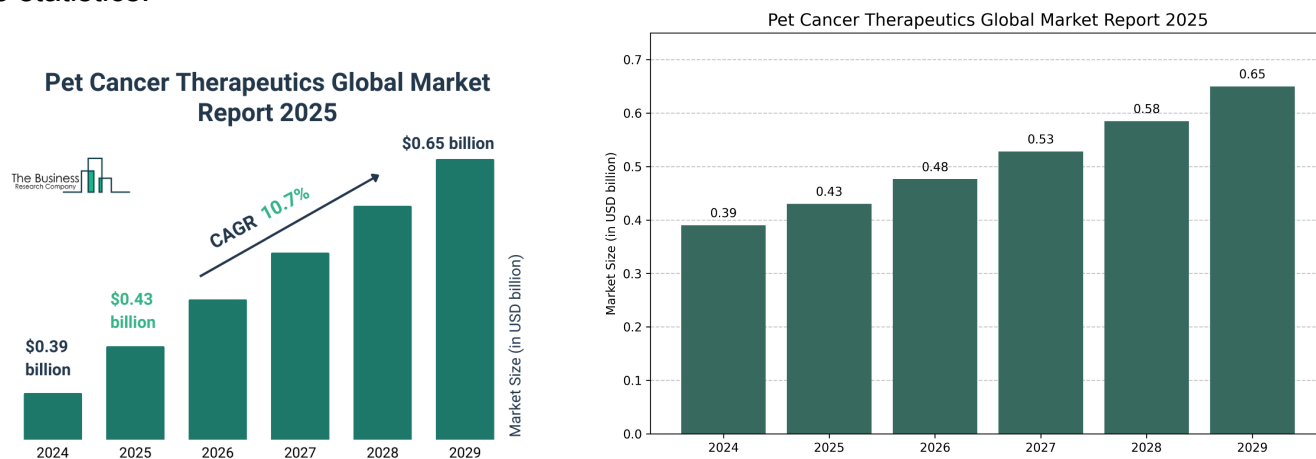
#2 Lead Author: Benjamin Storm Larsen, Calling Bullshit on: “*Pet Cancer Therapeutics Market Report 2025*”

This report/article by The Business Research Company reporting on the market outlook for pet cancer therapeutics from 2024 to 2029. It claims that there is rapid growth in the market with an annual compound growth rate of 10.8%. It argues that the market will grow from \$0.39 billion in 2024 to \$0.43 billion in 2025. Then it states that with the projected growth rate it could reach \$0.65 billion by 2029. Even if we disregard the accuracy of the market analysis, the numbers on their own do not appear alarming.

However, the company has created a graph of the projected growth, which can be seen in the left figure. This graph is significantly misleading to the reader, as the scalar size of the bars are not proportional to the actual values. This is a classic example of axis truncation, which exaggerates the magnitude of changes and can make small differences appear as if values have doubled or more. The truncation of the axis makes the differences between \$0.39 billion and \$0.65 billion look like a 6x increase. Additionally the lack of a y-axis with values makes the issue even worse as it can be difficult to understand at a glance.

To uncover the bullshit I recreated their plot in Python with Matplotlib, to show how it would have looked if they had followed the guidelines for plotting. The figure on the right clearly indicates that the market does not follow rapid growth, and in fact it is quite modest with linear growth.

It is clear why the company might be doing this, they sell access to the full report for over \$4000. Therefore they wanna make the market seem as potential as possible for a potential buyer. So, making the graph look like rapid growth is a way to attract attention by lying with the statistics.



References:

<https://www.thebusinessresearchcompany.com/report/pet-cancer-therapeutics-global-market-report>

1 #3. Lead author: Yuliia Storm Larsen, Calling BS on "Can Sleeping Pills Cause Cancer?", Brandel France de Bravo, MPH, Kousha Mohseni, MS, National Center for Health Research.

The article "Can Sleeping Pills Cause Cancer?"¹ claims that sleeping pill use significantly increases cancer risk and mortality, suggesting a direct causal relationship and stating that sleeping pills could cause 320,000 to 507,000 deaths in just one year." It presents observational findings as definitive evidence that common sleep medications are dangerous carcinogens. This article highlights new-school BS through multiple statistical misconceptions. First, it makes unfair comparisons, stating patients taking sleeping pills were 3-5 times more likely to "have died" and "had a 35% greater risk" of developing cancer than non-users. These comparisons fail to properly account for selection bias - people prescribed sleeping pills likely have underlying health conditions causing sleep problems that independently increase mortality and cancer risk. Secondly, the article demonstrates a lack of alternative hypotheses by dismissing alternative explanations and claiming "there are no logical explanations to explain away the substantial increased risks". This ignores several plausible alternative hypotheses: reverse causality, where early, undiagnosed cancer or illness could cause sleep problems, leading to sleeping pill prescriptions; indication bias, where insomnia itself might be associated with cancer risk independently of medication and unmeasured confounders, where psychological factors like stress or depression could cause both insomnia requiring medication and physiological changes affecting cancer risk. Consequently, the article falls into a statistical trap by lacking a null hypothesis model. It fails to establish what the expected rates of cancer and mortality would be in a population with sleep disorders who do not take medication. Without this comparison, we can't determine whether the elevated risks are due to the medications or the underlying conditions they are treating. What is more, it makes a "correlation vs. causation" error by making definitive causal claims based on observational data that can only establish correlation, not causation. This BS is particularly evident when contrasted with the comprehensive alternative approaches document, which presents a balanced view of sleep management options and cites multiple controlled studies on alternative sleeping drugs like melatonin, which may actually have cancer-protective effects according to several referenced studies.

The unintended consequences of spreading this misleading information include: harmful medication discontinuation, where patients might abruptly stop prescribed medications out of cancer fears, leading to withdrawal symptoms, worsened insomnia, and its associated health risks. This may lead to decreased trust in healthcare providers, as overstating risks undermines patient-doctor relationships when patients discover the evidence is not as conclusive as presented; missed opportunities for proper treatment, as the article fails to present evidence-based alternatives such as CBT-I (recognized as a first-line treatment by the American College of Physicians) and melatonin (which may have cancer-protective properties); and the placebo effect, where creating fear about medication can actually worsen health outcomes through negative expectations. Potentially intended consequences include increased interest, as sensational health claims drive popularity into clicks and shares. Therefore promotion of alternative products, will benefit from creating fear about conventional treatments which may drive consumers toward alternative competitive products. A responsible presentation would acknowledge the limitations of observational studies, present a balanced view of risks and benefits, discuss evidence-based alternatives as presented in the supplementary document, and encourage patients to discuss concerns with healthcare providers rather than suggesting widespread deadly effects.²

¹<https://www.center4research.org/trouble-sleeping-pills-not-safe-solution/>

²Bélanger L, et al. (2021): <https://doi.org/10.1016/j.jsmc.2021.01.007>; Pottie K, et al. (2018): <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5951648/>; Howe LC, et al. (2019): <https://doi.org/10.3389/fpsy.2019.00475>; Main A, et al. (2020): <https://doi.org/10.1016/j.jpsychores.2020.110278>; Qaseem A, et al. (2016): <https://doi.org/10.7326/M15-2175>; Trauer JM, et al. (2015): <https://doi.org/10.7326/M14-2841>; Li Y, et al. (2017): <https://doi.org/10.18632/oncotarget.17016>; Reiter RJ, et al. (2017): <https://doi.org/10.3390/ijms18040843>; Colloca L & Miller FG. (2011): <https://doi.org/10.1097/PSY.0b013e3182294a50>; Faasse K & Petrie KJ. (2013): <https://doi.org/10.1136/postgradmedj-2012-131730>; Caulfield T, et al. (2019): <https://doi.org/10.7202/1060911ar>; Nagler RH & LoRusso SM. (2018): <https://doi.org/10.1093/acrefore/9780190228613.013.292>; Schwartz LM, et al. (2011): <https://doi.org/10.1001/archinternmed.2011.396>; Boutron I & Ravaud P. (2018): <https://doi.org/10.1073/pnas.1710755115>

#4 Lead Author: None, collective research, Calling BS on “Is there a link between ADHD and hypermobility?”

A 2021 study featured in *Medical News Today* found that people with ADHD were more likely to have general joint hypermobility. The study included 431 adults with ADHD and 417 without, and while demographic factors like age, sex, and ethnicity were fairly balanced, one major issue stood out: 73.3% of the ADHD group had at least one other psychiatric diagnosis, compared to just 18.9% in the control group. This imbalance could skew results, as increased interactions with healthcare providers likely led to higher symptom reporting and additional diagnoses.

There are alternative explanations for the observed correlation. One possibility is that common comorbid conditions may increase pain sensitivity and symptom reporting in ADHD individuals. Another is that people with ADHD and other psychiatric conditions tend to seek medical care more often, making them more likely to receive a hypermobility diagnosis compared to the control group.

Studies from 2013 warned of diagnostic pitfalls when examining comorbidities like autism and synesthesia, and similar concerns apply to ADHD and hypermobility. Both conditions are highly variable and share overlapping traits, such as sensory sensitivities and motor difficulties, which can complicate diagnosis. Because both ADHD and hypermobility exist on a spectrum, these overlaps can create diagnostic “shadows,” where comorbidities blur the real causes of symptoms. While recognizing such correlations can provide valuable insights, rigid diagnostic frameworks risk misinterpretation and ineffective treatment.

The association between hypermobility and autism presents similar risks. If hypermobility is mistakenly seen as an autism marker, healthcare providers may overlook other potential causes, delaying necessary medical intervention. Likewise, approaching hypermobility through an autism-focused lens risks neglecting physical symptoms such as chronic pain. Misattributions in diagnostic frameworks reinforce biases and limit effective treatments.

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[Is synaesthesia more common in autism? - PMC](#)