



SCRIPT DOCTOR: MEDICINE IN THE MEDIA

A Case Report of Media Reporting: The Controversy about CT Screening for Lung Cancer

By Andrew Holtz, MPH

On today's "Medicine in the Media" rounds, the case is a several-years-old controversy about CT screening to detect early lung cancers. This case had two recent episodes of intense media exposure. One was triggered by publication last October of a report by the I-ELCAP (International Early Lung Cancer Action Program) group in the *New England Journal of Medicine* (2006;355:1763-1771). That news cycle was dominated by headlines that generally proclaimed: "CT Scans for Lung Cancer Save Lives."

The second episode occurred five months later, in March, when the publication of an analysis by Peter Bach, MD, et al in the *Journal of the American Medical Association* (2007;297:953-961) prompted an outbreak of headlines with a very different spin: "CT Scans for Lung Cancer May Do More Harm than Good."

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Feature #1: Assessments of news coverage are strongly correlated with personal views of the issue at hand.

"I think they reported what was written in the article," I-ELCAP investigator Claudia Henschke, MD, PhD, says of the coverage of her *NEJM* article. But as for the second wave of stories, "We were a bit unhappy with the way the media covered the Bach article," says

coauthor David Yankelevitz, MD.

"I thought the coverage last fall of the ELCAP paper was really misguided with very few exceptions," Bach said. "If you look at the major outlets, they completely misunderstood what the standards are for a prevention intervention of any kind and what surrogate endpoints are versus real endpoints."

Bach recognizes that his article got wider media exposure due to the juxtaposition with the I-ELCAP report. "There's no question the massive coverage the fall before led to us getting maybe five or 10 times as much coverage as we would have otherwise gotten," he said.

Feature #2: The journalistic tenet of balanced reporting may lead to unanticipated outcomes when reporters apply reporting techniques developed for political and other public issue coverage.

Bach says he was rankled by the "Rumble in the Radiology Suite" theme common to many of the stories about his paper.

"Anyone who delved into it, the first person they called afterwards was Claudia Henschke." One reporter quoted Dr. Henschke during his interview with Dr. Bach. "And I said, it's really intriguing to me, given that there's the National Lung Screening Trial going on, run by the NCI with investigators at 36 centers, there's a multinational screening trial going on in Europe, there are 20 people who have made their careers in lung cancer prevention running trials, yet every single person is calling Claudia Henschke."

"What's strange about that? If it's a debate, she's the primary protagonist on that side," notes NPR science correspondent Richard Knox. "We have an obligation to try to sort it out for people. I think it'd be kind of strange if we didn't take the Bach paper as an opportunity to go back and say to Claudia [Henschke], 'Well, what about this?'"

"We understand that it's good to have controversy when it comes to the media, but as you can see, it certainly serves to cause confusion in people's minds," says I-ELCAP's Yankelevitz. He says 'he said/she said' coverage has positioned the National Lung Screening Trial (NLST) as the final arbiter on this issue. That's fine with many people, but he and Henschke are sharp critics of the NLST methodology.

So we'll get another taste of how scientific debates are handled by the

news media when the NLST results are published in a few years.

Paul Goldberg, Editor of *The Cancer Letter*, says reporters covering scientific research need to do more than just quote people on "both sides" of an issue. Expert statements, he says, must be compared with the available evidence.

"As reporters, we are too stuck in balancing stories, and we can miss the truth. You have to look at the statistics, you have to look at the methodology of the clinical trials; you have to look for the truth. It's a very different scale. And you can actually get there. That's the part that's really so great about doing this work well," Goldberg says.

"You still would write a balanced story. It's just going to be balanced differently because it's not 50-50; it's having a separate scale and seeing how the argument measures up against that scale."

The ways that reporters try to create balanced stories about medical research depends on how much experience they have covering scientific issues. I'll come back to that point.

Feature #3: Environmental influences are strong—that is, the audience influences the speaker.

Henschke notes a difference between Bach's media quotes and his presentations to colleagues. "He and I both gave talks at the American Association for Cancer Research, and he said, 'This is preliminary data.' However, somehow that did not get across. Maybe he did not present it that way to the media or that was not the way it was reported in the media."

He says, yes, he was more outspoken than usual when reporters came calling in March. "When our study came out, we felt we'd been given an opportunity we should not squander to set the record straight."

He said he wanted to explain how detecting tumors earlier does not necessarily lead to lower death rates. He knew it wouldn't be easy.

"I was trying to imagine how people could make that mistake, to equate those things, and my answer was that they had this deeply held belief, this mental model if you will, that these early cancers turn into late cancers."

So before his article appeared, he says he practiced ways to explain his



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Send questions to him about how the media treat

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results to people who assume (in part because of what many experts and groups have told them) that early detection always saves lives.

"I called a friend of mine who is a cognitive psychologist and we tried to walk through how we would describe this to people. What we struggled with the most was how to get people to understand any model that would fit with our data, so that they could understand that our data were not, on their face, implausible; which was actually a fairly hard thing to do."

Bach wasn't the only one who worked on a media message. As *The Cancer Letter* reported in November, the I-ELCAP group prepared a page of "I-ELCAP soundbites" (their title) that concluded with this advice: "Our message is that the data are compelling. You can emphasize this repeatedly."

The word "compelling" appears nowhere in the *NEJM* article, but it was used widely in the lay media coverage.

Avoiding Flip-Flops

So not only did the underlying reports by the I-ELCAP group and then by Bach et al present very different conclusions, but the authors emphasized their differences when they spoke to reporters. Then reporters further distilled the comments, so that what the public got in, the end was something like a photo that has had the contrast and brightness pushed to extremes. Shades of gray vanish.

Nevertheless, while many stories whipsawed the public with apparently contradictory messages, some reporters managed to provide a more consistent view of the state of the science. How did they do it? Their stories weren't necessarily longer or more complicated than the ones that flipped and flopped.

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Not surprisingly, experience played a key role.

NPR's Richard Knox says he's been covering Dr. Henschke's studies of CT scanning for almost a decade.

"There's no question and no dispute that Claudia Henschke is a true believer. And when you encounter a researcher like that, especially when you're dealing with things that are not randomized controlled trials, you have to be cautious," Knox says.

He has also reported on previous publications by Bach and seen how he handles controversy. Knox doesn't dismiss or discount what the researchers are reporting, but he approaches the stories differently than most reporters would who are interviewing these scientists for the first time.

Jacob Goldstein, who now writes for the *Wall Street Journal's* online Health Blog (<http://blogs.wsj.com/health>), reported on the I-ELCAP article for the *Miami Herald*. Here's how he led off his story: "Screening smokers and others at risk for lung cancer catches many early-stage tumors that can be cured with surgery, according to a new study of more than 30,000 people. But would widespread adoption of the screening reduce lung-cancer deaths? Experts aren't sure."

"Journalists serve their publics better when they give prominence to uncertainties, study limitations, and other doubts or lingering questions. As we saw in the CT screening for lung cancer example, those reporters who were cautious about the I-ELCAP conclusions did not have to contradict themselves just a few months later when the Bach et al analysis appeared."

In just a few dozen words, Goldstein reported the I-ELCAP results while also highlighting the big unanswered question. So when his readers saw stories about the Bach results, they probably weren't as surprised or confused.

Goldstein says the lack of a control group in the I-ELCAP trial raised questions. Too many reporters know little about study design and wouldn't notice that red flag.

"After I graduated from college, while I was working, I took some sci-

ence and chemistry and physics and calculus and genetics; and so got a very basic sense of science," Goldstein says. Then as part of earning a master's degree in journalism at Columbia he took a science writing course. That type of training in science is unusual among journalists.

And when editors lack experience covering science and scientific discourse, reporters can feel pressure to go along with the crowd.

"There can be a real herd mentality, where editors are getting feeds from not only wires services like the Asso-

ciated Press, but also national newspapers like the *New York Times* and the *Washington Post*; and it can be very difficult to read a study and feel differently about it than everybody else in the country," Goldstein says, while noting that on this story he didn't feel any pressure to have his story match what others were saying.

Paul Goldberg has been at *The Cancer Letter* for more than two decades, but before he started writing for a scientifically sophisticated audience, he was a reporter at the *Wichita Eagle* in Kansas. He says the incentives at most

news organizations favor bold headlines. Reporters don't win over their editors by saying something is complicated.

"If you come back with complexity, you may not get that promotion or that raise. The number of times I had to do that as a reporter on the state desk of the *Wichita Eagle-Beacon* and other places was astonishing. And it's only gotten worse," he says.

I frequently ran into situations like that at CNN. Arguing that the real story behind a journal article or other
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