

# The detrimental effects of junk science

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**WRONG!**

An informative *Washington Examiner* [article](#) by T. Becket Adams hits the nail on the head in explaining the major problem plaguing science that ACSH has worked to combat: junk studies, and the sloppy media coverage that ensues. The piece also includes quotes from many experts associated with ACSH.

The article begins by referencing the now infamous chocolate “health study” that was deliberately faked to test if scientists and reporters would detect that it was total junk – no one did. Even reputable publications didn’t catch on. Dr. Johannes Bohannon, the scientist behind the study, said that what drove him to conduct such an experiment was a personal experience – his mother suffered kidney damage after being duped by a scientifically questionable fad diet.

Adams explains why this is a serious concern: “The consequences of junk science include more than just the spread of bad information or embarrassment for media outlets. Members of the public who absorb news reports disseminating bad science can

suffer ill health effects, like Bohannon's mother. There are other consequences. One is the adoption of bad policies."

For example: A class of highly effective pesticide known as neonicotinoids ("neonics"). The European Commission voted to ban these pesticides in 2013, following media coverage of a European Food Safety Authority Report on the purported risk to bees. But there were serious problems with the media coverage of the lengthy report and its press release:

"The press release claimed that the study found evidence that three chemicals posed risks to bees. For thiamethoxam, this wasn't true. For the other two chemicals, clothianidin and imidacloprid, it was an overstatement.

"Reporters focused more on the press release's mischaracterization of the study than on what the document said. The press also ignored the crucial point that the risk assessment lacked the necessary data to come to a conclusion, data which later undermined a scientific case for a ban."

Still, the hype spread, and the ban was put into place – although serious economic consequences were likely to ensue. It is estimated that if the ban is left in place over a five-year period, it could cost the EU up to \$19 billion.

Another major problem highlighted in the article is loose policies for publishing of scientific studies: University of California – Berkeley professor Tyrone Hayes was allowed to choose a friend and colleague Prof. David Wake to peer review his 2002 and 2010 studies that linked the pesticide Atrazine to sex changes in frogs.

While peer review is meant to protect the integrity of the studies, Wake "functionally hand-walked Hayes' work around the peer-review process," said Hank Campbell, President of the [American Council on Science and Health](#). He explains: "There's no data. Hayes' work has never been replicated... But it was published in the National Academy of Sciences, so of course it's soon picked up by The New York Times, The New Yorker and so on. The EPA is even told it must conduct an investigation because this product is supposedly harmful."

So what needs to change? For one, the checks and balances that are meant to maintain transparency need to be more firmly established: Adams writes: "No more of

this in-house business. No more asking friends to peer-review projects. The scientific community should also address the issue of reproducibility.”

American Council on Science and Health **Scientific Advisor** Greg Conko also calls for journalists to hold themselves to a higher standard:

“Journalists hold themselves up as being the people who are trying to bring truth to news consumers. And I would say they have an obligation, an ethical obligation, to be better at what they do,” he said. “They owe their readers a duty to be more vigilant, to ask the right questions, to not fall into these biases of thinking that just because it’s exciting, it’s worth reporting on.”