

THE TRICKY SCIENCE OF COMMUNICATION

In the field of biotechnology, the communication of ideas is often complicated by the variety of players taking part in the conversation. Companies address consumers through internal mechanisms and the media. The media speaks to company representatives and members of the public. Trade groups also get involved on many levels. The web of people talking to each other gets tangled.

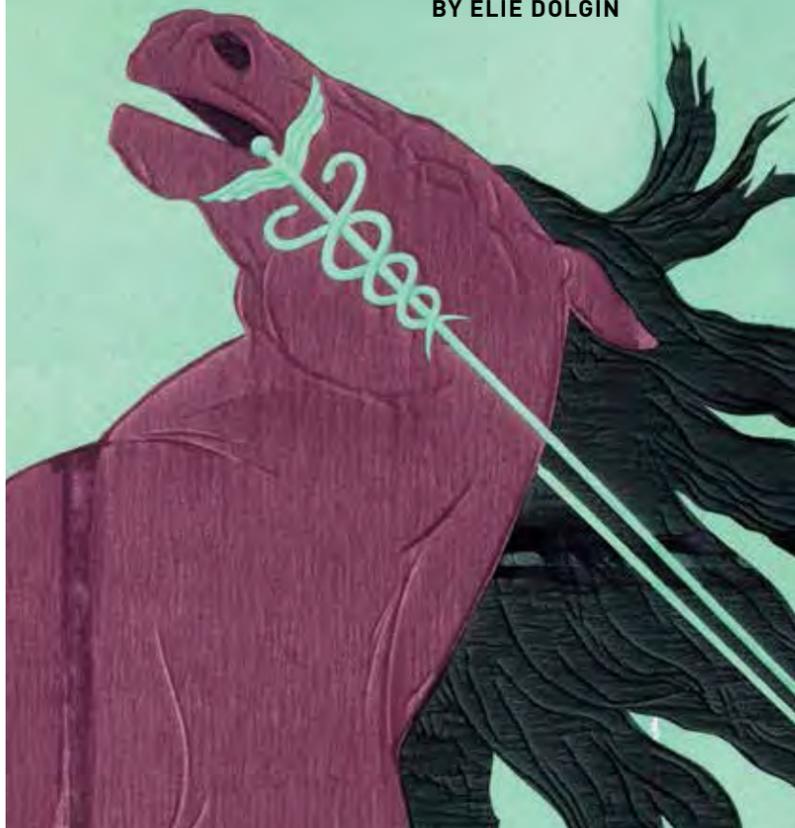
And often much more is at stake than merely the communication of an idea. Whether a start-up sinks or swims can be determined by its ability to clearly convey its strengths and objectives. More important, if the media gets a story wrong, the general population may face undue health risks as a result.

Indeed, it's crucial to get communication right in biotechnology, and, as the following stories demonstrate, that's not always easy to do.

A HEALTHY DIALOGUE

How the healthcare media impacts policymakers and the public

BY ELIE DOLGIN



On a Saturday night in November 2009, Canada's most-watched television network, CTV, ran a primetime documentary that would radically change the country's healthcare landscape. The *Globe and Mail*—a popular Canadian newspaper and part of the same media conglomerate—carried a companion story on its front page.

The story focused on Paolo Zamboni, an Italian vascular surgeon who claimed to have discovered the true cause of multiple sclerosis (MS). Although physicians have long contended that MS is an autoimmune disorder, Zamboni theorized that it is actually a disease triggered by narrowing of veins in the neck. He asserted that this vascular constriction created a build-up of iron that, in turn, set off the cascade of inflammation and nerve degeneration that are the hallmarks of the disease. Zamboni advocated a treatment similar to balloon angioplasty. He even tested the surgical intervention on his MS-afflicted wife and, as the CTV documentary displayed, her symptoms seemingly melted away. The treatment, nicknamed the “liberation procedure,” was touted as a miracle cure.

It was a powerful and emotional story, but scientifically unfounded. The media coverage—based only on the most preliminary of Zamboni's findings—spurred “an over-enthusiastic and inadvertent promotion of some shaky science,” André Picard, the *Globe and Mail* journalist who coauthored the original newspaper story on the procedure, wrote in *BMC Medical Ethics* in February 2013.

After the initial reports made the rounds on the Internet, the public started demanding that health authorities make the procedure available in Canada. The media coverage snowballed, prompting an unprecedented amount of political involvement in the allocation of research

funding. Federal and provincial legislators pledged millions of dollars to support clinical studies. That research, however, failed to confirm Zamboni's hypothesis. The liberation procedure proved ineffective and possibly dangerous.

Shortcomings of Social Media

The Zamboni escapade was not the first time that a scientific claim hyped in the media turned out to be wrong. Thanks to the growing power of

and 2013. As Schwitzer reported in July 2014 in *JAMA Internal Medicine*, most of the stories overplayed benefits, minimized harms and ignored discussions of cost.

This kind of poor reporting can have real-world consequences. For example, after U.S. regulators issued health advisories about a slightly increased risk of suicidal thoughts and behavior in young people who take antidepressants, widespread media coverage spurred a dramatic decline

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social media, public campaigns built around questionable healthcare reporting might have an increasingly large influence on medical research and healthcare.

According to Roger Chafe, a health policy expert at Memorial University of Newfoundland in St. John's, the rise of Facebook, Twitter and other social networks reinforces the importance of professional healthcare journalism. After all, he says, reports from the mainstream media are often the ones that get passed around—and those same stories are more likely to influence key policymakers. “Without the link to traditional media,” Chafe says, social media “just doesn't seem to have the same kind of traction.”

Yet, according to Gary Schwitzer, founder of the watchdog website HealthNewsReview, traditional media sources are still routinely disseminating misleading health information. Schwitzer and a team of reviewers looked at about 1,900 health-related stories about drugs, medical devices or other interventions published by U.S. news organizations between 2006

in antidepressant use. According to a study published in *BMJ* in June 2014, this had an unintended consequence: suicide attempts increased among adolescents and young adults, most likely due to an under-treatment of serious mental health disorders. “The sexy story isn't ‘Be cautious and think carefully about medicines,’” says psychiatrist Steven Schlozman, associate director of the Center for Mental Health and Media at the Massachusetts General Hospital in Boston. “The sexy story is ‘These medicines might kill your children.’ There's not much of a story if you report it in nuanced tones.”

Pushing Prescriptions

More often, press coverage leads consumers toward increasing healthcare utilization—sometimes even for problems they might not have. In a phenomenon known as “disease mongering,” pharmaceutical companies have even co-opted the media to convince people that they are sick and in need of medical treatment.

Such was the case with restless legs syndrome. Lisa Schwartz and

Steven Woloshin from the Dartmouth Institute for Health Policy and Clinical Practice in Lebanon, New Hampshire, analyzed the media stories written in response to press releases in the mid-2000s from GlaxoSmithKline, the company behind the first drug approved for the syndrome. As the researchers reported in *PLoS Medicine* in April 2006, most journalists uncritically reported GlaxoSmithKline's claims, encouraging more diagnosis and treatment. “Many of the stories that we looked at sounded like company press releases,” says Schwartz. In a 2013 article in *JAMA Internal Medicine*, she and Woloshin documented similar campaigning through the media to promote hormone-replacement therapy for low testosterone in men—now a multi-billion-dollar industry.

Beyond sloppy reporting, part of the problem could lie in the financial ties between medical journalists and drug companies. Wendy Lipworth, a bioethicist at the University of Sydney, has studied this issue in Australia. She thinks that more disclosure is needed on the part of journalists and that some kinds of monetary relationships should be banned. But, she concedes, it might be difficult to implement these remedies in an increasingly fractured media landscape.

It's not just journalists who are to blame, though. A December 2014 study in *BMJ* from Petroc Sumner of Cardiff University found that press releases from the UK's leading research universities often made their own overblown claims and unwarranted inferences about health studies. Scientists usually vet and approve the press releases issued by their institutions, and thus must shoulder some of the accountability for the inaccuracies and exaggerations that creep into stories about their research.

In the end, everyone carries some responsibility—from the media consumers hungry for miraculous cures to the companies seeking profits, and everyone in between. As Sumner says, “All of us are not watchful enough.”

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