

## Special Article

## SHATTUCK LECTURE — MEDICINE AND THE MEDIA

TIMOTHY JOHNSON, M.D., M.P.H.

**T**HIS year marks the 28th anniversary of my involvement as a medical journalist in television, the first 14 years part time, the last 14 full time as medical editor of ABC News. I here reflect on my experiences in this field, including the dramatic changes that have occurred in medicine and the media during the past quarter century and some of the issues that have emerged from the interplay between these two rapidly changing professions.

Lest you doubt the impact of the media in supplying the public with health information, consider the following results from a national poll of 2256 adults commissioned by the National Health Council and conducted last fall.<sup>1</sup> Seventy-five percent of those surveyed said they pay either a “moderate amount” (50 percent) or a “great deal” (25 percent) of attention to medical and health news reported by the media. The primary sources of health news listed by respondents were television (40 percent), doctors (36 percent), magazines or journals (35 percent), and newspapers (16 percent). Interestingly, only 2 percent listed the Internet as a primary source. Fifty-eight percent said they have changed their behavior or taken some kind of action as a result of having read, seen, or heard a medical or health news story in the media. Forty-two percent reported seeking further information as a result of media reports. By the way, 53 percent said that when they have mentioned a media report to their doctor, he or she has been “happy” to talk about it, and only 7 percent reported that their doctor did not take their question seriously. Indeed, 45 percent said that these encounters have improved their relationship with their doctor. And, reassuringly, the vast majority (80 percent) reported that they have never read, seen, or heard a media medical report or health news story that led them to question their doctor’s advice.

## A BRIEF HISTORY

One of the most interesting barometers of the interaction between medicine and the media has been the coverage of presidential health.<sup>2</sup> As we now know, the health problems of many presidents in the past were well hidden from the public — often with ingenious deception. For example, in June 1893, President Grover Cleveland boarded a yacht in New York harbor for a supposed pleasure trip. Instead,

five surgeons and a dentist on board removed a cancerous left upper jaw, after which aides told reporters that the president had undergone a major tooth extraction. After Woodrow Wilson suffered a serious stroke in 1919, he grew a beard and mustache to cover muscle atrophy on the left side of his face; visitors to his office were placed in dim light on his right side to conceal his physical disability. The effects of President Roosevelt’s polio were routinely disguised by his aides, and President Kennedy’s Addison’s disease was denied by his staff.

It took the famous general-turned-president Dwight Eisenhower to start a new era in medical reporting when he allowed open disclosure of his heart attack in September 1955. Many of you will recall that the Boston cardiologist Paul Dudley White had a prominent role in discussing the president’s condition and that press secretary James Hagerty went so far as to discuss the color of the president’s pajamas and the number of his bowel movements. This kind of frankness later expanded into colorful revelation when President Lyndon Johnson dramatically pulled up his shirt before reporters on the morning of October 20, 1965, to reveal his foot-long scar from gallbladder and kidney surgery performed two weeks earlier. Entertainment programs in the late 1950s and 1960s also started to break down the traditional barriers between the worlds of medicine and the media as popular programs such as *Ben Casey* and *Marcus Welby, M.D.*, provided dramatic glimpses of the secret lives of doctors, who routinely solved complicated medical and human problems in just 30 or 60 minutes — and without ever submitting a bill!

By the 1980s, when Ronald Reagan was in the Oval Office, the details of a president’s medical history were expected and demanded by the public. My own exposure to this phenomenon came suddenly and, at least for me, dramatically shortly after I became medical editor for ABC News in the fall of

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1984. I was in New York working on my first assignment for the news program *20/20* when President Reagan engaged candidate Walter Mondale in the first of the presidential debates of the fall campaign. In that debate, Mr. Reagan experienced great difficulty in responding quickly to questions, so much so that his performance ignited an immediate controversy about whether he was too old to be president again. The next morning, that debate was front-page news in most major newspapers, and predictably, the network evening news programs highlighted the issue. Late in the afternoon of that day, the executive producer of ABC's *World News Tonight* called me to say that they would like me to answer questions about mental competence and aging after an opening report by veteran political reporter Jim Wooten. When I expressed reluctance to take on that role so soon in my new job, I was reminded that instant analysis of breaking medical stories was part of my new job. And so I found myself on the network evening news program for the first time, answering questions about the president of the United States and his mental status. The interaction between medicine and the media had indeed come a long way.

I had a somewhat similar experience when Mr. Reagan underwent surgery for colon cancer in the summer of the following year: for three days, I spent most of my time in the network newsroom in New York at the side of Peter Jennings as we reported on and reacted to the detailed news of Reagan's testing and surgery. And after Dr. Steven Rosenberg's dramatic announcement at the postoperative press conference that "the president has cancer," Peter Jennings asked me to provide an instant prognosis.

#### INCREASING AND DRAMATIC INTERACTION

By the mid-1980s, medical reports on matters other than presidential health had become popular features in both print and electronic news media. Both medical scientists and media owners had learned that it was quite good for business to feature health and medical news. Surveys consistently demonstrated that such news was at or near the top of the categories of greatest interest to viewers and readers. But the rush to promote themselves and reach out to the public often caused both medical scientists and journalists to violate some of the sacred tenets of their respective professions. Whereas science traditionally emphasized collective data over individual anecdotes and getting it right over getting it first, representatives of the world of medical science often felt pressure to release early clinical research prematurely to the public. And whereas journalists traditionally emphasized the use of multiple sources for new information and the value of obtaining opposing viewpoints to balance any story, they

were often all too willing to let doctors and scientists of the revered medical establishment — or some iconoclast — state their hypotheses unopposed whenever and however they wished.

One of the most dramatic examples of this rush to report occurred just as I was entering the field of medical journalism full time. In October 1984 the journal *Neurosurgery* published the results of an experimental treatment for Alzheimer's disease that had been tried in just four patients.<sup>3</sup> The technique consisted of implanting an abdominal pump that continuously infused bethanechol chloride or placebo into the brain through a catheter threaded under the skin. The study was single-blinded (the doctors knew what was being infused), and any findings of functional changes were based entirely on subjective assessment by the patients' families, which were reported as positive during drug infusions. Then the medical center in which the study had been done decided to hold a press conference in conjunction with a camera-crew visit by *The McNeil-Lehrer Report*. A medical-center press officer alerted local newspapers, local network affiliates, and the wire services, which led to a United Press International advisory that alerted the national media. Both print and electronic media showed up for a press conference that also featured an on-camera testimonial by one of the four patients in the study. In the following days, reports appeared on all three commercial networks and in many national papers and magazines with headlines such as "Scientists Find First Breakthrough against Alzheimer's" and "Researchers Believe Treatment for Alzheimer's Disease Is Near." Thus, a preliminary, single-blinded, subjectively assessed experiment involving four patients unleashed a national media feeding frenzy. During the next two months, the medical center received approximately 2600 calls about the treatment. One man brought his wife to the center, and even though she was ineligible for the study, he wrote a check for \$10,000 on the spot.<sup>4</sup> Of course, the treatment quickly passed into oblivion.

Since the 1980s medicine-media interactions have become even more frenzied. I need not describe the dramatic changes that have occurred in medicine, leading to previously unimaginable competition between hospitals and physicians and commercial research institutions clamoring for public attention of any type — advertising, news reports, feature stories, even so-called infomercials. And the world of electronic media has undergone an equally cataclysmic change during the past two decades as the number of channels and networks available to the public has exploded, dramatically intensifying the competitive pressure to find and report medical news before another network or program does so. Given this cauldron of competition, it is not surprising that some problematic and even dangerous practices have developed.

### THE PROBLEMATIC ORIGINS OF MEDICAL NEWS

The fundamental question in medical journalism is how best to identify, process, and report legitimate medical information to the general public. One commonly accepted definition of news is “anything that interests a large part of the community and has never been brought to its attention before.”<sup>5</sup> It sounds straightforward, until you start to think about who should decide what should interest a large part of the community. In fact, the process that leads to the official designation of information as news — meaning that the information makes it into print or onto the airwaves — is far more haphazard and idiosyncratic than outsiders might ever imagine. A commonly told story among journalists, probably apocryphal, concerns a newspaper editor who hits a pothole on the way to work, spilling coffee all over his new suit, and immediately orders a series on street maintenance when he arrives at the office.<sup>5</sup> It is what I call the “U 2” syndrome — that is, if an editor or anchor or reporter becomes interested in something, then you, too, must be interested.

But many other forces besides personal influence determine what does or does not become medical news. In his probing study “Science and the Media,” Dr. Jay Winsten of the Harvard School of Public Health lists some of the many influences and pressures that affect the ultimate decision to label something as “newsworthy.”<sup>4</sup> They range from “what creates a market for advertisers” to “what promotes a reporter’s career.” He also includes some poignant quotes culled from 27 interviews with scientists and medical journalists, such as the following: “I’m in competition with literally hundreds of stories every day, political and economic stories of compelling interest. . . . We have to almost overstate, we have to come as close as we can within the boundaries of truth to a dramatic, compelling statement. A weak statement will go no place.”

There are similar competitive pressures on the medical establishment, a world where medical centers, researchers, biotechnology firms, and individual practitioners increasingly use the techniques of the business world — press conferences, press releases, video mailings, and Wall Street briefings — to gain or maintain market share or to increase the chances of receiving funding for research. Winsten quotes one scientist who describes being “victimized” by his institution in a press conference<sup>4</sup>:

And we would go up like lambs to the slaughter and do exactly what the PR [public relations] people would want. . . . All of these reporters, broadcast and print, would be at the press conference, and they would know that if they don’t report the story today, they will be beaten by the guy sitting next to them. So everyone would rush to write the story.

The increasing commercialization of medical research by business interests concerned primarily with profits has led to a secretiveness and even cutthroat mentality that prompts blatant attempts to manipulate the media. One researcher writes bluntly, “There are those who use the media for profit. They encourage stories about the faults of their competition. They leak medical stories to the press or in some cases have open press releases to boost their companies’ stock values” (Woosley R: personal communication).

This pressure to commercialize has also extended to scientific meetings, which are now becoming more like exercises in public relations organized for the benefit of the media. These meetings, which used to allow the free flow of information between scientists, without fear of commercial or media intrusion, are now typically orchestrated to highlight reports that will clearly appeal to the public or to Wall Street. The added confusion of financial conflicts on the part of so many presenters at scientific meetings increases the possibility of media manipulation. One effect of commercialization has been described by a highly respected institutional public-information executive, who also writes about current events in science, in the following manner (Rodgers J: personal communication):

If the globalization and privatization of medical research continue to grow as most analysts expect, the gap between the discovery of useful medical information and public access to it for purposes of dissemination will be increasingly filled with corporate, marketplace and legal “gatekeepers” and barriers. Complicating this picture will be conflict-of-interest issues related to intellectual property, patents, licenses. But emphasis on secrecy and de-emphasis on publishing are more likely.

Finally, I would be remiss not to mention, as an added pressure, the flowering of the science of epidemiology, a discipline that has served the cause of public health brilliantly in the past with such discoveries as the link between smoking and lung cancer or fats and heart disease. However, there is mounting concern that with most major epidemiologic associations already identified, epidemiologists are increasingly devoting themselves to the study of more subtle associations between risk factors and disease — associations that are far less certain and that can lead to the parade of conflicting results so familiar to the public.

### THE CRITICAL AND CONTROVERSIAL ROLE OF MEDICAL JOURNALS

So, in this crazy world of media manipulation and information overload, is there still a place for the staid and often stodgy process of publishing in peer-reviewed medical journals? Some would argue that such a sea of relative sanity is more needed than ever, albeit with continuing improvement. Others argue that this traditional approach is basically an anachro-

nistic hurdle that delays the free flow of medical information to the public. In recent years, two physician-journalists, Drs. Lawrence Altman and Michael Wilkes, have written detailed and vehement attacks on the control of medical information resulting from the particular policies of many leading medical journals — especially the use of peer review and the Ingelfinger Rule.<sup>6,7</sup> Given that I deal almost daily with these policies, I would now like to examine them briefly and offer my own perceptions of their current role in medical journalism.

#### Peer Review

Opinion on the value of peer review is decidedly mixed. For example, after acknowledging the possible benefits of peer review, Wilkes describes its “darker side” as “fostering an old boys’ network, increasing costs, contributing to biases and delays, ruining people’s careers, and preventing creative or controversial research from becoming known.”<sup>7</sup> Many critics have charged that there is relatively little research on the supposed benefits of the peer-review process, which is meant to help identify the best articles for publication and improve those articles, even before formal submission, making them more accurate and readable. In fact, there is some research to suggest that peer review is beneficial.<sup>8</sup> But could the process be improved or changed? Of course. For example, one study suggests that more-senior leaders in medical research produce reviews of lesser quality than those of more-junior people.<sup>9</sup> Another study found four characteristics of reviewers that predicted better-quality reviews: younger age, affiliation with a top academic institution, familiarity with the journal’s editor, and masking of the name and institutional affiliation of the author of the study.<sup>10</sup>

These findings suggest that the time may have come to consider assembling a stable of part-time, younger reviewers who would be publicly identified and paid for their work and who would be rigorously screened for any financial conflict of interest. Indeed, the most important part of the current review process may be that performed by the hired staff of a journal — the biostatisticians, epidemiologists, and junior editors who initially evaluate and continually reevaluate submitted manuscripts. Extending this staff to include a group of outside, part-time reviewers may make sense, just as the legal system is now considering the use of a stable of neutral expert consultants to evaluate complicated matters of science in trials.

#### The Ingelfinger Rule

The Ingelfinger Rule was promulgated by the late Franz J. Ingelfinger in 1969, when he was editor of the *Journal*. Simply stated, the rule is that the *Journal* will not publish an article whose substance has been reported previously at a meeting or press con-

ference or published in a medical news publication. Dr. Ingelfinger was frank to acknowledge that his motivation for the policy was driven by both concern about quality (the need to allow time for peer review before the information is disseminated to the public) and economic issues (the desire to prevent other publications from scooping the *Journal*). Writing about his rule in the 1977 Shattuck Lecture, Dr. Ingelfinger, in typically blunt style, stated, “Let me warn you right away that the ‘rule’ enjoys no admiration or respect such as the Golden Rule. . . . In fact, the ‘Ingelfinger Rule’ is most appropriately mentioned with a sneer of distaste.”<sup>11</sup>

Nonetheless, the Ingelfinger Rule has more or less been in effect at most leading medical journals for almost three decades. Even though several surveys have suggested that the majority of medical scientists and practicing physicians support the policy, it is despised by many members of the medical journalism fraternity, primarily because they feel it stifles free exchange between scientists and journalists until the time of publication and can, albeit very rarely, cause public harm by its withholding of important research results for many months before publication.

On this matter, I differ with many of my journalism colleagues. I feel the rule does more good than harm in ensuring quality in publicly presented results. Given that some surveys suggest that less than half the research reports presented at scientific meetings ever get published in any kind of journal — and remember there are 25,000 of them out there — it seems to me that the winnowing process inherent in the delay caused by the Ingelfinger Rule is largely beneficial. However, I would offer two ways of making this policy less onerous to journalists and more beneficial to the public.

The first is for journals to be even more generous in granting exceptions to the rule against the early release of information for information that may have immediate benefit for the public. The most recent example of note was the decision by the *Journal* to allow Mayo Clinic researchers to release evidence to the public of the possible dangers of diet pills to heart valves seven weeks before publication of the full research paper. I believe this exception policy should err on the side of public safety whenever there is any hint of immediate and substantial public benefit, especially after the process of peer review has been completed and the only justification for waiting to release the information is to maintain the proprietary newsworthiness of the article. The second suggestion is to do everything possible to speed up the process of both peer review and publication. I find it hard to believe that the period of several months that is typically required for publication cannot be considerably shortened in this age of electronic enlightenment.

### The News Embargo

The final pillar in the mechanism constructed by journals to control their content involves an agreement by journals to send advance copies to journalists sometime during the week before publication in exchange for a pledge not to report stories to the public before a specific time, usually the evening before the official publication date. The reason for this embargo policy is to allow reporters some lead time to investigate and prepare reports and make them more accurate and understandable. Some journals (notably not the *Journal*) have extended this concept to include the practice of sending out press releases and even video segments summarizing the articles and offering experts as resources, techniques Wilkes cynically describes as “a Madison Avenue-like attempt to enhance news coverage of articles and ultimately, presumably, boost prestige and sales.”<sup>77</sup>

In my judgment, an even more important effect of embargoes is to level the playing field — at least in terms of deadlines — for the journalism community, thereby preventing what would otherwise be a bloody scramble to be first, with an inevitable decrease in the quality of reporting and assessment. As one who once broke the *Journal's* embargo by a day — for what I thought at the time to be a good reason — and who was publicly spanked by its editor for so doing, I remain a staunch supporter of the policy. Given the enormous and growing competitive pressures on the media described above, I fear the elimination of the embargo policy would quickly result in barbarians at the gate of public disclosure, with scientists and journalists hounding one another mercilessly in an effort to be the first to gain public attention. Indeed, I could imagine scenarios in which prominent scientists are staked out by the press at their homes or offices.

### THE REPORTING OF MEDICAL NEWS

I shall now turn my attention to the other main gatekeeper controlling the dissemination of medical information to the public, the medical journalist. Many of us in medical journalism would argue that there should be a substantial difference between the reporting of general news and the reporting of medical news. General news consists of relatively circumscribed events that can be reported according to the traditional checklist of journalists — the famous who, what, where, when, and why. In contrast, medical news does not usually happen at an isolated point in time that can be encapsulated by those traditional descriptions. Rather, medical information is part of an ongoing stream of experimentation and data production that typically grows out of past experiments and will undoubtedly change, often very quickly, with future experiments. In contrast to general news, which is based on facts and sources and opinions, medical information is traditionally based

on data and probabilities and conclusions. Anecdotal evidence, which is on the lowest rung of the evidentiary ladder in science, is often the basis of general news reporting; indeed, the anecdote — the event — is often the entire focus of a general news report. This is not to say that one type of content is better than another, simply that they are very different and require different kinds of analysis and presentation.

Unlike the reporting of standard news, which requires general journalistic skills and familiarity with the subject matter, good medical-news reporting requires additional and very specific skills in the understanding of biostatistics and epidemiology. Given that most medical news stems from scientific studies, I think it is virtually impossible to do a good job of analyzing and reporting such information without a basic grounding in knowledge of such matters as the strengths and weaknesses of descriptive studies (e.g., population and cross sectional) and analytical studies (e.g., case-control, cohort, and interventional), the evaluation of association (the possible contribution of chance, bias, and confounding variables) and potential cause and effect (e.g., strength of the association, biologic credibility, and consistency of the association with previous investigations), and the critical difference between relative and absolute risk in real-life interpretation of results.

The need for such knowledge leads directly to the controversial and complicated question of whether or not those who report medical news should have any special training or credentials. I will confess to you that when I first became involved in medical journalism in the 1970s, I quickly realized that my training as a physician was not enough, which is why I went to the Harvard School of Public Health to get a basic grounding in biostatistics and epidemiology. I am not saying that all medical journalists must take such a formal approach to their training. But I have reluctantly come to the conclusion that the fraternity of medical journalists should develop some kind of system to ensure that those who wish to become medical journalists have a basic knowledge of the subject and some way of certifying them that would be recognized by employers and the reading and viewing and listening public. Before howls of protest arise from many of my journalism colleagues, I would point out that there is certainly a precedent for such credentialing in the media in the use of meteorologists to report the weather. I am not saying that nonmeteorologists cannot adequately report the weather (though in most such cases they work behind the scenes very carefully with a meteorologist), but I am saying that there is a certain comfort level in knowing that the person has a degree in meteorology. And I do not believe that our weather reporters are more important than our medical reporters in terms of what they convey to the public. The fact is that we automatically expect our sources on the

medical side of the medicine–media equation to have some kind of credentials (some kind of medical or science degree or an institutional affiliation that requires such), but we do not expect it on the media side, even though both sides are critical to good reporting. I think the time has come in this era of highly specialized medical and scientific information to require evidence that the people on both sides know what they are doing.

Does this mean that one has to be a doctor to be a good medical journalist? Of course not, though I must say that I have found my medical training and experience in clinical practice invaluable in sorting out the importance of the clinical information I encounter. However, I do believe that to be a good medical journalist today one must take the time and trouble to study the kinds of skills mentioned above and then — this is the controversial part — pass some sort of reasonable examination to prove one's knowledge. Obviously, the question of who should develop and administer such an examination is extremely difficult. But as has been demonstrated in many other areas, it is possible. If we think it is important to certify hairdressers and massage therapists, might not it be important to certify those who transmit medical news day in and day out? As Mark Twain reportedly put it, “Be careful about reading health books; you may die of a misprint,” or, I might add, of a mistake.

Such training would also, I believe, go a long way toward solving some of the stylistic tensions that now exist between scientists and reporters. Nelkin describes the problem simply: “While scientists are socialized to qualify their findings, journalists often see qualification as protective colouration. Furthermore, readability in the eyes of a journalist may be over-simplification to a scientist.”<sup>12</sup> Besides arguing over words, such as “breakthrough” and “best” and “epidemic” and “dangerous,” the scientist and journalist often differ over the use of a human-interest story to illustrate the report. For the scientist, such a story is just one piece of information in a large pool of data. But for the journalist, the story can create an indelible impression on the viewer that will override any discussion or qualification; if that story is truly representative, it may be very helpful, but if it is not, it may be very misleading. Again, I believe that basic training to recognize the potholes of medical studies would help breed a proper restraint in reporting results.

## CONCLUSIONS

Despite my concern about the medicine–media enterprise today, I am by and large satisfied with the course of events during the past several decades, when I have been privileged to be a part of the world of medical journalism. Today, readers, listeners, and viewers have the opportunity to obtain information that may truly help them, something that was difficult to do 30 years ago. Sometimes, when someone asks me what I do for a living, I mischievously respond that “I provide cheap entertainment for hypochondriacs.” That, of course, is a possibility. But even though it is hard to prove in traditional scientific fashion, I would like to believe that those of us who labor in the vineyard of medical journalism do more good than harm, that we usually provide medical consumers with useful and accurate information that they can use to make important medical decisions about themselves and their loved ones.

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