

Cases for Teaching Responsible Communication of Science

Vaccine stories: Discussion version

In December, 2013 television journalist Katie Couric devoted part of one episode of her morning talk show to an examination of the HPV vaccine. Her guests included both experts (doctors) and non-experts (mothers and daughters) who spoke both for and against vaccination. After the show, she was criticized for creating a panic where there was none by emphasizing stories of alleged injuries from the vaccine. A week later, Couric apologized for spending too much time on stories of alleged harms. However, she also insisted that including *some* stories of harm was what a good journalist ought to do.

The central question of this case: was Couric wrong in putting on *any* stories about alleged vaccine side-effects? Should journalists avoid all narratives that might promote anti-vaccine attitudes?

Background

HPV and the vaccine. Human papillomavirus (HPV) causes genital warts; it also is estimated to cause over 25,000 diagnosed cancers per year in the U.S. HPV vaccines (e.g., Gardasil) were introduced in the US starting in 2006, and were added to the recommended vaccine schedule soon thereafter, first for girls and then boys. The HPV vaccine is generally not *required* for school attendance, however. It is relatively expensive, and requires multiple shots spread out over six months. By 2014, approximately 60% of teenage girls had been vaccinated, and 40% of teenage boys.

Like all vaccinations, the HPV vaccination can have side effects. Studies both before and after the vaccine was approved show that they are rare. The most common are the standard vaccine side-effects: pain and irritation at the injection site, or even less frequently headaches, fever, dizziness or fainting. A few parents have claimed that the HPV vaccine has caused more serious illness in their children, and in at least one case death. It is easy to find on the internet alarming claims about the harmfulness of the HPV vaccine. Responding to concerns like these, Japan has temporarily removed HPV vaccination from its recommended vaccination schedule; no other country has.

Vaccines and public opinion. In the 1990s, a bogus study alleged a tie between vaccination and autism, and many commentators predicted a crisis of public confidence in vaccination that would result in the resurgence of now-rare diseases such as measles and mumps. In fact, however, vaccination rates in the U.S. remain high, and a substantial majority of the public understand that vaccines are safe, trust their doctors and follows the advice to vaccinate. In a few specific localities, however, vaccination rates against childhood diseases has sunk to dangerously low levels. Some parents decline to vaccinate their children at all ("vaccine resistance"), while others delay or alter the recommended schedule ("vaccine hesitance"). Individuals appear to have a variety of reasons for these responses:

- concerns about possible adverse effects of vaccination; for example, about the combined impact of the three dozen vaccinations recommended in a child's first twelve years
- confidence that the diseases prevented are rare, mild or that their child would be protected by herd immunity
- the inconvenience, pain or expense of the current vaccine schedule

- distrust of the pharmaceutical industry which both sells vaccines and supervises their safety testing
- a belief that purported "natural" immunity is better than the "artificial" immunity vaccines provide
- distrust of the medical establishment, driven in part by its tendency to close ranks against doubts.
- religious beliefs

Katie Couric has been working as a television journalist for over 35 years, anchoring morning and evening news/talk shows on several networks. She has a strong record of health reporting, driven in part by the deaths of family members due to cancer. Her on-air colonoscopy in 2000 has been credited with raising awareness about colorectal cancer and increasing colonoscopy rates. She has received several awards for this work.

The episode: Some segments of the HPV episode of *Katie* are still available on YouTube through a search on "Couric HPV". Here is an outline of the whole:

Title: The HPV Vaccine Controversy

Teaser-trailer: "The next *Katie*: The HPV Vaccine Controversy. It's considered a cancer preventer--but is it potentially dangerous for some girls? One mom who says her daughter died after being vaccinated. [Woman:] 'In 18 days, she was found dead in her bed.' It's our Big Conversation."

Opener: Couric says, "I had my two daughters vaccinated and so did millions of other parents, but some say the risks may outweigh the benefits. There are claims it could be dangerous in a handful of cases -- even deadly--but nearly 80 million Americans have HPV and there are 14 million new cases reported every year. We want to keep our kids safe, but is the vaccine the way to go? That's what we're asking as today's Big Question."

Segment [3 minutes]: Voice-over explains the dangers of HPV and the efficacy of the vaccine. Says that there have been claims of serious side effects, including the death of one young woman.

Segment [7 minutes] The mother of the dead girl tells her story. A statement about vaccine safety from the pharmaceutical company that manufactures the vaccine is read. Doctor #1, a leading HPV researcher, explains that Gardasil is indeed one option, but that regular PAP screening is just as effective at detecting and curing cervical cancer. Doctor #1 also says [in a claim that's been sharply disputed] that the vaccine's protection lasts only 5 years.

Segment [5 minutes]: A mother and daughter tell the story of the painful and debilitating illness that the daughter went through after having the HPV vaccine; the mother claims that one doctor told them that this was a "vaccine injury". Doctor 1 is asked to comment, and says that serious side effects are "highly unusual."

Segment [5 minutes]: Doctor #2 discusses the serious threat of HPV-related cancers and the safety and efficacy of the HPV vaccine. A mother and daughter explain that they decided to get the vaccine.

Closing: Both doctors are invited to comment; Doctor #1 says to remember PAP smears, Doctor #2 encourages a decision to vaccinate. Then Couric turns to interview a celebrity.

Responses to the episode.

- The *LA Times* accused Couric of "promoting the anti-vaccine movement" by "injecting doubt and emotionalism into important medical discussions and removing science from the arena."
- *USA Today* asked "Is Katie Couric taking [anti-vaccine advocate] Jenny McCarthy's place as the latest celebrity vaccine denier?"--and then answered "yes," suggesting that the show created a "fake controversy just to boost their ratings."
- Seth Mnookin, a science journalist who has written extensively about vaccines, called the coverage "incredibly irresponsible," adding that "The danger of saying we are going to present both sides of an issue, when all of the facts line up on one side, is that as far as the audience is concerned, you are giving these sides equal weight. It presents a false impression that there is a legitimate debate here."
- *Forbes* noted that Couric had "stacked the deck against the HPV vaccine," in part by telling "moving stories about vaccine risks using live interviews with people who said they had been harmed, [while] defenses of Gardasil were offered in dry platitudes" from experts.
- In the assessment of Dr. Arthur Caplan, a noted medical ethicist, it was not "appropriate to juxtapose the anecdotal stories with the medical evidence. He had hoped more weight would be given to the scientific evidence of the vaccine's safety profile and effectiveness at preventing cervical cancer."

Couric's apology is available at http://www.huffingtonpost.com/katie-couric/vaccine-hpv-furthering-conversation_b_4418568.html?1386687305.

In her statement, Couric explained that "our goal in doing this show was to help parents make an informed decision about the HPV vaccine, not cause irrational fear. Right now, science is telling us that the benefits far outweigh the risks and that adverse reactions are exceptionally rare events." She admitted that some of the criticism of the show as "anti-vaccine and anti-science" was valid. She explained: "We simply spent too much time on the serious adverse events that have been reported in very rare cases following the vaccine. More emphasis should have been given to the safety and efficacy of the HPV vaccines. As someone who has spent the last 15 years relaying important medical information with the goal of improving public health, it is critical to me that people know the facts." In particular, the time spent "telling these stories [of alleged vaccine injuries] was disproportionate." However, Couric also asserted that "as a journalist, I felt that we couldn't simply ignore ... reports" of serious side-effects.

The power of narratives. Communication research that humans have two cognitive pathways through which they process information. One, the "paradigmatic pathway" is more familiarly known as critical thinking; using it humans reason logically, generalizing from evidence to more abstract principles. The problem is that this kind of reasoning is cognitively "expensive"; it is slow and requires committing attention. The other pathway--the "narrative pathway" is thus the default mode of human reasoning. Stories present a plausible reconstruction of a particular human experience. They encapsulate a large amount of information in an easy-to-understand package; research has found that stories are in fact read twice as fast and recalled twice as well than evidence-based arguments. Stories are thus a powerful mode of persuasion. Audiences are likely to take a story as typical or "exemplary," and accept the story as a trustworthy account of the way the world works.

Questions for discussion

Couric admitted that *too much* of the show was taken up with stories of alleged harms. **The central question remaining: was Couric wrong in presenting *any* stories about side-effects? Should journalists avoid *all* narratives that might promote vaccine-hesitant attitudes?** In considering this question, you might want to consider some of the following:

1. Are stories only "anecdotes" that add nothing to the knowledge gained by medical evidence? Or do stories create knowledge that evidence alone cannot? Are stories all icing, no cake?
2. Is it realistic for Couric to totally avoid narratives, and just interview the experts? Would she be a *good* journalist if she did that? Explain your view.
3. If Couric is going to use narratives, is it appropriate for her to use *only* narratives that support vaccination? Consider this: We are all familiar with TV drug ads: while old people are shown romping around a meadow, a droning voice lists side-effects. All the power of narrative is on one side. It's understandable that advertisers use this approach to push their products. But does it help people make an informed choice of treatment? Should Couric follow this path?
4. If Couric does include an anti-vaccine narrative, how should she select and present it? Should she select the most common side-effect, the most harmful, or what?
5. Couric did in fact present a pro-vaccine story on the show. The mother explained that she had decided to vaccinate after doing research, and the daughter described how she had gone to the doctor, gotten a shot, and then gone again later for another. Was it Couric's fault that stories of vaccines working are boring? What other stories could Couric have told *for* vaccination?
6. One commentator suggested that Couric should have included a pro-vaccine narrative of a person who had struggled with HPV-related throat cancer. Does it matter that such cancers are themselves both rare and treatable? If she used a cancer story, how should Couric have conveyed the information about the cancer's frequency and severity?
7. What would be the best way to integrate expert information and non-expert story-telling?
8. In your view, what should Couric have called a show on HPV—what should her "headline" have been? Write the teaser-trailer for the episode.
9. Consider the following quote from successful science popularizer Malcolm Gladwell,:

The most consistent criticism I get comes typically from academics who disagree with the way I use academic research. Their disagreement is honest. It comes from a difference in our perspectives. They are used to surveying an entire literature, representing all of the different sides of it, and making some kind of analytical contribution in that way. In other words, they engage the full complexity of any particular field... I don't do that... I am a story-teller. And I look to academic research for ways of explaining or understanding or augmenting the story I'm telling. The reason that I don't do things their way is that their way has a cost, and that is it makes their writing inaccessible. If you've ever sat down and tried to read the *Journal of Personality and Social Psychology*, and you're not a PhD in psychology, it's pretty rough going. If you're someone who has as their goal to reach a lay audience with ideas they might not otherwise be exposed to, you can't do it their way. So I get frustrated some times-- although I understand where they're coming from—because I don't think that my academic critics... fully appreciate that I'm engaged in a fundamentally different process than they are.

Are journalists and scientists "engaged in fundamentally different processes"?