Reporting Medicine: The Role of Medical Journals and the Mass Media

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Accurate information about health and medicine is vital to the well-being of all people. Everyone, including physicians, is a patient at some point in their lives. This information is relayed through professional medical journals, which are primarily intended to be read by physicians, and the mass media, which is intended for the general population, consisting mainly of laypeople. However, the traditional roles of medical journals and the mass media have been changing. Recent articles have argued that these boundaries are being crossed—that mass media has as much of an influence on medical professionals as the general public and that medical journals are being read by nonprofessionals (Meyers, 2003; Charney, 2004; Paul, 2004). Because of this, it is important to understand the audience, purpose, and ethical standards of the mass media and medical journals, both how they differ and how they are alike.

Before I begin my discussion of medical journals and the mass media, I must first define these terms. "Medical journals" refers to those journals intended to be read by medical professionals, especially physicians; they are generally peer-reviewed or produced by a medical organization. This includes journals such as *The Journal of the American Medical Association (JAMA)* and the *New England Journal of Medicine* as well as smaller journals. "Mass media" includes newspapers, popular magazines, television programs, radio, and web sites intended for a popular audience.

There is not always a clear distinction between what qualifies as a medical journal and what should be included with the mass media. "Throwaway journals," which are written for medical professionals but do not contain original research and are generally

not peer-reviewed, fall into a gray area (Rochon et al., 2002), as do web sites like WebMD, which contains medical information for both professional and lay audiences.

Audience and Uses

Medical journals are generally used by medical professionals or by students of medicine. General medical journals cover a wide variety of topics and have a broader audience than medical specialty journals, which publish articles relating to one specialty, such as cardiology or orthopedics, and are mainly read by members of that specialty. General medical journals are read by members of all specialties, as well as general practitioners and other physicians who work with several systems of the body. Because general medical journals have such a wide audience, researchers who have performed breakthrough studies often submit their articles to them, while lesser innovations would have been submitted to a specialty journal. General medical journals are often read by members of the media, who use them to find information to report to the public.

Mass media is used by almost everyone. Reports on health and medicine can be found in print media (newspapers, magazines, and mass-produced books), television (news segments, health programs, and self-help shows), radio (news broadcasts and health reports), and the internet (news sites and health websites). The media covers many topics in medicine, but tends to focus on subjects that are popular or new. People use the medical information reported by mass media in different ways. Many people do not seek out health information in the mass media, but instead have it brought to them in the form of a segment of a newscast or an article in a magazine. The internet is different, however;

some of the information comes to people through news sites, but many people use it to find medical information that is relevant to them. When people seek out information, they usually put it to use, whether it is to support the recommendation of a doctor, to question a doctor's diagnosis or treatment plan, to find out more a diagnosis, or determine whether they should seek treatment for a medical condition.

Influence on Primary Audience

Medical journals influence physicians' practice whether they read journals or not. Articles published in journals can inspire new ideas in medicine and change the standards of care around the world. They keep physicians educated and informed, and can influence the medication and methods that doctors use to treat patients. Also, subconsciously, the language of medical journals influences the discourse of medicine, including the everyday language of physicians (Segal, 1992). Terms introduced in medical journals often become standard. Medical journals may have a negative influence on medicine, though, in that they discourage change by perpetuating outdated ways of thinking.

The mass media influences the way the public views physicians and medicine in general. It can both inform and misinform the public, and they often have no way to tell the difference. When mass media influences the public in a positive way, it makes them more informed about their health, so they can work with their doctors and make better decisions about their health. Knowledge may bring skepticism about a physician or a suggested treatment, but knowledge can also empower people to take charge of their care. When mass media influences the public in a negative way, the public becomes fearful of

medicine. Media can influence people to stop treatment that may be necessary or exaggerate a new finding so that many members of the public are convinced that a cure for a devastating disease is on the way. For example, Johnson (1998) reports of a time that researchers held a press conference to present the results of an experimental study on Alzheimer's disease. Despite the fact that the treatment had only been conducted with four patients, newspapers ran headlines like "Researchers believe treatment for Alzheimer's disease is near," and 2600 people called the researchers to find out if the treatment was available. The treatment was later shown not to be effective. Also, the media may reinforce individuals' current ideas about medicine—for example, that they are all liars or that they are gods—instead of helping them to form new, more realistic ones.

Ethical Standards

If medical journals and mass media have such an impact on their readers, is anything being done to make sure that the information they are reporting is accurate? Ethics and profit often come into conflict in medical journals and in the mass media.

Although many editors of medical journals would say that their main purpose is to inform medical professionals, it would not be possible to publish medical journals without paid subscribers and advertising revenue. The same is true with mass media. Although most journalists did not go into the profession to support advertisers, they know that selling papers or magazine issues, getting viewers to watch a television program, or go to an internet site is an important part of the business. Medical journals and mass

media must provide reports that are both interesting and informative; if they are not, no one will want to read, watch, or listen to them, and they will have no advertisers. Also, those who work with medical journals and the mass media have another motivation: to build their careers. To do this, they need to both bring money and prestige to the organization. Journals want to publish articles that will be talked about and cited, which might lead them to publish a flawed study on a popular topic. News organizations want to do stories that will bring them attention and possibly win awards. This might direct them towards stories that are interesting or new but are not as beneficial to their readers as others might be. For example, they might do a story on childhood leukemia, which is relatively rare but emotionally stirring, while a story on heart disease would effect more readers but might not get the same intense reaction.

Neither medical journals nor the mass media have one governing body that oversees ethics in reporting. The editors of many medical journals have formed several organizations to devise standards for publication ethics. The Council of Science Editors, the International Committee of Medical Journals (ICMJE), and the Committee on Publication Ethics have formulated guidelines for ethical research and publishing (World Association of Medical Editors, 2004), but individual journals make the decision whether to abide by these guidelines. The guidelines produced by the Council of Science Editors is 15 pages and includes everything from the editors' responsibilities to authors to conflicts of interest and the peer review process (Council of Science Editors, 2004). Several journals, including the *British Medical Journal* and *New England Journal of*

Medicine have published their own guidelines. But these guidelines are not always enforced with the same diligence by every editor or in every article.

Several societies of professional journalists have issued their own guidelines for ethical behavior. The American Society of Newspaper Editors, the American Newspaper Publishers Association, the Associated Press Managing Editors, and the Society of Professional Journalists have all published standards for ethical reporting (DeFleur & Dennis, 1998). Because the standards of journalism must apply to a broader range of situations than the medical journals' guidelines, they are generally shorter and more inclusive. The Society of Professional Journalists four main tenets of ethical reporting include: seek truth and report it, minimize harm, act independently, and be accountable. Many individual media organizations have ethical standards that they enforce in their employees, but some organizations have no standards or do not enforce the ones they have.

What is Said About Ethical Concerns

Editors of medical journals and the mass media have formulated standards of reporting, but do members of these organizations care about them? Many journals have published articles about publication ethics, and several editors have held conferences on the subject. Members of the mass media have also held conferences, but as with medical journals, much of the determination of ethical standards is up to the members of each individual organization.

Medical Journals

Miller and Rosenstein (2002) discuss both sides of an ethical controversy in medical publishing: in order to improve the public's trust of medical journals, regulations will have to be imposed that may make medical research more difficult and could possibly delay important findings. They recommend that medical journal editors require researchers to make full disclosure of all ethical issues when submitting articles for publication. The possible lengthening of the time it takes to write up the article and the additional pages that may be required for publication will be outweighed by gains in public trust.

Altman, Chalmers, and Herxheimer (1994) pose the question, "Is there a case for an international medical scientific press council?" Misconduct by authors has been thoroughly reported in medical journals, but misconduct by editors is not as well addressed. Altman et al. give three cases where medical journal editors may have treated authors unethically, and suggest that an international scientific press council, possibly moderated by the ICMJE, could set standards for appropriate treatment of authors.

Horton (1998) suggests an alternative to the suggestion of an international scientific press council by Altman et al.: a journal ombudsman. An ombudsman would be less complicated to coordinate than an international council, and might be more effective because the ombudsman would be working directly with a journal. Horton gives the example of *The Lancet*, a British general medical journal that established an ombudsman position. Authors who feel mistreated can appeal to the ombudsman, who investigates their claims to see if they have merit.

I searched the Lexis/Nexis Academic database for articles by the mass media on ethical standards in medical journals, and found that most reports simply discuss articles published in medical journals (such as the ones mentioned above). An Associated Press wire story by Tanner (2002) about a series of articles in *JAMA* on publication ethics was widely printed. Other reports discuss articles in the *British Medical Journa*l (Peterson, 2002) and the *Medical Journal of Australia* (Tobler, 2004) One article by Barnett (2003) reports original investigation into authorship of articles. It states that pharmaceutical companies often hire ghostwriters to write articles that promote their products. They then get a doctor to sign his or her name to it and submit it to a journal as the physician's own work, when, in fact, the doctor may have very little knowledge of the subject.

Mass Media

Deary, Whiteman, and Fowkes (1998), researchers into coronary heart disease, describe their experience with the mass media. They published an article with a relatively controversial finding: that women who were more submissive were less likely to have a myocardial infarction than those who were more assertive. The British Heart Foundation, who sponsored the study, issued a press release, which was covered by the mass media. The medical researchers were asked questions like "So these feminists are all barking up the wrong tree? Should they be getting back to the kitchen sink?" (p. 1726), and the media ran the story with headlines like "Do as you're told girls…and you'll live to be longer" and "Put down that rolling pin darling, it's bad for your heart…" (p. 1726) Deary et al. criticize themselves for not handling the press better, and warn other researchers of

the loss of control over a story and the distortions that may occur when an article is picked up by the mass media.

Moynihan et al. (2000) discuss the accuracy of news media reports of the benefits and risks of medications. The authors are concerned that media may be too enthusiastic about new medications and fail to correctly report their benefits and risks. They studied new reports on three medications and found that 40% of studies reported results in relative terms, not quantitatively. Only 47% of studies mentioned that the medication could have negative effects on patients and 30% mentioned financial costs.

Schwartz, Woloshin, and Baczek (2002) report on media coverage of scientific meetings. Many conferences produce press releases of abstracts being discussed at the meeting, even though they are only preliminary findings. Schwartz et al. found that these abstracts receive a great deal of attention from the media but many are never published, which prevents them from being fully analyzed by professionals.

Comparing Medical Journals and the Media

Johnson (1998) describes the evolution of health reporting over the years. News media features on medicine first became popular in the late 1970s and 1980s, and the demand has grown progressively greater ever since. Johnson attributes this rising importance to developments in both medical and communication technology, and says that this growing demand has lead to inaccuracies in reporting. However, medical journals are not perfect, either. Their extensive review of manuscripts may delay the release of important information to the public. Johnson argues for more of a balance between the two—that mass media should be more careful in reporting medical news,

while journals should speed up the publication of information that may be important to the public health.

Girardi, Petrosillo, Aloisi, Ravà, and Ippolito (1998) discuss a specific instance when medical journals and the mass media reported on the same story: mad cow disease. They tell of the course of the reporting on this topic in Italian newspapers before and after the publication of a peer-reviewed article in a medical journal. On March 20, 1996, an announcement was made in Britain that a variant of Creutzfeldt-Jakob disease had been found in 10 people, and that it might have been caused by exposure to a similar disease found in cows. Between March 21, 1996, and May 10, 1996, 535 newspaper articles on the disease were published in Italy. Before the publication of a peer-reviewed article in *The Lancet* on April 6, the peak reporting day was March 26, with a total of 48 articles published. After the publication of the peer-reviewed article in the medical journal, reports in the mass media decreased sharply. Girardi et al. suggest that this may have been due to an already declining interest in the subject on the part of the mass media or to a reluctance to cover the subject after a definitive article had been published.

As a sociologist and not a medical professional or a reporter for the mass media, Nelkin (1996) has an outsider's view on the relationship between the two. She writes that the difficulties between medicine and the mass media are due to the different perspectives of those working in the fields. This is a growing problem, as medical journals and the mass media often work off each other in developing topics to report. Nelkin discusses the differences in reporting styles between medical journals and the mass media and the conflicting views of the role of the mass media in reporting medicine. Although Nelkin

emphasizes that the tensions between medical journals and the mass media need to be worked out for both to fully serve the public good, she does not offer a solution for accomplishing this.

Relationship to each other

There are many differences between medical journals and the mass media, and although they both nominally have the same job (reporting medicine), they often work antagonistically. The majority of the articles published by medical journals or the mass media about each other are critical. They accuse each other of intentionally misleading the public for organizational gain. Medical journals tend to discuss how the mass media sensationalizes important research findings and glosses over important details in their rush to get readers or viewers. The mass media accuses medical journals of lying about research and authorship standards and holding out findings as fact when they have not been proven. Often, those who write about the mass media in medical journals seem to want reporters to include all the facts given in original studies with all caveats. This is an unrealistic goal, though, because the mass media would be just be repeating exactly what the medical journals had said and would probably lose readers or viewers, because many members of the public do not want to listen to lengthy explanations of research findings—if they did, they would read medical journals instead of *Time.* On the other side, though, the mass media seems to have an unrealistic expectation of medical journals. Medical researchers are just human, after all, and a few mistakes can be made in many studies without jeopardizing the results. This does not mean that the criticisms are

without merit, however, just that medical journals and the mass media should focus on helping each other set reasonable goals.

Even with all their differences, medical journals and the mass media also work together. Mass media often use medical journals as sources for stories, and researchers who publish in medical journals often find topics to research in the mass media. Most medical subjects that are vital to the public health will be reported in both medical journals and the mass media. Both forms are necessary to get stories out to the casual viewer, who wants to stay updated on health issues but either does not have time for or interest in the details, and the invested viewer, who finds medicine very important and wants to weigh all the details for him or herself.

Conclusion

Medical journals and the mass media approach the reporting of medicine in very different ways. Medical journals are methodical in reporting all the facts of medical studies, but can be too slow in reporting important studies and are not always as vigilant about reporting the truth as they could be. The mass media gets important stories out to the public, who needs them, but they can tend to ignore details and negative effects of new medications and treatments, and sensationalize health stories to get readers or viewers. Both medical journals and the mass media play crucial roles in the dissemination of medical information. More research needs to be done into the ways they antagonize each other and the ways they complement each other. Medical journals and the mass media working together to report medicine will benefit public health.

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