

Scientific journalism: The dangers of misinformation

Journalists can mislead when they interpret medical data instead of just reporting it

The 2011 movie *Contagion* portrays chaos resulting from the emergence of a highly lethal, rapidly progressing virus threatening to end civilization. One of the characters, a freelance journalist with a blog followed by 15 million people, directs his readers to ignore an effective vaccine the CDC has developed, assigning conspiratorial motives to the CDC's efforts.

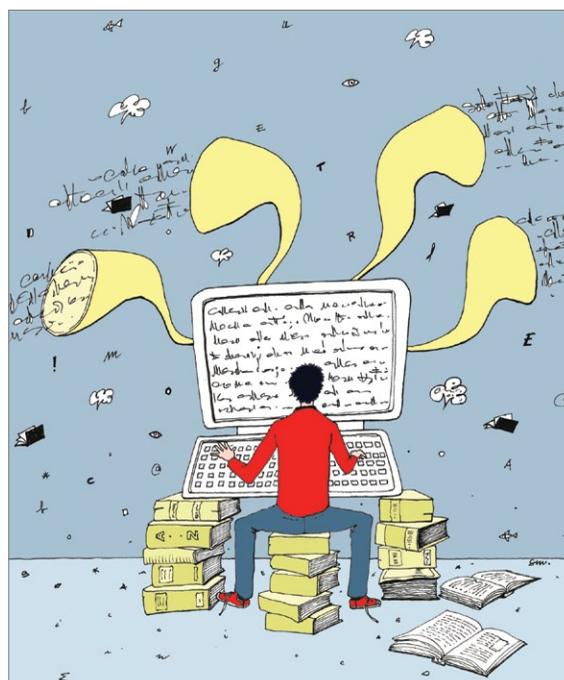
During a nationally televised 2011 presidential candidate debate, Representative Michele Bachmann created a controversy when she stated fellow candidate Texas Governor Rick Perry's policy requiring sixth-grade girls to get vaccinated against the human papillomavirus exposed them to potential dangers.

Much has been written about the potential influence politicians and mass media have on the public's understanding of scientific knowledge. Carvalho wrote, "The media have a crucial responsibility as a source of information and opinions about science and technology for citizens. Public perception and attitudes with regard to those domains are significantly influenced by representations of scientific knowledge conveyed by the press and other mass means of communication."¹

Recently, media attention generated by some critics—eg, professional journalists, nonmedical academics, and non-psychiatric physicians—has questioned the effectiveness of antidepressants. These individuals are affecting public understanding of the issue.

Scientific journalism vs scientific discovery

Journalism exists in many forms—eg, advocacy, scientific, investigative—and has led to positive and negative social



© IMAGEZOO/CORBIS



William Glazer, MD
President
Glazer Medical Solutions
Key West, FL
Menemsha, MA



Journalism and psychiatry

Clinical Point

Disclosing conflicts of interest in journalism occurs internally as a function of an individual publisher's policy

and cultural changes. Scientific journalism interprets information to make it interesting and understandable to readers. Ideally, journalists select what is newsworthy and provide balance to disputed themes with careful attention to the facts. Sometimes, a scientific journalist may render his or her opinion on the topic, explicitly or implicitly. When this occurs, the journalist may reflect the state-of-the-art accurately, or he or she may present biased journalism.

Although the *modus operandi* of a journalist can differ significantly from that of an expert conducting scientific inquiry, I do not intend to render a judgment about the superiority or inferiority of either group. Both groups have the ability to impact discovery, negatively and positively.

Scientific experts acquire and report scientific evidence regarding depression. Additionally, they develop professional guidelines to provide practical advice to clinicians who wrestle with the challenges of treating depression. Journalists are not trained to render medical judgments about the data; they simply report it.

Experts rely on pure transparency from the initial hypothesis through the design, methods, results, and conclusions. In contrast, journalists enjoy the time-honored privilege of hiding sources' identities.

Before a scientific expert's paper is published, he or she must negotiate a peer review process in which his or her writing is subjected to the scrutiny of qualified experts in the same field, a process that can last months to years. Journalistic methodologies also include editorial oversight, but it's fair to say that the peer review process for scientific publication generally is more rigorous than editorial reviews of journalism, because the journalistic review process serves the goal of generating "news" for a hungry marketplace of ideas. Journalists pick and chose their content, hopefully in a balanced fashion, but at the discretion of the journalist and his or her editor. It's relatively quick and easy for journalists to publish a book or newspaper article, and even easier to publish a blog.

Experts submitting manuscripts to peer-reviewed journals are not paid based on sales or impact factor. The literary style of the expert often is dry and technical compared with journalistic style. Academic authors are interested in promoting ideas that ultimately benefit the patients' welfare. In contrast, most journalists have an invested interest in selling their work or increasing their blog following. Sustaining book sales can be a powerful personal incentive to cast the discourse in a compelling way, one that may counter prevailing medical opinion.

Of course, academic authors can benefit from publications in the form of grant support, scholarly authority, and notoriety. At times, these benefits can lead to personal financial gain, eg, collaborations with industry or compensation as a part of the scope of their work in their academic institution. This leads to the issue of disclosure. Disclosure has been a hot topic in medicine, and has led to the creation of the Physician Payment Sunshine Act,² which is set to take effect August 1, 2013. Contained within the Affordable Care Act, this law will require pharmaceutical companies and other medical industries to report all direct payments or gifts to physicians >\$10. With such disclosure, readers can judge the experts' work with knowledge of what financial relationships may be in place.

No disclosure laws for journalists

In contrast, the public is not privy to journalists' potential conflicts of interest. Although journalism has no "Sunshine" equivalent, there's a culture of disclosure³ that is followed rigorously by some publishers and less rigorously by others. Disclosing conflicts of interest in journalism occurs internally as a function of an individual publisher's policy. Would a "Sunshine" law applied to journalism affect how readers interpret a journalist's rejection of the validity of prevailing expert views? Would such articles be more understandable if the public sees the amounts of journalists' royalty checks, their collected fees for participation in their blogs or re-



Discuss this article at
[www.facebook.com/
CurrentPsychiatry](http://www.facebook.com/CurrentPsychiatry)

lated advertising, or contributions from organizations that are against psychiatry?

Skewed coverage of psychotropics

There are well known cases in which a scientific journalist has been criticized for conveying speculation as fact, eg, global warming¹ and immunizations.⁴ I am concerned we are experiencing this problem in the case of antidepressants and other psychiatric medications.

Depression poses an extraordinary public health problem and there's a tremendous need for innovation in treatment and improved patient outcomes. Most scientific experts agree that we do not understand the pathophysiology underlying depression nor the mechanisms of action of antidepressants. But, as with many other medical disorders that are not yet clearly understood, clear professional guidelines for depression treatment are in place.⁵ These guidelines testify to the complexity of treating depression and unambiguously support the value of antidepressants as a major component of treatment. Guidelines such as these are derived from careful interpretation—a vetting process—of data. Participation in this process should not be limited to scientific experts, but the interactions required in the vetting process should be subject to rules of scientific inquiry.

A scientific journalist usually chooses his or her experts and sources at his or her discretion, free of the vetting practice described above. There are recent instances in which journalists have formulated innuendos drawing upon published research and “connected dots” that may not coincide with prevailing expert opinion.⁶ This kind of journalism poses profound implications for the

Related Resources

- U.S. Department of Health & Human Services. The Affordable Care Act, section by section. www.healthcare.gov/law/full/index.html.
- The New York Times Company policy on ethics in journalism. www.nytimes.com/press/ethics.html.
- Pew Research Center's Project for Excellence in Journalism. Ethics codes. www.journalism.org/resources/ethics_codes.

Disclosure

Dr. Glazer is a speaker for Merck and Otsuka America Pharmaceutical, Inc.

public, especially when it runs counter to prevailing professional opinion.

One example can be seen in a blog from *The Chronicle of Higher Education*.⁷ John Horgan, a professional journalist, describes a friend who has a depressed teenage son and refers to the work of other journalists and selected experts to discredit antidepressants' benefits. A quick review of readers' comments demonstrates how articles like this one can mislead consumers to reject what may be the best treatment option for depression. When journalists draw their own scientific conclusions, rather than simply report on the conclusions reached by scientists, there's a potential for misinformation and confusion.

Guidelines may help

What can be done about the potential impact of unvetted journalism on individual patients? I am not against an open dialogue about the risks and benefits of antidepressants, but given the complexity of the issue, I argue that anyone who wishes to voice an opinion via scientific journalism is obligated to follow the rules of the scientist—not the rules of the journalist—

Bottom Line

By interpreting medical data to make it more interesting and understandable to readers instead of reporting on it, scientific journalists are affecting the public's understanding of mental health issues, most notably the effect of antidepressants. Scientific journalists who wish to voice their opinion should be obligated to follow the rules of the scientist, not the journalist. Guidelines for journalists who report on psychiatric scientific studies should be developed.

Clinical Point

Those who wish to voice an opinion via scientific journalism should be obligated to follow the rules of the scientist, not the journalist

and participate in a thoughtful, balanced, and logical process that keeps the patient's interests closely in mind. In Horgan's case, he might have acknowledged that his friend's son's antidepressant discontinuation carried a risk of a negative outcome. That is, he could have mentioned the benefit side of the risk-benefit calculation.

Journalists should follow guidelines to prevent scaring readers into jumping to unilateral conclusions, stopping their needed medications and relapsing, or worse. There's precedent for such guidelines. In 2001, several organizations collaborated to release "Reporting on Suicide: Recommendations for the Media."⁸ A recent study found that these guidelines impacted journalists' behavior.⁹ Similar guidelines should be developed for journalists who report on scientific studies related to psychiatric treatments. I welcome hearing case examples in which patients decided inappropriately to discontinue medications in response to reading news articles.

References

1. Carvalho A. Ideological cultures and media discourses on scientific knowledge: re-reading news on climate change. *Public Underst Sci*. 2007;16(2):223-243.
2. Centers for Medicare & Medicaid Services (CMS), HHS. Medicare, Medicaid, Children's Health Insurance Programs; transparency reports and reporting of physician ownership or investment interests. Final rule. *Fed Regist*. 2013;78(27):9457-9528.
3. Pew Research Center's Project for Excellence in Journalism. Ethics codes. http://www.journalism.org/resources/ethics_codes. Accessed November 21, 2012.
4. Smith MJ, Ellenberg SS, Bell LM, et al. Media coverage of the measles-mumps-rubella vaccine and autism controversy and its relationship to MMR immunization rates in the United States. *Pediatrics*. 2008;121(4):e836-e843.
5. American Psychiatric Association. Practice guideline for the treatment of patients with major depressive disorder, third edition. <http://psychiatryonline.org/content.aspx?bookid=28§ionid=1667485>. Published October 2010. Accessed November 21, 2012.
6. Glazer WM. Rebuttal: questioning the validity of 'anatomy of an epidemic' (part 1). *Behav Healthc*. 2011; 31(7):42, 44-45.
7. Horgan J. Are psychiatric medications making us sicker? *The Chronicle of Higher Education*. September 12, 2011. <http://chronicle.com/article/Are-Psychiatric-Medications/128976>. Accessed November 21, 2012.
8. Centers for Disease Control and Prevention, National Institute of Mental Health, Office of the Surgeon General, Substance Abuse and Mental Health Services Administration, American Foundation for Suicide Prevention, American Association of Suicidology, Annenberg Public Policy Center. Reporting on suicide: recommendations for the media. <http://www.sprc.org/sites/sprc.org/files/library/sreporting.pdf>. Accessed March 21, 2013.
9. Tatum PT, Canetto SS, Slater MD. Suicide coverage in U.S. newspapers following the publication of the media guidelines. *Suicide Life Threat Behav*. 2010;40(5):524-534.