

Virtual Mentor

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From the editor

Medicine and media: a symbiotic relationship?

Medicine has long been a subject of interest to the popular media. Major newspapers have separate health sections and medical investigative teams; network news stations feature in-house doctors; television channels have an array of medicine-centered shows. With the emergence of Internet publications and blogs, the medical world is more exposed than ever. The media's constant broadcasting of medical fact, fiction or a blend of the two has consequences far beyond informing or entertaining the public; its portrayal of medicine—through investigative journalism and constant attention to certain themes—directly impacts the way the health care system operates, making it necessary to examine the ethics of the enigmatic relationship that medicine and the media share [1].

Is the media an enemy or an ally of medicine? A more informed public should mean a more informed patient, a common goal of both medicine and the media. But the accuracy and presentation of the information comes into question at times, putting the goals of journalists and physicians in conflict. Take media acclaim of medicine's achievements, for example. This reporting would seem to be innocuous, but in fact it can have ethical implications. Coverage of scientific progress can produce millions of dollars of investment for research. The catch? Reports delivered at annual society meetings are often preliminary and not yet validated—a fact that is seldom made clear to the reader or viewer [2].

Part of the onus for greater accuracy is on the media. The Statement of Principles of the Association of Health Care Journalists calls for reporters to “understand the process of research” and be judicious with words such as “cure” and “breakthrough” [3]. Scientists, too, shoulder some of the responsibility for accurate reporting, but downplaying the potential of their research could compromise the funding upon which their projects depend. With the scientific community and the media so heavily invested in finding and reporting the next major “breakthrough,” ethical standards become increasingly crucial in disseminating information to the public.

Medicine is a self-regulating profession, but physicians can be wary of whistleblowing for fear of lawsuits, disapproval from colleagues and even losing their jobs [4]. Enter the journalists, who believe it is their professional duty to be watchdogs—asking questions and uncovering problems. It is not surprising then, that this relationship is fraught with mutual distrust. Reporters believe their stories empower the patient, while many physicians believe these same stories compromise their professional autonomy and the patient-physician relationship. Given such different

interpretations of a medical reporter's role, the natural response of physicians might be to avoid the press and, indeed, most do. But silence is not the solution. If physicians call on journalists to be more thorough with their reporting [5], they, in turn, must be willing to provide the correct context. A survey recently conducted in Great Britain for the Royal College of Physicians found that physicians are the most trusted source of information, ranking significantly higher than journalists [6]. This position imposes on physicians the responsibility to make time to inform the public about health matters.

The debate on the public role of the physician has taken on new meaning with the recent popularity of medicine-based reality television shows. Despite the word "reality," the portrayal of medicine in these programs is, many physicians argue, far more fictitious than true to the way medicine is practiced. In MTV's *I Want a Famous Face*, physicians altered patients' appearances to make them look like celebrities. It has been argued that these shows present the public with a distorted view of specialties like plastic surgery. But the public has been responsive, and the plastic surgery business has instead seen increases in the number of patients and revenue. Since the 2002 airing of ABC's *Extreme Makeover*, not only have there been more plastic surgery TV shows, but the number of cosmetic surgeries performed in the U.S. has increased by more than 65 percent [7]. The greater overall exposure of plastic surgery raises many ethical questions. Do physicians have responsibilities to their profession as well as to their own practices? Who determines what is and what is not a good image for the specialty? Most importantly, what is in patients' best interest?

Society's image of medicine is probably most defined by medical dramas. Since 1950, there have been at least 70 medically themed television programs, with many ranking among the highest-rated shows of their time [8]. Despite their assembly of actors and scripts, medical dramas offer a glimpse into the workings of a hospital that often seems remarkably real. The surgeons of *Grey's Anatomy* and trauma physicians of *ER* seem almost like a part of our medical community. But ultimately, these dramas are just that, dramas. They are predicated on conflict, heroes and villains, life and death stakes. To a great extent, medicine is a natural fit for television just because it has many of those elements in its day-to-day operations. But members of the public who base their opinion of physicians on television shows may find their expectations unfulfilled and their experiences disappointing.

Fictional medical conditions and treatments often fall well outside the ordinary, but when extraordinary themes are repeated enough they become routine in the public eye. So people have come to expect either a medical miracle or a medical mishap, whereas in reality both are unusual. For example, according to a *New England Journal of Medicine* analysis, 67 percent of TV drama patients who received CPR survived [9]; however, published reports indicate that the actual range of patient survival is 0 to 16 percent [10]. The disparity between fictional and actual medical accounts can influence patients' perceptions of physicians' ability to find a solution. Moreover, if a miracle is not achieved, patients and their families often suspect error,

which puts physicians in the precarious position of living up to inflated expectations while managing distrust on the part of their patients.

In this issue of *Virtual Mentor*, experts examine many of these ethical dilemmas in the relationship between medicine and the media: media's role as a watchdog over medicine, real physicians in the media, fictional representations of physicians and misleading presentations of disease and illness—to name a few. This month's authors offer interesting analysis and firsthand perspectives on why a more symbiotic relationship would be mutually beneficial, and how that can happen even as each party strives to fulfill its own role better.

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Clinical case

Diagnostic testing for diseases in the news

Commentary by Vidya Sharma, MBBS, MPH, and M. Denise Dowd, MD, MPH

Dr. Carpenter entered the exam room to see her next patient, Andrew, and his mother. Andrew was an 8-year-old-boy who was athletic and active. His mother was a bit of a worrier and frequently brought him to Dr. Carpenter for (generally) minor reasons.

During this visit, Andrew's mother pointed out a small rash on his right calf that had appeared the day before. Mrs. Wood said she was extremely concerned about the rash because of news reports of a flesh-eating bacteria spreading throughout the community. She believed the report mentioned that someone in Andrew's soccer league had come down with the infection.

Dr. Carpenter began her examination by asking Andrew about the rash. He said it was a little itchy, but not painful. He said he had not felt sick, and his mother reported that Andrew had not had a fever. During her examination, Dr. Carpenter noted no swelling, bleeding, pus or visibly dead tissue. She then explained to Andrew's mother that he had no symptoms consistent with the flesh-eating bacteria. But Mrs. Wood did not seem convinced, and she repeatedly emphasized that her son might have been exposed to the infection during soccer. She wanted more elaborate tests done, not satisfied with watching and waiting.

Realizing that this mother's anxiety could not be allayed, Dr. Carpenter debated about how to proceed. A proper diagnostic test for necrotizing fasciitis would require a biopsy, gram stain and culture. This procedure would require a lot of time and resources and seemed unnecessary in the absence of any typical symptoms. Dr. Carpenter also considered doing a rapid group A streptococcal test, which involves a simple throat swab that when placed on a reaction strip would give a positive or negative result. Although group A streptococcus causes necrotizing fasciitis, Dr. Carpenter was aware that there really were no recommendations for performing the rapid test for the suspected flesh-eating bacteria infection in Andrew's case.

Dr. Carpenter considered going through the full battery of tests to put Mrs. Wood's mind at rest.

Commentary

Dr. Carpenter is correct: there are no recommendations for doing a rapid throat swab test for necrotizing fasciitis (NF). Diagnostic testing for NF must be guided by the

history and physical examination; there is no reliable screening test to rule out the disease. Other diagnostic tests may include invasive and noninvasive diagnostics such as ultrasonography, CT scan, MRI, tissue oxygen saturation monitoring or biopsy [1-5], none of which is indicated in this case.

Honoring parental requests and preferences for testing

Despite there being no medical indication of disease on physical examination, should Dr. Carpenter order further tests to appease her patient's mother? Patient involvement in medical decision making has dramatically changed in the past three decades, and respect for patient autonomy and patient preferences is now emphasized. A model of "enhanced" autonomy that respects the physician's professional opinion while encouraging patient involvement (but not patient control) is beginning to be favored [6]. Such an approach does not compel physicians to abdicate their professional responsibilities or clinical judgment [7]. Rather, physicians have an obligation to guide patients based on scientific evidence, clinical knowledge and experience. While patient preferences must be respected, physicians should balance them with the medical indications, costs, risks and benefits, and then act in a way that is in accord with their patients' interests and their own professional obligations.

Dr. Carpenter must first consider the potential for benefit versus possible harm that additional tests can cause. Getting a biopsy is invasive; it can cause pain, bleeding and scarring, and there is a low to nonexistent likelihood of benefit; other diagnostic tests can expose a patient to radiation and discomfort and can be very expensive without providing a definitive diagnosis. To be consistent with the principle of beneficence, Dr. Carpenter must inform Andrew's mother that further testing is not necessary and that she is not comfortable ordering any tests.

Impact of the media on health services utilization

Popular media may influence physicians and patients in many ways [8]. In our case, a mother has heard about a condition on television, fears her son has that condition and seeks care for him. The impact of the media on the use of health services has been measured, and both increases [9] and decreases [10] in demand for services have been documented. Some authors have concluded that media coverage induces "an epidemic of anxiety," [11] resulting in decisions to alter the standard of care and producing a surge in diagnostic testing [9]. The accuracy of health-related stories in the media has been questioned by investigators who have reported widespread incomplete or inaccurate information [12, 13].

Ethics of overusing health care resources

The overuse of health care resources is a rampant and well-recognized problem. One reason for this problem is physicians' concern about satisfying patient expectations. Other physician-related factors include fear of lawsuits, uncertainty and "standard of care" practices not based on evidence. While increased health care costs are an obvious negative side effect of unnecessary testing, a more direct implication—one of even greater concern—is the untoward physical and emotional consequences of

these tests on the patient. From a population perspective, overuse of resources (of which unnecessary testing is one example) can be considered less than ethical. The American College of Physicians Charter on Medical Professionalism explicitly states that

appropriate allocation of resources requires scrupulous avoidance of superfluous tests and procedures. The provision of unnecessary services not only exposes patients to avoidable harm and expense but also diminishes the resources available for others [14].

In short, performing tests that are not clinically indicated is unprofessional behavior.

Conclusion

The decision to pursue diagnostic testing should be based on evidence and assessment of the costs and benefits of the procedure. Obtaining a diagnostic test solely to allay patient anxiety with a negligible likelihood of medical benefit is not an ethically defensible practice from either individual or societal perspectives. The individual patient may suffer physical and emotional harms that outweigh any real or perceived benefit, and limited community resources will be inappropriately spent. The popular media is clearly a strong influence and source of knowledge for our patients. Harnessing the power of media through collaborative relationships with television, radio and print media outlets allows physicians to educate the public about health matters and lets the media serve as a primary outlet for information. As the source of expertise, however, the medical community has a responsibility to provide complete and accurate information in a timely manner.

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Related article

[Media reporting and emergency room testing trends](#), March 2007

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Clinical case

Hospital reputation and individual patient decisions

Commentary by Maurice Bernstein, MD

Dr. Robinson, an internist, entered the exam room to see his next patient, Mr. Kelly, for continuing care of chronic hepatitis. The two had had a long-standing, positive relationship for several years.

Dr. Robinson noticed that Mr. Kelly appeared to be jaundiced with mild ascites. Mr. Kelly said he had been taking his medications properly, so Dr. Robinson suspected that his patient's hepatitis had progressed. He told Mr. Kelly that he would need a liver biopsy and that, based on these new symptoms, he might be a candidate for a liver transplant.

Aware that he might need a transplant at some point, Mr. Kelly had been diligently researching the topic, and he was prepared when Dr. Robinson began discussing the details of the procedure and the logistics of getting on a list. Dr. Robinson said he generally referred his patients to the university organ transplant unit, since he was an affiliate of that health system. Dr. Robinson noticed that Mr. Kelly looked uncomfortable when he heard this, so he asked Mr. Kelly what was disturbing him.

Mr. Kelly reminded Dr. Robinson of the recent media frenzy about the university's transplant unit. News articles claimed that the institution had extremely high mortality rates and had urged that an external regulatory body be appointed to certify the organ transplant unit.

Mr. Kelly asked Dr. Robinson how he could still send patients to that apparent "death trap." Dr. Robinson, surprised at having his judgment questioned, found himself in a bind. He had worked loyally and successfully with the hospital unit for many years and was skeptical about the media reports. He figured that, since the university accepted more critical patients, the mortality rates were undoubtedly skewed. He considered offering this information to Mr. Kelly because he believed the university hospital was the best and safest place for the surgery. On the other hand, he didn't want to stress his relationship with Mr. Kelly or convince him to take a course that might cause unnecessary anxiety.

Commentary

This case is about a patient, Mr. Kelly, who has a medical decision to make, but this process is being influenced by negative news coverage of the hospital where his procedure would take place. It is also a story about Mr. Kelly's physician, whose

duty is to educate his patient regarding the best treatment, and who suspects that the media has become an obstacle to this education. An overriding theme in this story is the role of the media in medical matters and whether it contributes to or detracts from the patient-physician relationship.

The media has a mixed record as a medical educator. Though there have been examples of good investigative reporting and excellent, unbiased and well-documented health programs, particularly by public radio and television, there have also been disclosures labeled as “education” that conflicted with physician attempts to better inform their patients.

Television dramas, for example, have raised unrealistic expectations about the efficacy of cardiopulmonary resuscitation [1]. News stories have emphasized the benefits of certain chemicals and food products as well as medical and surgical procedures at times when they were still controversial in the scientific community. It has even been suggested that some segments presented as medical reporting were really hidden advertisements [2].

Besides touting medicine’s benefits, the media has also disseminated unsubstantiated reports of negative effects of many previously accepted foods, drugs and procedures. A prominent recent example was the widespread warning to the public that childhood immunizations could cause autism. This “education” led some parents to forgo immunization of their child, despite the fact that the claim was controversial and remains unproven [3].

Finally, direct-to-consumer pharmaceutical advertising poses the question of whose interest the media are serving. Drug ads are broadcast to millions of viewers who do not have the disorders that the marketed drugs treat. This type of advertising can result in misinterpretation of symptoms and inappropriate indications for drug use. It could also engender unnecessary anxiety and concern on the part of otherwise healthy individuals. Under these circumstances, the statement at the end of each ad—“talk to your doctor”—may be more than simple advice; it may further the goals of the drug marketing firm by making doctors more aware of a new “in-demand” drug.

Where does Dr. Robinson’s allegiance lie?

Organ transplantation is of particular interest to the general public and to patients alike because of the scarcity of the available organs and because the need for a transplant is usually associated with a life-threatening illness. Therefore, the public can be expected to have concerns about inequities in the allocation of organs or poor transplant surgery outcomes. It is pertinent to the story of Mr. Kelly and Dr. Robinson that the media, through diligent research, have uncovered and disseminated disturbing information about the hospital’s role in the procurement and the transplantation of organs, which demonstrated questionable medical practices and outcomes. The *Los Angeles Times*, for example [4], has reported on one or more of these violations occurring in three separate hospital systems in southern California. Such stories, if found to be factual through a prompt administrative

investigation, can bring about system corrections and promote better informed consent and decision making both by patients and their doctors.

In our case, Mr. Kelly is under stress, having learned that he needs a liver transplant. It is understandable that, because of his own situation, whatever information he already has learned from the media, whether valid or erroneous, has made an impression that will surely influence his personal treatment decision. It is doubtful whether Dr. Robinson can ever provide, even if available, supportive documentation that could ease his patient's concerns about agreeing to a liver transplant at the university's hospital.

The physician's professional obligation to the patient in this sort of predicament has been well documented in the literature [5]. A major ethical question is, to whom does Dr. Robinson owe his fiduciary responsibility? Does the trust the hospital puts in Dr. Robinson to support rather than discredit the hospital trump the trust Mr. Kelly has put in Dr. Robinson to give him the best advice, care and avoidance of harm? Surely not. The duty to honor the patient's trust comes first. Because of that, Dr. Robinson may find it necessary to secure a site for the transplant that has not aroused media controversy; one that has a record for performance that is acceptable to both Dr. Robinson and Mr. Kelly. This is not to say that Dr. Robinson should not present his patient with relevant documentation and information about the university hospital's skills and record. He may even help Mr. Kelly consider explanations that might dispute the media's conclusions. But in the end, if Mr. Kelly remains unconvinced about the university hospital, Dr. Robinson must identify another facility for the planned surgery.

The fact that the media serve as a primary source of information for the public, patients and physicians is a double-edged sword. On the one hand, it may uncover true evidence of harmful medical practices that would otherwise have gone undetected and unpublicized. On the other hand, the media may exaggerate, overplay or apply research findings inappropriately. With its daily and attention-grabbing presentations, media dominate the public's exposure to medical information in contrast to the occasional and time-limited doctor visit.

Medical education disseminated by the media differs from that provided by a physician because of the intent and the responsibility of the latter. Broadcast information is intended for all who care to watch, listen or read and has no direct and personal applicability to any particular individual (though we hope responsible journalism serves society in the aggregate). The physician, however, tailors the information to a specific individual whose personal medical situation, values and goals the physician understands. The individual patient would be better served if the media simply supplemented the physician's medical knowledge by offering generally applicable, realistic and accurate information. Perhaps there should be more cooperation between the media and the medical profession about how this could best be done for the benefit of the patient. Unfortunately, if the information given by doctors' stories that shape patient decision making is not echoed by the

news media, the dilemma faced by Dr. Robinson and his shaken patient may occur more frequently.

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Clinical case

An ER decision to withhold CPR

Commentary by Catherine A. Marco, MD, and Raquel M. Schears, MD, MPH

Mr. Gold had been complaining of chest pain and shortness of breath, so his family insisted that he go to the ER. As they were driving him over, Mr. Gold became unconscious and remained so until the family reached the hospital—nearly four minutes. Dr. McDonald and his team met the family at the door, placed Mr. Gold on a gurney and rushed him into the ER. As they wheeled Mr. Gold through, his wife demanded that a physician perform CPR to save her husband's life. The couple's two teenage children tried to comfort their mother by telling her their dad was going to be all right, based on what they had seen on hospital television shows about CPR and its promising success rate.

Once in the exam room Dr. McDonald glanced at the patient notes. He learned that Mr. Gold was in his early fifties and in generally good physical condition. Unfortunately Mr. Gold had lost alertness and slipped into a coma on his way to the hospital; his skin was pale and he was severely hypotensive. Dr. McDonald quickly determined that the patient was in progressive cardiogenic shock and was going to die. He knew the family expected CPR, but based on his diagnosis and expertise Dr. McDonald decided that CPR would be futile and did not attempt resuscitation.

Aware that he had to present difficult news to the family, Dr. McDonald knew that he would be confronted about his decision not to attempt resuscitation. Mr. Gold was a relatively young man, in good shape and with a loving family. Given those circumstances, Dr. McDonald figured the family would think he had given up on their husband and father prematurely. He began to second-guess his decision, thinking that, had he tried, he could at least have brought some comfort to the family.

Once alone with the family, Dr. McDonald tried to avoid the topic of CPR. He told the family, "We did the best we could, but he did not make it." The family, clearly heartbroken, asked, "We've seen CPR work before, why didn't it work this time?" Dr. McDonald had to decide what and how much to tell the family. He knew that explaining the true nature of CPR would be a lengthy conversation, and with the news of the sudden death of a loved one so fresh, it would probably provide no true relief.

Commentary

Variations of this case are commonly seen in Emergency Departments (EDs). Patients, families and friends often have unrealistic expectations of resuscitative

efforts, based on a number of erroneous sources of information, including television, movies, newspapers and word of mouth. Education about realistic expectations and appropriate management of emergent cases with unrealistic likelihood of a positive outcome is a challenge, particularly in the ED setting where there is no pre-existing patient-physician relationship, communication and rapport must be rapidly established, and decisions must be made expeditiously, often without the luxury of complete medical history.

Cardiopulmonary resuscitation (CPR) is frequently performed in the ED. An estimated one-quarter million to half a million patients are victims of sudden cardiac death annually in the United States [1, 2]. In many cases, CPR is judged to have a reasonable likelihood of improving outcome. In other cases, however, resuscitation attempts are unlikely to result in beneficial outcomes and may in fact conflict with the values and treatment goals of the patient and family. Understanding the latest research findings in addition to the moral and ethical issues related to resuscitation is essential in deciding on appropriate interventions near the end of life.

CPR is typically performed with the goal of restoring life and health to the patient. In many cases, it may serve other functions, such as bringing a sense of closure to the family by allowing them to be present during resuscitation attempts and bid farewell to loved ones. And it may alleviate guilt for the survivors. But the potential risks of resuscitative efforts must also be considered. These include extensive financial and resource investments—at times to the detriment of other ED patients—resuscitation to a suboptimal quality of life, further injury to the patient, physical disfigurement and financial burdens to the surviving family.

In many circumstances, emergency physicians attempt cardiopulmonary resuscitation for most patients who present with cardiac arrest, unless a legal advance directive specifically stating that CPR not be performed is available [3, 4]. Only a small percentage of people have completed an advance directive, and, of those, even fewer have the document readily available. Because of the lack of functional advance directives available in the ED, the default operative position for many physicians is to attempt resuscitation.

Patient knowledge regarding resuscitation: influence of the media and other resources

Even in this era of rapidly expanding technology and pharmacology for resuscitative efforts, the public's knowledge about resuscitation and its expected outcome is woefully inadequate and inaccurate. Many lay people believe that the success rate of cardiopulmonary resuscitation is between 40 and 60 percent [5-7], but success rates reported in the medical literature are between 0 and 16 percent [8-11].

The reasons for the misinformation regarding resuscitation is not definitively known. The impact of the media's unrealistic portrayals of successful resuscitations has been implicated as one possible source [7, 12, 13]. One study demonstrated an association between high medical drama viewing rates and unrealistically high estimates of

survival [14]. Other forms of influential information include movies, magazines, books and newspapers, patient-physician communication, personal experience, and word of mouth, but the relative contributions of these possible sources is unknown.

Several studies have demonstrated that patient preferences are influenced by accurate data about probability of survival [15, 16]. Just as the media can have untoward effects in providing inaccurate information in the name of entertainment, it can also provide accurate information. A recent study demonstrated that educational videos and material can effectively improve patient knowledge about resuscitation and can affect personal resuscitation preferences [15, 17].

The importance of advance directives

Advance directive refers to any proactive document stating the patient's treatment preferences and wishes in the event that he or she is unable to state those wishes at some future time. The *living will* is a document that often stipulates what type of life-sustaining treatment a person wants initiated, withheld or withdrawn in the event that meaningful recovery is unlikely. The *durable power of attorney for health care* is a document that designates a surrogate decision maker for cases in which the patient is unable to make medical decisions. Most states have out-of-hospital do-not-resuscitate protocols in place [18]. The most important function of advance directives is to facilitate the implementation of the patient's wishes.

While advance directives are an excellent source of information to aid in decision making, there are, unfortunately, several barriers to their widespread use. The greatest barrier, as noted above, is that so few people have completed advance directives [19, 20], and an even smaller minority have the necessary documentation when they arrive at the ED [20, 21]. But even in cases where advance directives are available, there is often significant disagreement among physicians about the role of specific interventions for individual patients, and several studies have demonstrated variable physician compliance with advance directives [22, 23]. Reasons for uneven compliance are unclear. According to one study, most emergency physicians (78 percent) said they would withhold resuscitation attempts for patients with a legal advance directive [9]. Similarly, most prehospital health care personnel (89 percent) stated that they withhold resuscitation attempts for a patient with a legal advance directive [24]. These results suggest that advance directives may be of particular importance to emergency health care personnel.

Individuals' personal preferences about CPR depend on a variety of factors, including age, state of health and clinical setting [25-28]. Recent research has demonstrated that some trends among opinions about resuscitation exist [29, 30]. Bridging the gap between patient preferences and the formal expression of those preferences presents a challenge to health care professionals.

Case discussion

Ethical dilemmas are often due to inadequate or ineffective communication between physician, patient and family. The risk of ineffective communication is intensified in

the ED because those involved rarely have existing patient-physician relationships and there is often too little time to establish them.

Physicians are not obligated to provide treatment which they judge to be of no realistic benefit to the patient. The American Medical Association's *Code of Medical Ethics* states that "Physicians are not ethically obligated to deliver care that, in their best professional judgment, will not have a reasonable chance of benefiting their patients" [31]. The policies of other national organizations provide similar guidance. For example, The American College of Emergency Physicians' policy statements indicate that "physicians are under no ethical obligation to render treatments that they judge have no realistic likelihood of medical benefit to the patient" [32]. The situational context assumes these decisions are unbiased, based on available scientific evidence, societal and professional standards, and sensitive to differences of opinion regarding the value of medical intervention in various situations [32].

When interventions or therapies are withheld, the physician should continue to care for the patient with compassion, communicate appropriately and provide information to counsel the patient and family, and coordinate other services that may be helpful. These honest and personalized communications may, in fact, be of greater value than aggressive technologic interventions.

If Mr. Gold had completed an advance directive, Dr. McDonald's ability to honor his patient's explicit wishes could have been facilitated. But no known advance directive existed. Appropriately, Dr. McDonald made a decision to withhold CPR because, in his clinical judgment, it would not have benefited the patient. It is necessary to tell Mr. Gold's family the general circumstances surrounding his death despite appropriate ED care. If the family requests additional information, details about the extent of resuscitative efforts (or lack thereof) are in order. If the family requests even more details, the physician may educate them further about the care provided.

Although details of the case are not available, we presume that Dr. McDonald conducted a thorough evaluation and arrived at an unbiased judgment based on expected outcomes. Communicating with the family on the topic of individual casualty is a delicate matter that must be handled gently. For example, the heartbroken family's question of "Why didn't it (CPR) work this time?" is not well aligned with the impersonal nature of scientific cause and effect. That physicians insulate themselves with the concreteness of numbers, but have little to say when the evidence basis does not link to the particular ultimate outcome, is telling. Saying, "It just happens" or "He came to our attention too late" are equally bleak and inadvisable. For suffering individuals, the random injustice of the universe has little appeal [33]. Without answers, "How is it possible?" becomes, "Why has this happened?" as the suffering look for meaning and final purpose. The latter question remains not a request for scientific information nor a question of what singles out someone for a grim outcome, but a question of ultimate purpose. Penetrating teleological questions make physicians uncomfortable, and the time pressures of the

ED may make avoidance of straight answers and suffering easier, but unethical nonetheless.

Effective communication with grieving families is of primary importance in circumstances such as this case. Focusing on the needs of the family carries greater significance than debating the scientific evidence of medical decisions. Numerous authors have offered communication techniques that may be effective, among them spending adequate time with the family, communicating in a private, quiet location, using active listening techniques and appropriate and understandable language, discussing options available to the family, allowing unrestricted visits, and providing ancillary support resources, such as nursing, pastoral care and social services [34-37].

Using the Three Wishes approach, physicians can tell the surviving loved ones [38]:

- “I wish things were different.”
- “I wish we could comfort you more in this time of tragedy.” Having clergy accompany physicians and sponsor interactions is highly worth the time investment to arrange.
- “I hope an autopsy will provide further answers and restore some order.”

Although it may be difficult, it helps in the long run if the physician can give the family a business card, so they have a resource to turn back to if medical questions arise regarding the ED death of a loved one.

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Virtual Mentor

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Medical education

Imagining doctors: medical students and the TV medical drama

by Kevin Goodman

Several nights each week, thousands of medical students, alone and in groups, watch programs such as *ER*, *House* and *Grey's Anatomy*. Since its inception in the 1960s, the medical drama has been one of television's most popular genres, but what is its specific appeal to medical students? What viewing pleasures does it evoke and how is this enjoyment related to the development of doctors-in-training? By taking the full range of these pleasures seriously—even those “guilty” popular pleasures associated with fantasy and melodrama—we may better appreciate the pedagogical possibilities and limitations of television dramas in the education of medical students.

Television medical dramas have always claimed varying degrees of clinical accuracy, but it is probably only since the debut of *ER* in 1994 that this commitment to accuracy has captured the imagination of a large medical student audience [1]. *ER* regularly depicted the wounded and bleeding body, and the jargon used to describe and treat such cases, with new levels of explicitness and detail, setting a standard that would be followed by such currently popular programs as *House* and *Grey's Anatomy*. To medical educators and students, these programs offer a host of dramatic live-action tutorial cases of unprecedented quality. In any given episode, student viewers are exposed to an array of patient scenarios, technical procedures and medical terminology that contributes, in some manner, to their education.

Not surprisingly, some educators have recognized the pedagogical value of the genre and use video clips during lecture to illustrate and amplify concepts they are trying to convey. Other professors might simply refer to scenarios from the programs in their conversations with students when a similar case is under discussion. Medical dramas have the advantage of presenting patient scenarios in a more engaging format than do individually produced illustrations of clinical data. They contextualize illness and disease within narrative arcs structured by rich characterization, emotional and psychological depth, and story-line intrigue, and for this reason many students appreciate them as entertaining ways to learn—as enjoyable accompaniments to their clearly more substantive and supervised formal education.

Of course, there are serious limitations to the value of these programs, particularly if they are assessed solely on the basis of their purported clinical accuracy. Medical cases are introduced and resolved within the space of a single one-hour episode, and this temporal compression necessarily schematizes the complexity, ambiguity and

uncertainty that occur in real medical practice. In the interest of narrative economy, medical dramas drastically reduce the number of agents who contribute to the complex health care system; we frequently encounter the impossible figure of the physician who takes blood, runs lab tests and operates a CT scanner—all before scrubbing in for surgery. To build and maintain story-line intrigue, medical dramas almost always develop a tangled web of personal romances and professional rivalries that frequently violate the ethical and professional codes by which the overwhelming majority of physicians operate. In their attempts to craft compelling plots, the programs' creators often resort to miracle cures that constitute medical misinformation—the consistent overuse of cardiopulmonary resuscitation and violation of the strict policies surrounding organ transplant procedures are two of the most obvious examples [2]. As the critics frequently remind us, in the contest between medical accuracy and entertainment value, entertainment always wins.

Even those educators who recognize some value in the dramas often maintain an arm's-length distance from them, cautioning students to distinguish between the useful depictions of medical procedures and their more frivolous portrayals of imaginary interpersonal dramas. But here we encounter a contradiction worth exploring. Medical dramas provide such engaging tutorial cases by virtue of their televisual and cinematic qualities (dramatic urgency, narrative intrigue, emotional depth, aesthetic composition), yet it is precisely these qualities, it seems, which compromise their legitimacy as realistic depictions of medical practice. The very qualities that contribute to uniquely compelling enactments of medical scenarios also threaten to undermine their objective accuracy. How are we to navigate this impasse?

One way is to supplement an objective scientific evaluation of the programs with a psychosocial reading of them as cultural texts. Television programs effectively portray the psychosocial components of clinical practice, offering students an opportunity to think through the complex human experience of disease and illness [3]. These dramas allow medical students to engage at an intellectual *and* emotional level with other people's experiences of socially significant health issues such as poverty, domestic violence, substance abuse, and chronic and critical illness, to name a few. They mine social attitudes regarding race, class, sex, gender and ethnicity, as rich sources of dramatic conflict, and in doing so broaden the definition of health and illness to include its many social determinants. Crucially, this exploration is staged at a largely interpersonal and emotional level—patients' ability or inability to cope with profound psychosocial transitions brought on by disease and illness and the feelings of grief, remorse, vulnerability and fear that often accompany serious illness. They also dramatize physicians' competency, or lack thereof, in helping patients through this process [4].

In a study measuring the effectiveness of using medical dramas to teach better communication with patients in highly charged emotional situations, McNeilly and Wengel found that, after viewing and discussing clips from the programs in a clerkship seminar, students demonstrated quantitative improvements in their communications skills [5]. They were better able to discuss the clips using terms

such as “boundary setting” and “countertransference” between physicians and patients and the breaking of bad news in terms of Buckman’s model. By examining these video clips in a structured environment, they were encouraged to examine their *own* processes of identification and countertransference in addition to those taking place between patients and physicians on-screen. By analyzing the emotional exchanges portrayed on-screen, *and* their emotional responses to such scenarios, students learned that effective treatment of emotionally troubled patients required them to recognize, experience and tolerate their own strong reactions which they might otherwise repress and deny.

Such an appreciation of the active viewer is fundamental to any serious consideration of the appeal of medical dramas to a significant portion of the medical student population. The relationship between audiences and media texts is more complex than is commonly recognized in popular discourse. Audiences do not passively receive messages in media texts, they actively engage with them to negotiate meanings according to their personal sensibilities, but also according to socially determined categories such as race, class, gender and nationality.

Consider again the idea that each episode offers the medical student a handful of tutorial cases. We can reasonably assume that students enjoy learning procedures and jargon as they are explained in the programs—that is, by passively receiving information that contributes to their knowledge.

Yet something more complex is also probably occurring. In exploring her own fascination with *ER* when she was a Harvard Medical School student, physician Ellen Lerner Rothman recalls that “more than the medicine, it was the excitement of watching my appreciation of the show broaden as my understanding of the clinical issues and the dynamics of the patient-doctor relationship deepened” [6]. This is more complex than passively ingesting medical information; for Rothman, *ER* provided the pleasure of *watching herself* gradually become more a part of the profession to which she aspired. Furthermore, this was not the solitary pleasure of a lone viewer, but a communal pleasure relating to Rothman’s membership in her Harvard Medical School class. For Rothman, *ER* played a significant part in facilitating the important social bonds that constitute group identity. Just as many students gather to watch *Grey’s Anatomy* or *House* today, members of Rothman’s class gathered to watch *ER* and experienced their growing capacity to decode technical jargon and procedure as “moment[s] of arrival symbolizing our induction into the medical community. ... another epiphany in our acculturation into the medical world” [7].

If medical dramas so easily incite emotions pertaining to earning membership in a demanding and prestigious profession, it is surely because the genre treats this process of identity transformation as one of its central themes. By far, most medical dramas are set in teaching hospitals, allowing the writers to exploit the rich dramatic potential in the often-difficult transmission of professional knowledge, wisdom and authority between doctors and students, or between senior and junior doctors.

Teacher-student relationships are frequently vexed with powerful emotions, and these shows concoct scenarios to expose those emotions in all their force. Rothman recalls watching an *ER* episode in which third-year medical student John Carter fails to elicit a single response from an elderly woman during his patient interview. The senior physician returns, easily obtains the pertinent information from the patient, and Carter is humiliated. Rothman describes the response from the group with whom she watched the episode—all had just completed their own first patient interviews: “At that moment there was a palpable silence in the room. No one said anything, but we all thought, That was me. The intimidation of talking to the patient, the pressure to get the ‘right’ information, the frustration at our own lack of ability: That was me” [8].

The group’s rapt attention and unspoken agreement at Carter’s humiliation suggests that this scene touched upon their own fears of incompetence, failure and humiliation, fears that are natural in the demanding and competitive environment of medical school and practice but are rarely acknowledged in formal education, at least in any kind of productive manner. Indeed, Carter’s eventful transition from student to doctor under the unforgiving eye of Dr. Peter Benton provided one of *ER*’s most compelling story lines in its early seasons. What made this story line so rich was Carter’s struggle to learn from Benton’s expertise but also from his inadequacies. In other words, Carter became his own doctor by recognizing his mentor’s strengths *and* weaknesses. Medical dramas engage students’ imaginations because they often stage complex scenarios from this mix of potent, often contradictory, and generally unexpressed field of emotions. As Rothman explains,

Through the *ER* physicians, residents, and medical students, my classmates and I explored who we wanted to be and what we were afraid we might become. We developed a paradigm for how we wanted to respond to our patients and explored how we would feel if we were unable to uphold it [8].

Medical dramas frequently explore personal growth and struggle in what can fairly be described as an unrealistic manner. For this reason, some might suggest that the genre’s capacity to offer insight into the social relations and emotional forces experienced by physicians is compromised, once again, by lack of accuracy. But it is worth questioning the assumptions implicit in this critique, assumptions that rely on confidence in the easy distinction between truth and fiction. The medical profession’s legitimacy rests largely on its commitment to scientific rigor. But the role of a physician remains, in many ways, a performative one. That is, medical students become full-fledged physicians as they learn the rules of professional conduct in their interactions with patients and colleagues. The education of a medical student involves acquiring vast amounts of technical information, but it is also concerned with learning to convincingly “perform” a professional identity.

Medical dramas are uniquely capable of exploring the difficulties of the latter—the challenge of answering sometimes impersonal institutional demands while honoring

one's own individual sense of fairness and sympathy; of presenting an air of competency, calm and compassion to a patient in critical condition; of confronting patients' fears of death and their hopes that recovery will arrive by the hands of their doctor. As Michael M. O'Connor concludes in a commentary on *ER*'s appeal to medical students,

ER forces students to think carefully about the distinction between fantasy and reality in the construction of physicians' professional identity. If medicine lends itself so readily to television fiction, it is perhaps because the medical profession itself is built on social fictions surrounding the authority and functions of doctors [9].

These "social fictions" are not simple falsehoods. They include the social and historical values that, in part, structure relations in the health care system, as well as the fears, fantasies and desires that infuse people's experience of illness and its treatment. To consider the importance of social fictions to medical practice, then, is not to denigrate the profession, but to acknowledge its enormous complexity as a humanistic science. Rather than simply lamenting the dramatic excesses which compromise clinical accuracy in these programs, we should encourage students to follow Rothman's and O'Connor's lead and critically reflect upon their own investments in the social fictions these programs dramatize. To plumb the meanings of our own pleasures is never easy, but by drawing from the fields of media and cultural studies in a structured learning environment, students can investigate the social formation of such pleasures and avoid a purely introspective and personal self-examination. These academic disciplines show us that we impoverish the multiple, often contradictory meanings of popular culture when we submit them to an easy distinction between truth and falsity. There are times when melodrama is the only narrative mode adequate to the primal emotions addressed in these shows. To simply deride and dismiss their dramatic value is to retreat from considering their full and legitimate significance to the sizeable number of medical students who watch them.

Notes and references

1. Medical dramas in the 1950s and 1960s advertised their use of medical consultants, and awarded the AMA veto power over scripts so that they might display the AMA's stamp of approval at the end of each episode. As Joseph Turow details in his institutional analysis of the medical drama genre, the AMA checked scripts for medical accuracy, but also to ensure that the programs presented an exclusively positive image of the modern physician. See, Turow J. *Playing Doctor: Television, Storytelling, and Medical Power*. New York, NY: Oxford University Press; 1989.
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Related article

[Medical students take heed, they’ll be expecting Dr. Carter](#) March 2007

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Journal discussion

The media miss key points in scientific reporting

by Namrata Kotwani

Woloshin S, Schwartz LM. Media reporting on research presented at scientific meetings: more caution needed. *Med J Aust.* 2006;184:576-580.

The lay public's understanding of medical science and its perceptions about recent advances in research are primarily mediated by mainstream news sources. Unfortunately, media coverage of science and health news is often sensationalized, inaccurate and dumbed down for the masses. Since most of us have a voracious appetite for definitive news about medical discoveries and cures and care little for the arcane facts and methodologies that characterize the scientific process, the media sometimes spin bland stories to capitalize on our thirst for the latest miracle cure or diet. Health news can also be affected by the relative inability of reporters to evaluate specialized research studies. Carried away by the headline-making potential of preliminary findings put forth at influential medical association meetings, journalists may be tempted to present works in progress as definitive breakthroughs. For these reasons, medical news is particularly vulnerable to distortion.

In 2006, Steven Woloshin and Lisa M. Schwartz published a systematic evaluation of the media coverage of scientific meetings in *The Medical Journal of Australia* [1]. The authors sought to discover whether media stories about research presented at major North American scientific meetings reported basic study facts, cautiously interpreted results and highlighted the preliminary nature of the work presented. This study's results illustrate how preliminary research is misrepresented in the popular media and show that even slight modifications in the phrasing of medical news could go far toward ensuring that the public received a more nuanced perspective on current medical research.

The study

Based on advice from science writers, editors and media database searches, the authors chose five high-profile meetings that were likely to receive media attention. The selected meetings were the annual sessions of the American Heart Association, the International AIDS Conference, the American Society of Clinical Oncology, the Society for Neuroscience and the Radiological Society of North America. Two major media databases, LexisNexis and ProQuest, provided archived media stories that appeared within two months of each meeting in 2002-2003. The authors found 210 newspaper stories and 20 nationally syndicated television or radio transcripts from the U.S. and Canada pertaining to these five meetings. They included all the news

stories that reported on a single research presentation and stories that reported on multiple presentations, if at least one of the presentations related to the story's headline. Stories that superficially commented on multiple presentations at a conference were excluded. Ultimately, the authors analyzed 174 newspaper stories and 13 television and radio transcripts.

The authors applied an explicit coding scheme to the analysis of each news story to determine whether the reporter included basic study facts, provided relevant cautions about study design and indicated the preliminary nature of research. *Basic study facts* included size, subjects (animals, cells, humans), design (random, controlled) and main results of the study. *Relevant cautions* included caveats about the study design and its "intrinsic limitations." Was the study conducted on animals? Was its sample size too small to yield reliable conclusions? Was the study uncontrolled? Was it controlled but not randomized? The coders also noted whether the public was informed of the *preliminary nature of research*. Did the reporters indicate if the presentations at the meetings were associated with an in-press or published peer-reviewed article? Was the public warned that the presentation featured ongoing work and that results were likely to change as the study matured?

Schwartz and another physician, blinded to the study objectives, served as coders. Both were trained in clinical epidemiology and analyzed each news story individually. The coders were in "almost perfect" agreement about the analysis of each item. Woloshin independently coded all items for which there was disagreement and established the final codes.

Results

The authors concluded that news stories about scientific research meetings often omit basic study facts and cautions. They found that 89 percent of the news stories identified studies as being conducted on live humans and 9 percent as animal or lab studies; subjects could not be identified in 2 percent of media reports. Of the 187 stories, 34 percent failed to mention study size, and 35 percent reported it so ambiguously that it could not be confidently determined by expert readers. Forty percent of the stories quantified the main result. Only 6 percent of those that discussed animal studies mentioned their limited applicability to humans. Of those that reported on studies with small sample sizes only 21 percent noted problems with the generalizability of the findings. A mere 10 percent of stories about uncontrolled studies suggested that it was not possible to know whether outcomes really corresponded to exposure, and 19 percent of reports on controlled but not randomized studies mentioned that other confounding factors could be responsible for the differences between the control group and treatment group. Only 29 percent of 142 news reports on interventions mentioned risks or potential downsides. Twelve stories noted a corresponding in-press article in a medical journal, and of the remaining 175, only two suggested that the results were unpublished, likely to change or not peer reviewed [2].

The Woloshin and Schwartz article emphasized that work presented at scientific meetings is not ready for public consumption and that less media coverage of such preliminary research is warranted. Yet, as the authors recognize, “too many interests are served by turning preliminary reports into health news” [3]. Researchers and their academic affiliates benefit from media attention because publicity attracts patients and donors. The meeting itself is in the limelight; media coverage ensures more advertising and encourages other high-profile scientists to attend future meetings. The authors urged meeting organizers and scientists to issue explicit, modest and nuanced press releases and statements to offset sensationalized media reports.

Discussion

Media coverage of preliminary research can influence clinical practice. For instance, results from Cancer and Leukemia Group B (CALGB) Study 9344 were presented at the American Society of Clinical Oncology Annual Meeting in May 1998 and widely disseminated through popular media outlets [4, 5]. Following the meeting and the media coverage, the use of taxanes rose dramatically as part of the chemotherapy regimen for primary breast cancer in the United States. The FDA, however, did not grant approval for the use of paclitaxel—a drug in the taxane category—in early-stage breast cancer until October 1999, and the data from the trial were not published in a peer-reviewed journal until 2003. As the case of paclitaxel demonstrates, the oral presentation of a single study at a large, well-publicized conference can accelerate a drug’s use in clinical settings. Although there was considerable skepticism from the scientific community about exposing women to toxic agents whose benefits were not clearly established, women with early stage breast cancer did benefit from paclitaxel.

The paclitaxel experience represents the best-case scenario. In contrast, Iressa, a drug developed for the treatment of patients with non-small-cell lung cancer who did not benefit from prior chemotherapy was approved by the FDA in 2003 on the basis of a preliminary, uncontrolled study [5]. In 2004, a placebo-controlled clinical trial showed that Iressa failed to prolong the lives of people with advanced lung cancer, but by then the drug had been prescribed to more than 200,000 patients worldwide [6]. Further, Iressa was approved despite concerns about major side effects observed among Japanese patients [5]. As early as 1999, the FDA had approved Taxotere, an effective alternative second-line therapy for non-small-cell lung cancer, which could have been given to these patients with a greater chance of success. The Iressa case demonstrates that the rapid dissemination of non-peer-reviewed preliminary claims is enormously risky because trial data can be prematurely (or erroneously) applied.

Misleading media reports can also cause patients to question appropriate standard therapies and pin their hopes on unrealistic treatment plans. In May 1998, the *New York Times* featured a front-page story on two anti-angiogenesis compounds, endostatin and angiostatin, which showed promise in treating tumors and cancers in animals [7]. Peppered with optimistic predictions by prominent scientists, including Nobel Prize winner James Watson and Richard Klausner, who was then the director of the National Cancer Institute, the article resulted in a flurry of calls to U.S. cancer clinics [7]. Desperate patients wanted access to these two cancer “drugs,” although

the compounds had yet to be shown to be effective in humans. Some patients at Memorial Sloan-Kettering Cancer Center in New York City asked to wait for the new drugs rather than to proceed with standard chemotherapy.

Once an impression is made on the public's mind, it can be hard to undo. In a 1998 television interview, Arpad Pusztai from the Rowett Research Institute in the U.K. declared that genetically modified potatoes expressed a lectin gene that was toxic to rats [8]. Pusztai's results had not been corroborated by his peers, but the interview led to dozens of media scare-stories on dangers of "toxin-laden" genetically modified food. The following year the results of Pusztai's research were published in the *Lancet*, which revealed that the conclusions presented during the television interview and later extrapolations were flawed. This questionable "evidence" further tarnished the image of genetically modified foods and agricultural biotechnology in Europe. In other instances, findings discussed at poster sessions, at talks at meetings or in informal discussions with colleagues can cause initial hysteria but may ultimately languish unpublished. As C. Neal Stewart writes:

The day a paper has passed peer review and is accepted for publication is the first time its content becomes a part of the scientific canon. Of course, scientists often discuss findings and disseminate them locally via the grapevine...but these information exchanges should not be viewed with the same significance or impact as publication of a formal paper in a peer-reviewed journal....It is the duty of both scientists and media to recognize this [8].

Although scientists must be cautious when interacting with the media, the fear of sensationalism should not lead to shirking exchanges. Hayes and Grossman observe that many scientists are reluctant to communicate with reporters because each media appearance poses a threat to their painstakingly acquired academic credentials [9]. One slapdash newspaper article or poorly edited TV appearance can undermine a reputation. Appropriate public visibility, however, can have several benefits for researchers. A scientist can share her special expertise by helping the public understand policy issues through the mainstream media. Media attention also highlights scientists' institutional affiliates, attracting patients and alumni donations. A researcher with a positive media profile is more likely to connect with investors and industry and has better chances of developing a commercially viable product or obtaining a patent.

Federal and state funding of research and development in academic institutions amounts to about \$19 billion and \$13 billion, respectively [10]. Since government funding is so crucial for an academic researcher, remaining in the public eye allows her to demonstrate the utility and impact of her work to funding agencies. Funding priorities and legislation related to medical research can change, and regulators as well as proposal reviewers need evidence of the broader public impact of research to make scientist-friendly policies. Indeed, media attention can be quite rewarding for researchers.

Both scientists and reporters must ensure that media coverage of research findings is not compromised. While peer-reviewed articles have passed fairly rigorous standards of scrutiny, preliminary findings presented at conferences are prone to revision and radical correction. Scientists and the media need to develop a healthy working relationship to ensure that early-stage research presented at scientific meetings is reported in a manner that does not mislead the public. Boosting circulation or viewership, promoting individual careers, and drawing attention to one's institutions at the public's expense are reprehensible. As Woloshin and Schwartz suggest, press releases issued by meeting organizers, granting agencies and academic institutions should include balanced data presentations and study cautions. When researchers are interviewed at scientific meetings, they should indicate that their work is still awaiting peer review. It is not productive to stereotype the media as sensationalistic vultures. Scientists themselves are not always disinterested purists reluctant to talk to the media. Nor are they, at the other extreme, self-promoters desperate for a shot at instant celebrity. We must acknowledge our collective cultural tendency to hanker after the next nugget of juicy medical news and appreciate how much harm can be done if a misleading news story is seeded in the public imagination.

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Journal discussion

Media reporting and emergency room testing trends

by Sanjay Arora, MD

Sharma V, Dowd D, Swanson DS, Slaughter AJ, Simon SD. Influence of the news media on diagnostic testing in the emergency department. *Arch Pediatr Adolesc Med.* 2003;157:257-260.

The news media, historically the means by which a large segment of the population gets its health information, strongly influence what health topics Americans think are important [1, 2]. From a public health perspective, this relationship can be a positive one, as seen by the dramatic decrease in cases of Reye's syndrome after the media warned of its connection with aspirin use in children [3]. After the importance of colonoscopy was discussed on NBC's *Today Show* in 2000, screening for colon cancer increased by 27 percent [4].

Unfortunately, medical information in the media is also subject to gross inaccuracies and sensationalism that can lead to unnecessary panic. In a 2006 article Steven Woloshin and Lisa M. Schwartz looked at media coverage of research presented at scientific meetings and concluded that news stories often omit basic study facts and conclusions and may mislead the public about both the validity and relevance of the science [5]. In addition, minimal effort is made by the media to distinguish between industry-sponsored studies and independent analysis when information on new medications or products is presented. Widely disseminated health information has the power to change patient expectations, physician decision making and treatment options dramatically.

In the article under review, Vidya Sharma and colleagues report on a study that sought to describe the effect that increased mass media coverage of a given disease had on emergency room testing for that disease [6]. Using an observational retrospective study design, they examined the association between the amount of media coverage of group A streptococcal (GAS) infection and the level of testing for GAS in a large emergency department (ED) in an urban Midwestern children's hospital. They constructed a database consisting of all patients seen in the ED over a two-year period from December 1, 1999 to November 30, 2001. From this database they then abstracted the following: visit date, age of patient, presenting complaint, primary discharge diagnosis, whether a rapid test for GAS was done and the results of the test. Sharma et al. also collected all television stories that mentioned the hospital and GAS, and all stories from the dominant local newspaper that cited strep, streptococcus, group A beta streptococcus, toxic shock and flesh-eating bacteria

over the same time period. The study period was then divided into eight, 90-day intervals for data analysis. Outcomes of interest were rates of GAS tests per 1,000 ED visits and proportion of positive tests.

There were a total of 5,926 GAS tests performed during the two-year study period. Sharma et al. found that the vast majority (96 percent) of media reports on GAS occurred from December 2000 to February 2001. During this particular time period, an average of 103 GAS tests were performed per 1,000 ED visits, nearly double the rate of 55 per 1,000 ED visits in the comparison 90-day time period from December 1999 to February 2000. The proportion of positive tests was 20 percent during the media blitz versus 33 percent in the comparison time period in year one. This led researchers to conclude that the peak in media coverage of GAS was associated with higher rates of testing for the bacterium without a significant difference in the proportion of positive results.

Discussion

Emergency department physicians are often the first to see the effect of a health-related news story on the general population. In this study, Sharma and colleagues showed that as GAS and flesh-eating bacteria became hot topics in the news, testing for GAS infection increased significantly in the ED. But what was the driving force behind this change in diagnostic strategy? Perhaps it was motivated by patients who heard scary stories on the nightly news or read about horrific cases in the newspaper and demanded to be tested for GAS the moment they walked into the ED. Or perhaps it was motivated by increased awareness and vigilance in the treating physicians, none of whom wanted to become the doctor who missed a case of the disease that everyone was talking about. Hence, during times of heightened disease awareness, physicians employ a more conservative diagnostic strategy. Based on the collected data—since there is no way to know for sure—I believe it is most likely a combination of the two. Patients coming to the ED are afraid they may have caught the new killer disease which the news says is ravaging their community, and physicians are equally afraid to let a case slip through their fingers.

The observed increase in testing for GAS is just one of many examples of the phenomenon of media coverage changing emergency department tests and trends. When West Nile virus and stories of dead crows dominated the airwaves, it seemed as if every patient with a headache who came into the ED was convinced that he or she had contracted West Nile virus. Motivated by the aforementioned fears, most physicians sent West Nile titers from both serum and cerebrospinal fluid at their patient's request. In the case of this disease, an increase in testing was probably warranted because there was a true, observed increase in disease incidence, but there is no doubt that the overwhelming fear instilled by the media drove us to perform far more tests than were actually necessary.

Another example of media coverage motivating patients to come to the ED was documented in a retrospective cohort study performed in 15 area hospitals in Trenton, New Jersey, in late 2001 after numerous letters in the area were found to

contain anthrax [7]. In the one-month period from October 11 to November 11, 2001, the percentage of patients discharged from the ED with the diagnosis of "concern for exposure" increased to 0.92 percent. This was a significant change from the 0.06 percent of patients who carried this diagnosis the month before October 11 and the 0.10 percent who carried it during the month after November 11, 2001. Clearly this multiple order-of-magnitude difference in frequency demonstrates that patient behavior and physician diagnoses were heavily influenced by the terror-related events covered on the news.

One of the major problems with looking at all studies related to the impact of the media is that it is impossible to tell in retrospect whether the observed changes were a result of shifting patient expectations or physician decisions. Answering this question would probably demand a prospective methodology. Until then, physicians must understand that the public will always be affected by what they see and hear in the news, and we must be ready to address their concerns when they show up in the ED. We cannot control what patients request when they enter triage, but we can control our own actions. When a health matter becomes front-page news, it is our duty to assume that not everything we hear is factual and to research the issue ourselves. We must look to reliable sources for information such as the *Morbidity and Mortality Weekly Report*, which can be found on the Center for Disease Control Web site. Once we know the facts, we should listen to and validate our patients' concerns and then use our medical knowledge and communication skills to allay their fears, rather than ordering unnecessary tests. In times of media frenzy and overwhelming public fear, we should remain calm, discover the facts and use these facts, not public opinion, to create diagnostic and therapeutic strategies that provide patients with the best and most appropriate health care possible.

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Related article

[Diagnostic testing for diseases in the news](#), March 2007

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Clinical pearl

In search of obscure diagnoses: *House*

by Scott F. Morrison, MD

House is a show about zebras.

Some time in medical school or residency, every young doctor is told: “When you hear hoof beats, look for horses, not zebras.” In other words, focus on the common causes of symptoms first, not the obscure ones.

Gregory House, MD, the specialist other doctors call when they can’t make the diagnosis, takes the opposite approach. The leading character in the Fox television show *House* is cantankerous, curmudgeonly, disheveled and frequently unethical—and undeniably brilliant. His final diagnoses are almost always some little known or forgotten disease, often a zoonotic infection that, at most, a paragraph was dedicated to in medical school. Here is a look at the medical aspects of three cases from the show.

Hydatid cyst disease

A young man suddenly goes into anaphylactic shock in the middle of a fight. He has a complicated medical history, but it is determined that he has hydatid cyst disease. The fight caused a cyst to rupture, leading to anaphylaxis.

Hydatid cyst disease comes from the ingestion of the eggs of *Echinococcus granulosus*, a canine tapeworm. Since a human is not the preferred host for this parasite, it cannot complete its normal life cycle and instead develops into a metacestode, or hydatid cyst. Upon human ingestion, the egg travels through the bloodstream until it reaches a hospitable organ, generally the liver or lung. Once there, it slowly develops into a large cyst over several years. Most patients have a single cyst, though 10-15 percent have two or more.

Symptoms of hydatid cyst disease usually occur only after the growth has been present for several years—sometimes as many as 10 or 20—and are caused by the mass of the large cyst impinging upon the organ surrounding it. Cysts can also become symptomatic due to secondary infection [1]. In the liver, cysts can cause right upper quadrant pain, hepatomegaly, nausea and jaundice; in the lungs, they can lead to shortness of breath, chronic cough and hemoptysis. Regardless of its location, a cyst can rupture, spilling its contents and possibly producing an acute inflammatory response that mimics cholangitis or pancreatitis. In susceptible individuals, a ruptured cyst can produce anaphylactic shock; this is what happened in *House*.

Hydatid cysts are diagnosed with imaging studies and serology. An ultrasound is best to find cysts in the liver, while computerized tomography is used for locating them elsewhere in the body.

Surgical removal of the cyst is the main treatment for the disease, with mebendazole or albendazole started several days before surgery and continued for a month afterwards to minimize the risk of secondary cysts. For cysts that are not amenable to surgery, PAIR is another option. PAIR stands for puncture, aspiration, injection of an heminthicide and reaspiration. This regimen carries a higher risk of secondary spread than surgery. In selected patients, a third option is several months' treatment with antiparasitic medication coupled with close follow-up [2].

Amebic meningoencephalitis

In another episode of *House*, a firefighter is admitted to the hospital with meningeal symptoms. One of the doctors who inspected the patient's apartment and greenhouse seems to have acquired the same condition. Test results are consistent with meningitis but reveal no definitive cause. The condition of both patients worsens despite aggressive medical management, and the firefighter slips into a coma and dies. Ultimately, the disease is pinpointed as amebic meningoencephalitis caused by an infection with the *Naegleria* amoeba which had infested the homemade heated irrigation system in the firefighter's greenhouse.

Naegleria fowleri is an amoeba found in warm water. When a person dives or swims in infected water, the amoeba enters the body through the nose. It then crosses the cribriform plate into the olfactory nerve and enters the brain. A purulent meningoencephalitis follows.

Patients often notice disorders of smell or taste first and then develop symptoms common to most forms of meningitis: headache, fever, nausea, vomiting and stiff neck. As the infection advances, physical complaints become more severe, often including confusion, loss of balance, seizures, hallucinations and coma. Death usually follows within three to seven days after the infection.

The diagnosis of primary amebic meningoencephalitis is made by visualization of the amoeba. Cerebral spinal fluid (CSF) findings are of little help since they can be similar to those of bacterial or viral meningitis, and Gram stains rarely show the amoeba. A wet mount of the CSF is the best way to spot the parasite [3, 4].

Amebic meningoencephalitis caused by *Naegleria* is nearly always fatal. The only treatment that has been shown to be effective is amphotericin B, but it must be given both systemically and intrathecally. Fortunately, this therapy saved the life of Dr. House's associate. Antifungal agents like azoles have shown promise in laboratory testing, but in vivo results are still lacking [5].

Baylisascariasis (larva migrans due to raccoon roundworm)

In a third episode, a young autistic child is hospitalized with behavioral changes and

partial vision loss. His history reveals pica, particularly of dirt and sand from a sandbox. The physicians diagnose neural larva migrans caused by the ingestion of dirt contaminated with eggs from the raccoon roundworm.

Baylisascariasis, or human infection with the raccoon roundworm (*Baylisascaris procyonis*), can come from ingested soil or food contaminated with infected raccoon feces. The ingested eggs hatch into immature larvae in the human intestine. These larvae migrate throughout the body causing visceral larva migrans. The infection frequently results in a neural larva migrans when the larvae enter the brain or spinal cord. The larvae have also been known to enter the eye, causing optical larva migrans [6, 7].

Baylisascariasis is most common in young children, particularly young males. There have been 15 known human infections since the first case was reported in 1984 [8].

The severity of the case depends on the number of eggs ingested. Nonspecific neurological symptoms including weakness, irritability and behavioral changes usually appear one to four weeks after ingestion of the eggs. Vision changes are also common. Often the diagnosis is not made until severe neurological symptoms such as loss of coordination, convulsions and coma appear or death occurs.

Diagnosis is based primarily on symptoms and history. Identification of the larvae in the tissue confirms the diagnosis, but is often difficult to obtain.

There is no proven treatment for raccoon roundworm infection. Abendazole and corticosteroids have been tried most often, with mixed results. As with many other diseases, prevention is key [6, 7]. But, as television would have it, Dr. House's patient survived.

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Health Law

An accusation of murder in New Orleans and the media response

by Lee Black, LLM

Reporting on law cases has long been a media staple. Stories about who has been arrested for or convicted of a crime garner much attention, especially when the accused or the victim is a public figure or when the circumstances are extraordinary. Legal happenings are so entertaining, in fact, that numerous television shows dramatize fictional and actual cases, cable news networks focus on the courts and legal affairs, and an entire network is dedicated solely to broadcasting and discussing live courtroom action. This attention to legal affairs becomes more problematic, though, when an attorney involved in a case uses the media to draw public and prejudicial attention to an involved party.

During Hurricane Katrina in August 2005, the health care infrastructure in the city of New Orleans completely fell apart. According to media accounts, conditions at Memorial Medical Center (Memorial), one of the city's largest health care facilities, were horrendous, making even basic medical care impossible [1]. There was no power, and water filled the lower floors; patients were dying from dehydration and other complications from the heat and lack of proper care. Staff had evacuated, further degrading services. Rumors of approaching violence and the breakdown of law circulated.

Many patients at Memorial died due to the flooding, the lack of electricity and unavailability of care in the days following the hurricane, but four patients in particular would make headlines nearly a year after Katrina struck. On July 18, 2006, Louisiana Attorney General Charles Foti, Jr. announced the arrest of one physician and two nurses on charges of second-degree murder for allegedly providing lethal injections to the four patients. The evidence came from autopsies that revealed the presence of morphine and midazolam in quantities state experts concluded had not been administered for pharmaceutical purposes [2]. In his statement, Foti declared, "I believe this case is a strong one and that these charges are based on sound legal and medical evidence.... I believe there is no excuse for intentionally killing another living human being." Not only did the attorney general release a print statement, he also held a press conference where he told the media, "This is a homicide; it is not euthanasia" [3]. In support of his assertions, Foti released the affidavit of a witness who stated that the physician, Dr. Anna Pou, told staff that she would take full responsibility for the injections.

The next day, stories appeared in newspapers around the country, drawing from the statement by the attorney general and information contained in the affidavit that had served as the basis for the arrests. (There is still no indictment in the case; the district attorney in New Orleans (not Attorney General Foti) is responsible for filing charges.) One story quoted Foti as saying, “We feel they abused their rights as medical professionals.... We’re talking about people that were maybe pretending they were God” [3]. The Louisiana State Medical Society immediately released a statement expressing concern over the investigation, but also noting that, since the investigation was ongoing, it would be inappropriate for the society to provide further public comment [4]. Dr. Pou’s attorney strongly criticized Foti for his handling of the arrests, insinuating that the attorney general resorted to sensationalism in carrying out his duties.

Almost immediately, those in the medical profession began weighing in. Ethicists drew distinctions between euthanasia and assisted suicide on one hand and palliative care on the other. Intent to kill or inflict great bodily harm is a requirement for a second-degree murder charge in Louisiana, so the attorney general’s accusation meant that he considered the action of Dr. Pou and the nurses to be euthanasia or assisted suicide, not palliative care. A patient may die as a result of receiving pain control medication, but if the intent is to palliate, not harm or kill, that death is not considered euthanasia or assisted suicide. Dr. Pou’s attorney immediately fired back at the attorney general for not considering the distinction between intent to harm and intent to palliate in this case [5].

Within two days of the arrests, New Orleans’ *Times-Picayune* reported on the support Dr. Pou was receiving from other medical professionals [6]. Those who had known her for years lauded her decision to stay behind and help patients, and none could reconcile the charges of murder with what they knew of her as a person.

Two days after that article, *The Times-Picayune* ran an interview with a local heart specialist who said that the state investigators had grossly mischaracterized the evidence, especially the care plans [7]. Under the attorney general’s view of the facts, care plans cannot be changed (and therefore the use of painkillers indicated a deviation from the plans and an intent to kill). In fact, noted the cardiologist, plans are often altered in response to evolving conditions.

After the initial announcement and press conference by Mr. Foti, the news stories quickly turned against him. A few days after the arrests, people were questioning the evidence. Many believed that the drugs used on the patients were more likely used to palliate than to cause death, and no one could truly dispute the fact that the patients were in a great deal of pain due to the conditions at the hospital.

Eventually, Dr. Pou herself spoke out, using as her platform the nationally televised CBS newsmagazine *60 Minutes*. She told the interviewer that she provided the drugs simply to ease her patients’ pain [8]. Dr. Pou also “acknowledged that the drugs

could have caused harm, but stressed: ‘Anytime you provide pain medicine to anybody, there is a risk. But as I said, my role is to help them through the pain’” [8].

Following this round of media attention, the Louisiana State Medical Society again released a statement, as did the American Medical Association (AMA). The AMA noted that the facts of the case were sharply contested and that Dr. Pou and the nurses “are entitled to due process and the AMA expects that they will receive full and fair treatment by our judicial system” [9]. The state society took a stronger stance in support of Dr. Pou, saying that she acted in the best interests of her patients [10].

After being discussed for months in the news media, the case became the subject of mainstream entertainment. On January 9, 2007, ABC ran an episode of *Boston Legal* that drew directly from the case of Anna Pou. One of the show’s attorneys was called on to defend a female physician in New Orleans who stood accused of euthanizing patients in the aftermath of Katrina. The details on the show were nearly the same as those in the real case.

In the televised episode, the physician essentially admitted to euthanasia, which was illegal under state law, but argued that the circumstances excused the actions. Although this is a fictional show, the arguments and outcome of the dramatized case could potentially influence a future jury in the real-world case. The actions taken were the same and the outcome for the patients was the same—who is to say that the intent was not?

Although much of the press coverage since Foti’s announcement has been favorable to the possible defendants, this case illustrates vividly what happens when the legal system tries its case through the media. How accurate were Foti’s facts? When those facts did not establish conclusively that a crime has been committed, should sensationalized arrests have been made? Much was made of the fact that Foti was running for re-election, and his handling of the case was seen as an effort to garner popular support. Regardless of his reasons, the Rules of Professional Conduct for attorneys prohibit much of what Foti said and did. While it was OK for Foti to announce the arrest, the rules prohibit his making statements that could substantially prejudice possible jurors (It should be noted that, once the prosecutor made such comments, the defense attorney was permitted to respond to them) [11]. Many of Foti’s statements were prejudicial and helped create the media frenzy that eventually surrounded the case.

Two months after the arrests, the attorney general had the following to say: “We cannot comment on the evidence in this case and we do not believe this case should be tried in the media where the defense seems to want it argued.... We believe everyone has a presumption of innocence” [11]. Two months before this statement, Dr. Pou and the nurses were “playing God” and indisputably guilty of murder. Trying one’s case in the media doesn’t always go as planned.

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Policy forum

Personalized marketing of health products the 21st century way

by Joseph Turow, PhD, Robert Gellman, JD, and Judith Turow, MD

New technologies are providing health care marketers with more and more mouth-watering opportunities that are legal but may not be ethical and could be dangerous. Marketers already have the ability to gather and compile health-related information from adults and teens without their knowledge. Now they are building the capacity to engage in one-to-one advertising that combines the data they have collected with other available consumer information. Over time these activities will inevitably affect physicians' relationships with their patients and, eventually, the custom-made stories marketers tell people about their bodies may become more influential than medical advice from doctors.

Makers of pharmaceuticals, over-the-counter drugs and medical appliances already buy lists of people with various ailment profiles so that they can advertise to them directly. Although HIPAA (Health Insurance Portability and Accountability Act) regulations generally prohibit physicians and health care facilities from releasing information about patients for the purpose of marketing, consumers searching for information often respond to Web sites, magazine questionnaires, advertisers and merchants that are not bound by the health privacy law. Questions about individual and household ailments may be sandwiched among mundane questions about clothes or cars, and the average person is rarely aware of the consequences of sharing such personal information. Those who collect the information can then use it or sell it to firms that maintain consumer profiles and offer mailing lists.

A simple Web search to one of many "list finder" sites will give you an idea of just how extensive these health-related lists are. Seconds after typing "ailment sufferers" into the search box, you will see links to firms that will sell postal, e-mail and telephone contacts for millions of individuals with disease profiles [1]. Some list purveyors claim to deliver names of general "chronic ailment sufferers," while others offer lists sorted by diagnoses as varied as angina, breast cancer, eating disorders, acne and baldness. One seller boasts that, "These consumers are highly responsive to offers such as: subscriptions, fundraising, mobility aids and various other types of medical products and services" [1].

It is fair to assume that today's methods for identifying and cultivating prospective users of health products will seem primitive several years from now. That is because media firms will be able to track activities of individual audience members, compile behavioral and other information in databases, and then use mass customization

technologies to tailor ongoing messages for particular audience members based on the data profiles. The possibility of locating likely customers efficiently and then communicating with them during their most persuadable moments represents a marketer's nirvana.

Cable companies already track what viewers watch with digital set boxes. Mobile phone companies know where their customers are calling from and where the calls are going. Google, Microsoft, Yahoo! and many Web sites store data about customers' searches and click patterns and, if the users have registered, these companies know (and can buy) other information about them. Moreover, rabid competition and increasingly sophisticated computer analyses are pushing media firms toward exploiting as much of their data as possible. The firm Visible World has worked with Cablevision to test and send slightly different commercials to cable households based on the demographics of their members.

The public's concerns about privacy do not hinder these activities. Media outlets can transmit a pharmaceutical firm's ads to target consumers, for example, without the pharmaceutical company's knowing their names or addresses. If it wants to, the company can then discover who its potential customers are by providing attractive incentives (discounts, free drugs, newsletters) to those who answer the ad. By phoning or clicking, the customer waives his or her anonymity, gets added to the company's own unregulated database, and unwittingly exposes personal information for resale or reuse.

Personal health records

Merge people's shopping, viewing and surfing histories with their personal health records (PHRs), and you have a bonanza of exploitable marketing information. Electronically organizing and storing personal medical information is a growing business. Commercial PHR services may lie outside the scope of HIPAA and other laws intended to protect privacy depending on how they are established and who is running them. Operators of unregulated PHR services can use and disclose records without restriction. Some consumers see the benefits of electronically accessible health records, such as immediate and portable access to medical information in an easy-to-use format, but are unwilling to pay for them, which opens the door for advertising-supported PHR firms and the likelihood that some patient data will be available to marketers. Employer-sponsored PHRs may also expose consumers to privacy risks.

With cutting-edge database and media technologies, companies are able to surround likely targets with articles, programs and commercials tailored to the information-rich profiles that the marketers and media have about them. Large pharmaceutical firms, for example, will find it cost-effective to send customized network television and video game ads to people who might be considering non-generic versions of their drugs. Or they might find it profitable to pay for TV characters to mention products in those homes where possible patients live. In coming decades the costs of reaching small slices of national audiences may become so competitive that

controversial, even dangerous, interest groups will work the niche-marketing terrain with little, if any, regulation. Teenage girls who buy lots of chewing gum and no-calorie cola, for example, might be bombarded by customized cable commercials, Web ads and supermarket coupons for diet pills. Pro-anorexia groups might pursue these diet-inclined teens on the Web and via cell phone links. Companies that bank umbilical cord blood for the treatment of childhood cancer might send testimonials to pregnant women through a range of cost-efficient media. Advocates against childhood vaccinations might present tales of woe to women who search the Web for child-related information, seek kid-clothing stores through their mobile phone search engines, or have e-mailed a friend via a service that tracks e-mail contents and then posts content-related ads.

These sorts of custom-made ads and testimonials provide individuals with selected information about their bodies and health care options when they are most vulnerable. Most of the time, the ad recipients probably don't know how to identify or evaluate the source. Even if they do understand what is happening, they will most likely not be aware that complex databases—undoubtedly with inaccurate as well as accurate information—triggered the medical messages that surround them.

Unfortunately, these messages may well be more consistent, frequent and even personalized than instructions from professional caregivers, whom consumers see infrequently. Physicians and other health professionals who object strongly to elements of these ad campaigns are unlikely to know which niche messages reach which patients, so they will be ill-prepared to counteract them.

The good news is that we are only at the start of this revolution in health care marketing. Health professionals have time to consider its implications and plan responses. Individual physicians might find time to talk to patients about medical ads that they receive or view. Medical organizations, patient groups and, perhaps, regulators can work to prohibit all PHR firms from selling or sharing their data for marketing purposes. Outside pressure can also help media firms address ethics and self-regulation regarding customized health-related ads and program insertions. Self-regulation should involve the critical examination of policies on privacy and database categories. Google's privacy policy, for example, states that it does not store an individual's "sensitive medical information," but it doesn't explain what that means. It should.

We are moving into an information world with great opportunities as well as potential pitfalls for the public's understanding of its health. If physicians and consumers prepare for the dark side of database marketing as well its more positive aspects, they can diminish the chances that the new environment will adversely affect patients' well-being.

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Policy forum

Media must try harder to reach groups at risk for HIV/AIDS

by Rajiv Bhuta and William R. Leonard, PhD

In 1985, 14-year-old Ryan White, a hemophiliac diagnosed with AIDS, was expelled from school for fear that he would infect the rest of the student body. Students defaced his locker with the word "fag." When his family ate out, restaurants would throw his plate and utensils away after he left. Among the first and youngest to suffer such open discrimination, Ryan would become a symbol for the AIDS activist movement and inspire Congress to enact a bill bearing his name to protect and help future AIDS sufferers.

At the end of 2006, President Bush reauthorized the Ryan White CARE Act, signaling to the American people that the U.S. government was still actively committed to combating both AIDS and, more importantly, the prejudice and stigma that forced the bill to be enacted in the first place.

During the early years of the epidemic, the media was instrumental in helping to stabilize the rates of new HIV infections. Over the ensuing 20 years, however, the national media seems to have grown complacent about its commitment, recently shifting its focus away from domestic cases of AIDS to foreign ones [1]. Still, 1.2 million Americans live with HIV or AIDS and 40,000 more will become infected this year, a rate that has not decreased in 15 years [1, 2].

For an entirely preventable disease, an incidence of 40,000 cases a year is simply unacceptable. How can the media make a dent in the stalemate of a 25-year-old fight? In large part, the media has neglected the disease's two highest at-risk groups: men who have sex with men (MSM) and intravenous drug users (IDUs) [1]. Some may argue that these groups have been ignored because of the stigma associated with the behaviors that describe them. If the media is truly committed to fighting HIV/AIDS, it should take the lead in directly addressing both the stigma and the behaviors that shackle HIV prevention efforts among these marginalized groups.

While progress has been made, stigma remains a substantial obstacle to effective HIV communication and adoption of proven prevention strategies [3]. It greatly hindered early public health efforts, mostly because many people avoided getting tested or treated for fear of being ostracized [1]. Indeed, a 2006 survey found that 21 percent of Americans would be "very or somewhat uncomfortable working with someone with HIV/AIDS" [4]. That same survey found that 39 percent of Americans would be "uncomfortable living with someone with HIV/AIDS."

Society's discomfort with the disease continues to contribute to its spread by deterring asymptomatic HIV screening and forcing seropositive individuals to remain unaware of their infection and thus unwitting agents of the disease [5]. A recent study found that 54 percent to 74 percent of new HIV infections were contracted from people who were unaware they were HIV positive [6]. It has also been shown that fear of social reprisal prevents people from seeking out HIV information and using available resources [7]. Clearly then, the media's neglect of the role of stigma in spreading HIV has detrimentally affected the high-risk behaviors of these groups.

Men who have sex with men. This classification refers to gay, bisexual and transgender males and men who have male-male sex but self-identify as heterosexual. Although the media has made strides in reducing stigma toward MSM, much work remains to be done. In 2005, this population comprised about 44 percent of people living with HIV/AIDS in the U.S., the highest percentage of any group, including heterosexuals and IDUs combined [8]. This is a 3 percent increase from 2001 and is consistent with the results of other studies that suggest unsafe sex practices among MSM are becoming more common [8].

One such behavior is the growing lack of condom use among MSM due to a decreased perception of risk and consequence [9]. A 2001 study reported that this was in part due to "AIDS burnout," a backlash caused by years of exposure to generalized, simplistic safe-sex messages that inadvertently reduced the salience of HIV infection in the minds of MSM. In other words, because the messages did not address the specific high-risk behaviors and stigma associated with the MSM population, these messages were mostly disregarded. Another unsafe behavior on the rise is the increasing likelihood that MSM will not disclose their HIV status to their partners because they consider it "nobody's business" or fear rejection [10].

Increasingly common unsafe sexual practices among MSM demonstrate the need for targeted media intervention. Despite the tremendous amounts of HIV/AIDS information available to the general public, it is apparent that MSM are not accessing it, or they are simply ignoring it; otherwise their incidence rates would at the very least remain constant. MSM need a specialized campaign to help them learn more about high-risk behaviors and to overcome their "it's nobody's business" attitude.

Intravenous drug users. There are approximately 1.4 million IDUs in North America, and they comprise about 17 percent of all U.S. HIV/AIDS cases. Sharing of contaminated needles is the primary mechanism responsible for elevating HIV risk among IDUs.

Intravenous drug use represents a particularly difficult problem because of the social and legal views of the practice. IDUs are often estranged from the health care system and do not seek out its services [8]. A recent study found that one of the greatest barriers to effective treatment of IDUs was fear of registration as a drug user [11]. Another study reported that social isolation may in fact increase high-risk behavior

among IDUs by driving them underground into hidden, unsanitary conditions like abandoned buildings or alleys where they are more likely to share needles [12].

This is not to suggest that media efforts should condone intravenous drug use in its attempts to destigmatize it. To the contrary, antidrug campaigns must work in tandem with HIV prevention strategies to reduce transmission rates by eliminating the high-risk behaviors altogether. But the media must work to help reduce stigma aimed at health care professionals and create harm-reduction strategies for IDUs. As of 2005, nearly one-quarter of physicians had negative attitudes toward IDUs seeking health care, and, as a result, this group had a significantly reduced rate of adjusted exposure to highly active antiretroviral therapy [13]. Despite the proven efficacy of harm-reduction efforts like needle-exchange programs in reducing both HIV infection rates and drug use, the U.S. government is still well-supported in its ban of federal funding for such projects [7, 14].

While health care ethics will always battle the letter of the law when it comes to helping IDUs, being a drug user should not concomitantly condemn one to HIV infection. The media must recognize that, though drug use is a complex and sensitive issue, IDUs still have the right to live HIV-free. In fact, studies have shown that IDUs demonstrate positive results in response to a concerted intervention, with incidence rates often halting or even reversing [7].

Conclusion

When AIDS was first discovered, it was labeled a "gay disease" and discrimination against homosexuals was rampant. It is understandable, then, why early media campaigns, in the interest of spreading accurate knowledge and gaining public acceptance, poured resources into advertising aimed at all sexually active individuals [1].

These initial efforts no doubt helped extinguish the early spark of a U.S. epidemic. Now, however, the time has come for the second phase in the media's fight against HIV and AIDS. As Richard Feachem, executive director of the Global Fund to Fight AIDS, said, "As we get the fire engine to the scene and begin to put out the blaze...our attention now must begin to focus on the long term" [15]. And in the long term, the steady rates of HIV incidence must turn into declining rates.

The best way to accomplish this is for the media to expand its messages to inform all groups of people about HIV and protect them from infection in a manner that is best suited and most relevant to their needs. Media resources should now focus on specialized campaigns to reduce the stigma surrounding high-risk groups and address the specific behaviors that lead to higher incidence levels.

The needed change is not one of method but one of theme. After 25 years, the media know what works: public service announcements, news articles and broadcasts, and HIV story lines in popular TV shows. As the Look/Listen/Love/Respect campaign,

the sole national high-risk group media intervention, has demonstrated, celebrities have a tremendous power to reduce stigma, spread knowledge and promote action.

While Ryan White wouldn't be as discriminated against today, his schoolmates certainly ostracized him 20 years ago. Today, he is seen for what he was: a suffering human being who deserved nothing less than complete respect and compassion. By extending the same respect and compassion to today's stigmatized at-risk populations, we encourage them to hear and heed the messages that can save their lives.

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Medicine and society

Plastic surgery is real, not reality TV

by Richard D'Amico, MD

Illustrating real-life plastic surgery experiences as a form of entertainment has trivialized the practice of cosmetic plastic surgery. While reality TV shows increase public awareness about the latest surgery options, they have created a troublesome byproduct—unrealistic and unhealthy expectations in potential patients. It is crucial for patients to understand that plastic surgery is real surgery with real risks. Further, the introduction of entertainment into reality-based plastic surgery programs has tarnished the image of the profession.

Recent historical context

In early 2003, the American Society of Plastic Surgeons (ASPS) was asked to serve as a consultant to the ABC-TV series *Extreme Makeover*, specifically to review and comment on qualifications of the participating surgeons, patient selection criteria and postsurgical care requirements. This request opened up one of the most controversial discussions in recent ASPS history.

There was much debate and discussion among society leaders, but ultimately ASPS decided to participate by offering several recommendations, such as the need for the show to emphasize patient consultation and the informed consent process. We advised that prospective patients for the show be seen by a plastic surgeon for an in-person evaluation and that they receive physical and psychological examinations before being accepted for participation. We suggested further that the television surgeon insist on and participate in all follow-up and postoperative care and that all operations be performed in appropriately credentialed surgery facilities. The society also requested that reconstructive—not just cosmetic—plastic surgery be highlighted and that the program state that all surgeons were certified by the American Board of Plastic Surgery (ABPS) [1]. Finally, we also encouraged them to show complications when they occurred.

Recognizing that participation in the show in an advisory capacity would be met with some concern by the membership and could present potential conflict with its code of ethics, the society nevertheless decided to proceed because participation presented an opportunity to reinforce the importance of board certification for surgeons and safety for patients and would allow us to have input into the messages broadcast to the viewing audience [1].

But as Phillip C. Haeck and Pam Hait wrote in the *Plastic and Reconstructive Surgery Journal (PRS)*, the official peer-reviewed medical journal of the ASPS, “The instant popularity of *Extreme Makeover* opened the floodgates for a new flurry of television shows about plastic surgery, most of which did not live up to the high standards or positive plastic surgery image that *Extreme Makeover* promoted” [1].

On the upside, the increased media attention contributed to an emergent interest in cosmetic procedures. ASPS statistics reveal that more than 10.2 million total cosmetic procedures were performed in 2005, a 64 percent increase from 2002.

On the downside, the image of our specialty has taken a hit. In fact, many of the reality shows that followed *Extreme Makeover* have entirely misrepresented plastic surgery.

In a *PRS* editorial, Frederick J. Menick claimed that, “In the public’s perception, plastic surgery seems pretentious and a community joke... ‘Trump’-like office, tailored scrubs, augmented wives, kisses, hugs, and ‘hello, darling....’ Reality television may not be reality, but is it perception?” [2]

Distant historical context

This new image has caused frustration within the profession. To put it in perspective, the roots of modern plastic surgery began with the desire to repair brutal injuries sustained by infantrymen in World War I. Advances in this burgeoning medical field continued through later wars, and today plastic and reconstructive surgery remains at the forefront of innovation, resulting in more limbs saved and fewer infections, among many other benefits, for today’s troops and the general public.

As plastic surgery evolved and became more established over the years, aesthetic procedures made their way into our culture. When most people think of plastic surgery today they think of facelifts, liposuction and tummy tucks. Advances in the reconstructive roots that continued off the battlefield—such as breast or birth defect reconstruction—are lost to the public eye.

Dangerous consequences

More worrisome to ASPS than the image of plastic surgery is how these reality-based shows are affecting the patient-physician relationship. Heavily edited and selected scenes from reality TV have lulled the public into thinking there are no real risks or complications in these procedures. It’s easy for viewers to forget that these are real people, who face the real risks—not just the benefits—of surgery.

I agree with Rod J. Rohrich, former ASPS president, who wrote in a *PRS* editorial,

Just because a patient saw a procedure on television or read about it in the newspaper does not make it real, accurate, or even desirable for them. It is our obligation to remain professional and remind our patients that we are physicians first and then plastic surgeons. Patient

safety is paramount. It is not the message patients may want to hear, but it is the message we are obligated to give [3].

A discussion paper recently prepared for the Kaiser Family Foundation (KFF) put the topic of reality TV and public health in the appropriate light by employing various research methods, including review of a variety of consumer and academic literature, direct observation and qualitative analysis, and interviews with academic experts. The KFF paper states,

Reality shows may provide inaccurate or unhealthy information to viewers (for example, showcasing multiple plastic surgeries or more rapid weight loss than most experts would recommend). It is one thing to inspire and provide encouragement, yet another to foster the unrealistic expectations implied by many (reality) TV shows.... Adolescents are trying to understand and fit into the world around them, and media plays a large role in that process [4].

We want patients to have realistic expectations about what plastic surgery can do for them in their individual cases. But these programs have misled them into believing that it is safe and common to have multiple procedures performed at one time with a minimal recovery period. This is a serious concern when demographic data for reality TV audiences indicate that they disproportionately comprise preteens, adolescents and young adults—age groups that can be highly influenced by such content [4].

These TV shows claim to represent reality without acknowledging the level of editing that takes place. *Real* reality does not provide the luxury of editing out the bad results, postoperative visits to handle complications and lengthy recovery time [5].

Public and physician education

ASPS will continue to move forward with educating the public about plastic surgery—both the risks and the benefits. In response to the plastic surgery television shows, ASPS has distributed two press releases, a public service announcement and a video news release. Our spokespersons have engaged in numerous media interviews to help reinforce our patient-focused messages. For our members, we have issued two special bulletins and published several articles and editorials on the topic of plastic surgery-centered reality TV in *PRS* and *Plastic Surgery News*, the ASPS news publication covering the society and the specialty of plastic surgery.

Information is ubiquitous these days. We know that many of our patients research procedures on their own before seeking a consultation. Regardless of their sources or whether this information is accurate or not, it is our responsibility as plastic surgeons to establish and manage appropriate expectations on an individual basis by means of thorough consultation and medical history and a review of informed consent. The

image of plastic surgery may have taken a recent hit, but we will focus on serving our patients and educating the public about our exciting and unique specialty.

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Virtual Mentor

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Medicine and society

Quality medical reporting depends on media-physician cooperation

An interview with William Heisel, investigative reporter for the
Los Angeles Times.

Q. What are the elements of ethical health care coverage? What special considerations must be made for stories about health care?

A. There are two special considerations. The first is that you are dealing with some basic privacy concerns that you perhaps don't have in other arenas. The details in a typical news story—a person's age, his address, where he works—those aren't details that violate confidentiality. But when someone is revealing a debilitating, chronic illness or an inherited or immunosuppressed condition, the simple identifiers mentioned above take on significance. How much do their kids—or their employers—know? How much do their spouses know? Even for the subjects themselves, seeing their own personal information in print can be shocking.

As reporters we are used to dealing with people who are, for the most part, media savvy. With medical stories, you are often talking with people at a very vulnerable time in their lives, and they're under a lot of pressure—financial and emotional—because in many cases they are making life or death decisions. A responsible reporter wants to walk these people through the media process more carefully than is necessary for subjects of another beat.

Q. How does HIPAA (the Health Information Portability and Accountability Act) affect your work as a health care journalist?

A. Reporters don't have to worry about being in accordance with HIPAA when they are writing. HIPAA comes into play when they are trying to get information, so it has made research a little more difficult in some cases. It used to be a lot easier to get people to give you information off the record or unofficially that related to a story, even if they included patients' names and dates and other facts, because you could explain that you were not interested in publishing individual patient details, just in the aggregate data. Let's say you called a hospital and wanted to find out whether they were treating a patient for hantavirus. In the past, the hospital spokesperson would tell you. It was good for them. They wanted to be the hospital that was considered smart enough and talented enough to be managing a tough case, and they thought it was good press. Today people would be subject to penalties for releasing that information.

A wealth of data is still available through California's Office of Statewide Health Planning and Development and through Medicare and from independent groups that collect data. And of course patients have every right to request their own medical information and give it to you. The first step in reporting a story about a specific patient is to tell the patients themselves or family members how it benefits them to have the story told through their records. Often times you are helping them by interpreting events; you're taking records to other experts. I've worked on a number of stories where I have seen what looked like an oversight in the way someone was treated, and I've gone to outside experts and found that indeed there was a deviation from the standard.

Q. How do you balance importance of covering long-standing health topics with the demand for hot new ones?

A. That's the second important consideration—deciding what health-related stories to cover and how to cover them. There is a place for long-standing topics—diabetes, heart disease, cancer, asthma, even obesity, which is both a long-standing topic and a hot one. It is important to report on research, and it's critical to discuss the effects of lifestyle on illness, but I think that message is getting out. The public is not suffering from a lack of information about how to prevent diabetes, lung cancer, heart disease or obesity or how to maintain the best health once you have been diagnosed with one of these illnesses. It's difficult to make those stories fresh in the same way that a SARS outbreak, for example, is fresh.

Something to realize about media stories on avian flu, SARS, anthrax and other hot topics is that they often are written by nonmedical reporters because they have a wider scope or make connections to terrorist activities, September 11 and the sprawling global economy. So it isn't just your health beat reporters writing these stories.

Q. Speaking of "fresh" stories, what is media's role in preventing panic about epidemics?

A. Some of that is up to the media, but most of it is up to people themselves. My guess is that most people who showed up in the emergency room with symptoms of SARS, for instance, had not read stories about that topic carefully or didn't see the more in-depth TV coverage. They heard something third-hand about breathing difficulties being related to some epidemic and they went to the emergency room. Some of those people are going to show up at the emergency room anyway because they are just prone to thinking they are sick.

The media does have a burden to explain the true evidence for the presence of an epidemic, what the real numbers are and what the qualifiers are—that bird flu, for example, has not been transmitted from person to person. I don't think we spend enough time talking about these specifics because we think the story will become so complicated that readers won't get through it. In broadcast journalism, there is just

not enough time. So people read or hear an incomplete story and don't get the stray sentence that says how few people have actually come down with avian flu, say, or that it hasn't been transmitted from person to person. I've seen some events referred to as epidemics when the number of cases is in the single digits. That gets balanced by saying there were no cases in the previous 10 years and now we have four cases and that could be the beginning of something significant.

I guess the concern with viruses like avian flu and SARS is that we seem to be heading towards something much bigger, and we don't want to be accused of not sounding the alarm early on when we should have. But I have seen lots of responsible coverage that pointed out the shortfalls in the evidence and the extreme unlikelihood that anyone would contract one of these diseases. That has been my sense of the popular press.

Q. What is your take on the sensationalizing of news by those who pick up a story and repackage it?

A. That is a serious problem, and I don't know what major media outlets can do. It doesn't just happen in health care; it's in every aspect of what we cover. News stories are, basically, factual building blocks. If the blocks are set up one way, you have a secure structure with balance and information that is going help people make good decisions. If advocates for various causes or positions take those blocks and use a third of them here and a different third of them elsewhere, and take quotes out of context to push an agenda, there is little the media can do. In an effort to build like-minded constituencies, such people grab things willy-nilly from mainstream stories and put a veneer of legitimacy on it by saying it appeared in the *New York Times* or the *Wall Street Journal*, or they don't source it at all—as though it was their own reporting—and use the resulting piece to say, for example, that vaccines cause autism or that asthma has a particular source that they are fired up about. Then through e-mails and Internet posts, you end up with a lot of people being misinformed. One possible tactic that some reporters are taking is posting their original documents, the actual basis for the stories, on the Internet.

Q. Is it fair to say that the medical community is under more scrutiny than ever before?

A. I would agree with that. I have a good friend who is a physician, about my age, and he's talked about just that fact. The public has expectations that all physicians will be right every time. Patients are more willing to get second opinions—which is a good thing; they should be. They come to the doctor's office with print-outs from the Internet, or they're convinced by an ad they've seen on television that they need a particular drug. There is much more interference in what used to be a pretty closed relationship between physicians and their patients.

A possible downside to the intense scrutiny is that doctors become wary of trusting their instinct. Like all expert professionals, physicians know something and they

have intuitions. The entire system would be crippled if physicians had to stop and look up every possible question in the book before making a decision. There has to be a balance. Medicine is a science and an art, right?

Q. How does the presence of physician-journalists affect you as a health beat journalist without a medical background?

A. I don't really feel like I am in competition with anyone's medical background. I'm far more interested in whether or not physician-journalists are decent reporters. It is always good to have pressure from below to be better and to be more open about what we do and do not know. I always tell reporters that they shouldn't pretend to know more than they do in an interview with a physician to try to impress him or her. They should go in explaining how much they don't know. It's always better to say, "Here's how it looks to me. Explain to me why I may be wrong." Or, "I have no idea what I am at looking here. Can you explain it to me?"

Q. What are your recommendations to physicians on how to interact with media?

A. Don't assume that we're the enemy or that we're going to get you sued or that we are a nuisance. Physicians should recognize that media stories can either do a lot of damage or a lot of good. In fact, despite the worst cynical views people have of reporters, 99 percent of them really just want to get it right. They're under the same kind of threat of a lawsuit as the doctors are, and they run the same risk of losing their jobs if they keep making mistakes.

When we call physicians for a quote or background on something, we expect that, if it's outside their area of expertise, they'll do us the courtesy of saying so—maybe refer us to someone else. If it's a subject they're intimately involved with, I think they should at least have a conversation on background with the reporter. I don't think doctors understand how valuable it can be just to provide background with their names not being used and no quotes attributed to them, but just helping to illuminate a story.

If I'm writing about a doctor who has had a series of bad deliveries and several babies have died, and I go to a leading obstetrician in the field and say, "Hey, will you look at these X-rays?" and that doctor says, "Gosh, I don't want to be part of that. In fact I know this doctor and he's a really nice guy and I don't want to get caught up in that." I say, "Look these babies are dead; these parents are distraught. Did something go wrong here? That's what I want you to help me understand because if there's nothing wrong then I'm not going to do this story." That's where I start with a lot of my reporting. It's just getting someone else in the outside to say, "Yes, there's something here."

Now, the physician who is the subject of an investigative story—I can understand the reluctance, but even then he or she should want to explain things in detail to make

sure reporters are on the right track. If it's a serious mistake the physician is accused of, I, as a journalist, want him or her to know it early and have a chance to respond. Doctors who talk come off better in most stories because, even if I have the most damning evidence in the world, they sound less human if they are not even willing to have their voice in the story. At the bare minimum, they can offer sympathy for the patient or family that was harmed.

In sum, doctors can have a huge impact one way or another. They can stop the story or they can help put you on the right track. My advice to physicians is to set the ground rules; make sure the reporter understands that this call is either just for background or that you may be quoted and then talk as descriptively as you can.

Q. Where do you think the media could be doing a better job?

A. There's a lot of talk about what's wrong with the way health care is financed. There are some decent stories about this here and there, but it clearly hasn't had the impact it needs to have to catalyze change. The media just haven't found a way to make the problem real to people or to explain some of the different solutions that are being tried. Many people blame drug costs above everything else because they feel the pinch when they run into a wall with their insurer and can't get a drug they want. But hospital costs are a huge portion of the increase in health care spending. So either people just don't see those costs because they share them with insurers, or it's more sexy to write about drug costs because then you can talk about direct-to-consumer ads and the falsehoods or shadings of the truth that go into shaping them. That's easy to write about; it's colorful. But why are the entitlement and other financing systems collapsing under their own weight? Those stories are more difficult to tell.

Another area the media should investigate in depth is what we are sacrificing in potential cures when we lose species and biodiversity because we are destroying ecosystems around the world. What are the health effects of global changes in climate and in weather patterns? What are the long-term—not just the immediate—health effects of a natural disaster like Katrina? Again, these are tough stories to tell, but it would be nice to see more of that.

Q. Many people in the medical community see the media as the enemy. What would you say to that?

A. I would just underscore my earlier comment: when a doctor gets a call from the press, the automatic reply shouldn't be, "I'm too busy; I'm not going to call that person back." We talked earlier about people rushing out to the ER. When a doctor is able put some of these fears to rest by talking to a journalist, this helps keep people at home. Doctors occupy a high status in this country, much higher than that of journalists and higher than that of lawyers. They spent a lot of time learning their profession, and they are committed to the overall good of humanity. With that status comes a bit of responsibility for interacting with the public and not just staying

hidden in the office treating patients one-on-one. The profession has a duty to the whole potential patient population out there in the country. They can stop a wrong-headed story in its tracks. And they can help shape a story that is going to expose something ugly in the field, something that should be exposed; they can help that story be fair and accurate. So I would say take that call and give that reporter 10 minutes of your time and you'll find it was time well spent.

William Heisel is an investigative reporter for the Los Angeles Times. Before moving to the Times, he specialized in health care investigations for the Orange County Register where he wrote about problems with the California Medical Board, doping in Olympic sports and the fast growing market for human body parts.

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Medicine and society

HealthNewsReview.org: criteria for excellence in health and medical journalism

by Gary Schwitzer

What, if any, are the criteria journalists use when reporting on new ideas in health care or on new claims for old ideas?

For the past year, a team of people with backgrounds in journalism, medicine, public health and health services research have applied 10 criteria to evaluate and grade health news stories reported in the U.S. that include claims of efficacy or safety. By applying these 10 criteria [1], we put a stake in the ground, making the case that these standards should be applied to all such health care stories.

There are almost 300 such stories that have passed through the vetting process and are now posted on HealthNewsReview.org. Three independent reviewers also evaluate each story to ensure that all of the criteria are met.

The criteria remind journalists, when reporting on treatments or tests, to:

- discuss costs.
- describe the potential benefits and harms.
- use absolute (not just relative) risk/benefit data.
- compare the new product or procedure with existing alternatives.
- seek out independent sources who have no conflict of interest.
- look beyond the news release.
- avoid disease-mongering—exaggerating or medicalizing conditions.
- explain to their audience that not all studies are equal.
- distinguish between what product or procedure is a new idea and what is just new wrapping on an old one.
- provide information about the availability of the product or procedure.

Our early experience shows some troubling trends. For example, when a study on using CT scans to screen smokers for lung cancer was published in the *New England Journal of Medicine* in October 2006 [2], journalists responded.

HealthNewsReview.org reviewed eight stories on that study.

- 6 of the 8 stories failed to adequately discuss potential harms of such screening, which can include radiation exposure, needless anxiety

engendered by a false-positive result and medical complications associated with follow-up biopsies.

- 6 of the 8 stories failed to adequately address the availability of CT scan machines that are capable of performing the lung cancer screening described.
- 4 of 8 stories failed to discuss the costs of the screening, which were talked about in the original *New England Journal of Medicine* article. Estimates for the cost of the tests range from \$200 to \$1,000 per scan, making this a significant consideration that half the stories ignored.
- 5 of 8 stories relied on a single source—usually only on the authors of the published study—and failed to present balanced, independent perspectives.

It is possible to achieve excellence in health journalism even in the face of deadline pressures and time and space limitations. HealthNewsReview.org has given our highest five-star scores to daily newspaper stories that used as few as 529 and 566 words [3, 4].

Stories in the 100-300 word range have not scored well in our system. We've given one-star scores to a 106-word story on cola drinks and osteoporosis [5], to a 142-word story on depression [6], and to a 244-word story on a drug for hypochondriacs [7]. News organizations employ such “news in briefs,” “science notebooks,” “health headlines” or “medical minutes” to give the appearance of broad coverage of health, medicine and science. But this type of coverage, while it may be a mile wide, is often only an inch deep, and readers deserve the vital information that is left out.

Indeed, the Statement of Principles of the Association of Health Care Journalists includes this clause:

While brevity and immediacy are touchstones of news reporting, health and medical reporting must include sufficient context, background and perspective to be understandable and useful to audiences/readers. Stories that fail to explain how new results or other announcements fit within the broader body of evidence do not serve the interests of the public [8].

A broader concern is how the agenda-setting potential of health journalism is sidetracked by such news coverage [9]. There may be a saturation of news stories about expensive new ideas that are unproven, of limited value and with greater potential harms than may be apparent on the surface. There may also be too few stories about who will pay for these new ideas, who will have access to them and whether there's evidence that they're really better than the existing alternatives. Such health policy concerns take a back seat to cheerleading stories that promote new, flashy ideas with little regard for evidence, harms and benefits, and true social need [10].

Editorial decision makers remind us that there is only so much space in a daily newspaper or newscast. Whenever space or time is devoted to coverage of stories

about new ideas, products or procedures, the opportunity to explore problems of the uninsured, health care costs and quality in the health care system may be lost. Journalists should strive to balance what they're feeding the public.

What can physicians do to combat some of the troublesome trends we have been seeing in medical coverage? First, they can encourage patients to read critically and rely on educational resources like our Web site to help them become smarter health care and news consumers. People need to develop realistic expectations about new ideas in health care, and physicians can help patients scrutinize media claims.

Physicians can be advocates for responsible health and medical news coverage. They can write letters to the editor, meet with editors, reporters or editorial boards, and initiate a dialogue that will help journalists improve the flow and quality of health news.

As primary sources of information for their patients, physicians can also abide by our criteria. The same standards we apply to news stories could be applied to patient-physician communication. Did you quantify harms and benefits to the patient? Did you discuss how strong the evidence was for pursuing a particular option? Did you discuss the uncertainties? Did you compare the new idea with existing alternatives? Did you discuss costs? If you have a conflict of interest in promoting an idea, did you disclose it?

Finally, physician-researchers who interact with journalists should have our checklist in mind or in hand when conducting news interviews.

There have never been more opportunities to communicate health news and information, and there's never been better health journalism than some that is reported in this country today. It is the daily drumbeat of stories in between these peaks of excellence that may damage public understanding. We hope that our Web effort can help journalists improve their work on these topics.

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Op-ed

Should doctors perform plastic surgery on reality TV?

Responses by Robert Rey, MD, MPP, and by Daniel Sullivan, MDiv, and Rod J. Rohrich, MD

Editor's note: The success of the reality television show Extreme Makeover spawned several offspring programs in which actual patients undergo plastic surgery procedures performed by real surgeons. Virtual Mentor asked for opinions about physicians' participation in such television programming from those in the field.

Response 1

by Robert Rey, MD, MPP

I often get asked if having a television show changes the nature of my plastic surgery medical practice. What follows is my answer to that question.

Between cell phones with cameras, blogs, instant information via the World Wide Web and the very open nature of the world we live in, the barriers between the public and private spheres have broken down, and you should consider every patient interaction and medical decision you make a public decision. Whether you wish to be or not, you are a role model.

You may not live your life and practice medicine with a television camera looking over your shoulder like I do, but in this day and age you should act like you do. In other words, I don't change a thing when the cameras aren't rolling.

I'm terribly proud of the spotlight *Dr. 90210* has shone on the profession. Not surprisingly, most people think that plastic surgery is all about glamour. And, while I am fulfilled when I make people look better and feel better about themselves, I insist that this be a balanced show that reveals the true nature of what we do.

Dr. 90210 shows not only the before and after but also the in-between. Potential patients and the public need to know that pain, bruising, swelling and other consequences occur between the operating room and the end result. I know that televising the sometimes graphic reality is the right thing for me and the patients. The truth is the profession's best ally; well-educated, well-informed patients have the most realistic expectations.

My patient rejection rate is nearly 80 percent, and I want current and prospective patients alike to know that plastic surgery is not for everyone. It's not like getting a

haircut or a new pair of shoes. It's a life-changing, serious medical procedure that requires time, money and commitment. Together my patients and I weigh the risks and benefits, and seeing this process on television helps prospective patients understand this delicate balancing act.

Because of the Internet, a great deal of information on cosmetic surgery is available for public consumption. Much of it is excellent, but there is also an abundance of misinformation out there, and *Dr. 90210* helps address some of the myths and misconceptions of our work. For example, not all doctors have access to the latest techniques, equipment and medical research. We do, and we try to showcase the present state and the future possibilities of cosmetic surgery on the show.

It's no secret that in the early part of this decade, immediately after September 11, 2001, the number of plastic surgery procedures was on the decline. Yet I am told and research bears out the fact that televised shows, like *Dr. 90210*, have attracted more patients than ever and that the profession's work load has significantly surpassed pre-9/11 levels.

It's interesting that a great many of my fellow physicians who have criticized my show admit to never having watched it. I would urge you to see what it's about. Sure, we do work on movie stars and other celebrities, but we also work on nurses, teachers and truck drivers and show that plastic surgery is an option for the middle class, not just millionaires. Audiences also learn that plastic surgery is about correction and reconstruction and not only rhinoplasties and breast augmentations. These messages reach millions of potential patients—not just potential patients for me but for the entire profession.

Dr. 90210 is also an excellent vehicle for highlighting the pro-bono work that so many of my colleagues and I do. Last year I worked with rehabilitated gang members and removed their affiliation tattoos so they could be more employable; I went to Mexico and operated on children with cleft palates to give them a smile, self-esteem and help with their speech and quality of life. Next season I will be heading to Israel to help victims of terrorist bombings regain something of their former appearance and function through reconstructive surgery.

It is easy to think you're just a cosmetic surgeon, but you're much more. Patients look to you for answers, hope and solutions. The actual surgery is crucial, but it is only one part of what members of our profession do. The sooner we all realize that the light is shining on us as physicians and that we have responsibilities to the public and the profession, the better, stronger and more respected we will all be.

Robert Rey, MD, MPP, stars in the E! television series Dr. 90210. Dr. Rey specializes in minimal scar plastic surgery, endoscopic, fiberoptic and laser techniques. He served in the office of the United States Surgeon General as a health policy speech writer to Dr. C. Everett Koop.

Response 2

by Daniel Sullivan, MDiv, and Rod J. Rohrich, MD

Extreme Makeover, I Want a Famous Face, The Swan, Dr. 90210—these are some of the recent and most-watched reality TV shows that have used plastic surgery as subject matter to entertain the viewing audience. Plastic surgery, especially cosmetic surgery, has become one of the more trendy subjects of television culture and, by extension, of pop culture as a whole, at least in the United States. This new-found popularity has affected the practice of plastic surgery, both positively and, often profoundly, negatively.

There is no denying the fact that the general public is more aware of and educated about plastic and cosmetic surgery now than it was a few years ago, largely as a result of reality television. The average person in the United States today knows that plastic surgery is a specialty with its own unique procedures, and most people can now describe at least a few of those procedures. The public has learned that plastic and cosmetic surgery are performed on a wide range of body parts, not just the face and torso. Through these shows the public has had a glimpse of how plastic surgery can help raise a person's self-esteem. People with debilitating self-images and body concepts and the attendant social dysfunction—partly the result of aesthetic tribulations—blossom into confident, attractive characters who are happy and comfortable in their own skin after cosmetic surgery. Although such transformations may not be as dramatic or extensive for every nontelevised patient, illustrating patients' emotional and social change is a welcome product of the shows. Lastly, heightened public consciousness has increased the overall number of medical cosmetic interventions (both surgical and nonsurgical) in the United States, creating something of an economic boom for the specialty.

These are some of the positive aspects of the reality shows, at least from the perspective of board-certified plastic surgeons. There are, however, several unfortunate consequences of these programs that can misrepresent what the patient and surgeon experience and what recovery is really like.

First and foremost, one must recognize that the goal of these programs is to attract large viewing audiences and earn high media ratings, which in turn enable television executives to charge higher advertising rates. Despite the educational benefits listed above, the primary intent of reality TV shows is not to serve a documentary or educational purpose but to realize financial gain through a visual medium that entertains, and they do precisely that. Studios in general do not have the well-being of the patients, the doctors, medicine or society as their first goal. If another show or subject were to prove more lucrative, plastic surgery reality shows would be off the air. This also means that television studios use creative editing and unlikely plots to further titillate the viewers. Unfortunately, a substantial percentage of the viewing audience is largely unaware of these subterranean motives and accepts the network programming uncritically, believing that what they are watching is an accurate view of plastic surgery.

Another crucial element often not conveyed in these programs is patient safety. Seldom do we see how the patients were selected and by whom or learn how patients should choose a surgeon (or surgical facility, for that matter) for their particular needs. Other questions that are not explicitly addressed include: Is the surgeon certified by the American Board of Plastic Surgery? Has the surgeon performed this procedure before and, if so, how many times? What is the surgeon's complication rate and what are the inherent risks of the surgery? Will the surgeon in question do the procedure or will he or she supervise trainees? Does the surgeon listen to what the patient wants or tell the patient what he or she "needs" done? Will the surgery be conducted in an operating room in a certified hospital or in a day surgery center? Is the surgeon certified in life-support techniques in case operative complications arise? Is the surgical facility capable of providing adequate care in the case of complications? These details are not well-represented on TV.

There is a common perception that the average plastic surgery patient spends more time researching and buying a pair of shoes than identifying an appropriate surgeon. While it may be true that patients should spend more time selecting surgeons, it is not only patients who have a responsibility in the clinical relationship. Physicians must provide patients with all the information required by a true informed consent process, must discuss potential complications and must explore patient expectations versus what is attainable with a specific plastic surgery intervention. Occasionally we see complications on these shows, but how they occur and are managed is glossed over. Likewise, the full recovery regimen is minimized; multi-week or multi-month recovery times following numerous surgeries are compressed into a few minutes, conveying a false sense of recovery time to viewers. The whole process simply can't be condensed into a one-hour show that pretends to represent "real time."

Reality TV creates problems not only for the potential patient, but also for the plastic surgeon. The rigors of specialized training that board-certified plastic surgeons undergo are not mentioned, an absence which fosters the impression that anyone calling himself or herself a plastic surgeon is somehow qualified to perform the difficult surgeries we see carried out. It is simply not the case that a surgeon is more than willing and able to fulfill the request of any patient who wants an enhancement.

An equally damaging message is that plastic surgeons perform only cosmetic surgery. This idea does great disservice to plastic and reconstructive surgeons, who undertake perhaps the widest range of interventions of any surgical specialty. Head and neck surgery, cleft lip and palate repair and other craniofacial procedures, hand and peripheral nerve surgery, cancer removal and repair of cancer damage throughout the body, reconstructive surgery for burn patients—these define plastic surgery as a specialty but are rarely mentioned on television reality shows. As a result, the public perceives the specialty as not a truly serious one, not in the same category as cardiology or neurosurgery. A public "educated" by reality TV is seduced into thinking that plastic surgery is simple, skin deep, limited in scope and lucrative. Nothing is further from the truth. Sadly, these ill-informed opinions have

seeped not only into the TV audience but into the medical community and state legislatures. Numerous states now allow physicians who are not formally trained surgeons to perform plastic surgery, to the peril of patients and the profession alike.

Reality TV shows use visually provocative images to provide the most visceral experience in the briefest amount of time. While entertaining, the programs often mislead viewers by neglecting crucially important medical, emotional, social and ethical issues, all of which are part of an actual plastic surgery experience. Shows that focus on the antics of a doctor clearly prize the entertainment value of an actor-wannabe more than the educational value of informing people about the serious, dignified medical science of plastic surgery. Lamentably, this devalues not only plastic surgery but all medicine and creates harmful misperceptions in the minds of the public.

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Related article:

[Plastic surgery is real, not reality TV](#), March 2007

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Medical humanities

Taking “CA” public

by Leroy Sievers

It’s long been the disease that dare not speak its name. Not that long ago, an obituary might have said that someone passed away “after a long illness.” It’s still hard for people to talk about today. Recently, a technician who was giving me a CT scan said happily that we were looking for “CA.” I had no idea what she meant. Of course, I’m talking about cancer. Why is it that we’re so afraid to say the name? What power does this disease have that the name alone scares us? It’s just a disease after all.

Granted, it’s a disease that devastates, that leaves behind it the scorched earth of death and sadness. It’s a thief that steals our old lives, that makes a mockery of the idea that we have any control over what’s happening to us. But it’s still just a disease. So why is it that we’re so afraid to talk about it, to say the words out loud?

I have cancer, a lot of it. And for better or worse, I talk about it. A lot. I’ve been a journalist for more than 25 years. I made my career by going to see terrible things happening to other people. Wars, epidemics, natural disasters; I have seen literally tens of thousands of people die before my eyes. But the stories I covered were always about someone else. I was fine. Until I wasn’t.

I had my first bout with colon cancer back in 2001. I had surgery, recovered, went back to work and was clean for about four and a half years. At five years they say you’re cured. At five years, I started to slur my words. It turned out I had a brain tumor. And then the bad news just kept coming—there were more tumors in my lungs. That colon cancer we thought we had beaten had come back with a vengeance.

At the time, I was doing some commentaries for National Public Radio, mostly on foreign affairs. They asked me to do a segment about having cancer and then a second one. That ultimately turned into a daily blog, podcasts and more commentaries. The name of the project is My Cancer, and that’s what I talk about—my cancer. I said at the beginning that I would be totally honest, and that no subject would be off limits. A number of people asked me whether it was a good idea to be so public about it. After all, they said, it’s not something people like to talk about. I can’t tell you how many times I heard that.

As comfortable as I was having other people be the subjects of my stories, I was never supposed to be the story. But I had agreed to do it. So I wrote about the whole

experience, the good times—and there were some of those—and the bad times. The pain and nausea of chemotherapy, the looks you get when part of your head is shaved and you have a line of staples up your skull, those dark hours of the night when you are alone with thoughts of your own death, and probably more painful than anything else, the pain to your loved ones—your friends and families—that this disease brings.

And then something happened. People started to write in. They didn't necessarily respond to something I wrote. They just wanted to tell their own stories. It was like they had no where else to turn, no one else who would listen. And more heartbreaking than that, so many of them said that “my (and fill in the blank here) mother, father, brother, sister, husband, wife wouldn't talk about their cancer. I had no idea what they were going through.”

And that's really the reason I went public. As uncomfortable as it may be for us to talk about cancer, we have to. We don't have the right to withhold thoughts and feelings from the people who care about us. That's too cruel. And Jack Nicholson in *A Few Good Men* was wrong. They *can* handle the truth.

One of the first things a cancer patient wonders is just how much truth to give out? Close friends and family get the unvarnished truth, like it or not. But how much you tell other people depends on how much you think they want, and how much you think they can take.

On the blog, and on the radio, I put it all out there. Some people have asked me if this is cathartic, if writing and talking about my cancer helps me deal with it. My answer is, “not really.” It does make me focus on it every day when I have to sit down to write. But the cancer is right there virtually every waking moment of every day. It doesn't go away.

So in the end, I think I made the right call in deciding to go public. I get great support from all of the people who write in with their own thoughts. I hope that my words help them as well. We're all in this together—cancer patients, families, loved ones, doctors, nurses, friends. We all need to support each other. Staying silent about this monster just isn't an option. And after all, it's just a disease.

Leroy Sievers has been a journalist for more than 25 years. He covered wars in Rwanda, Somalia, Kosovo, Central America and many other countries. During the invasion of Iraq in 2003, he was an embedded journalist with Ted Koppel in the 3rd Infantry Division. He is a regular commentator on National Public Radio's (NPR) Morning Edition and writes a daily blog for NPR.

Related article

[Surviving \(and thriving with\) cancer](#), January 2007

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Medical humanities

Medical students take heed, they'll be expecting Dr. Carter

by Joel Ornelas and Neil Parikh

Perry Mason and the district attorneys from *Law and Order* are probably society's most recognizable lawyers. Similarly, shows from *Dragnet* to *NYPD Blue* have defined the image of a detective. Inevitably these pervasive images blur the lines between fiction and reality in a given profession. The same is true with medicine, but with one major difference: although a majority of the general public will never be in the criminal situations and legal predicaments dramatized by the entertainment industry, almost all viewers will be patients at some point. And what the public sees affects what they think about physicians. That is the warning we were all given at our white coat ceremonies. You might not have noticed it, but it was there in the form of a shrink-wrapped DVD attached to the back of the book, *On Doctoring*. That video presentation casts the medical drama in a new light.

The DVD is entitled, *Prime Time Doctors: Why Should You Care?* Its writers, Joseph Turow and Michael Serazio, comment on excerpts from some of the most popular medical television shows and movies of the past 75 years, and they tell us early on that, "The patients you meet in coming years may have doubts about you because of the doctors they see on prime time television"^[1]. This statement sets the tone for the remainder of the presentation, which tackles episodes of medical uncertainty and describes ethically complex story lines that patients have seen portrayed by tinsel-town doctors and have come to believe about their real physicians.

The presentation encourages medical students and physicians to be self-reflective and question how much they *too* have been influenced by television. Traditionally, medical dramas have exalted the physician as a noble warrior who uses his intelligence and skill to defend the most vulnerable against the calamity of disease. When this idealistic notion is combined with George Clooney or Patrick Dempsey as the popular face of medicine, who wouldn't want to be the next Dr. Ross or Shepard? We might be reluctant to admit that television played a role in our career choice, but it is undeniable that these shows have helped shape society's opinion of physicians. Now when we watch, we can distinguish fact from fiction because of our medical training. But most patients do not have that opportunity, a fact that might create hurdles for budding physicians.

Turow and Serazio explain that the need for gripping drama has transformed the television physician from an infallible superhero to an imperfect human plagued by

uncertainty and peril. In the era of *Doctor Kildare* (1961-1966), TV physicians faced problems that were practical and methodically solved. As Turow and Serazio say, “In the early decades of movies and TV, doctor shows were filled with tales of scientific progress and moral clarity” [1]. An episode’s story line was smooth, reliable and reassuring but rather bland by modern standards. The writers of today’s shows weave plots with complex ethical dilemmas and procedural mishaps that seem to prove Murphy’s Law. As the authors state,

Today we see new themes in how Hollywood is portraying doctors, hospitals and the world of medicine. They are drawn from issues of power, fallibility, and, most of all, controversy. They highlight doctors’ shortcomings as practitioners and as human beings [1].

One study found that in the 1996-1997 season of *ER* physicians spent as much screen time dealing with personal issues as treating patients [2]. More than 50 percent of the plots were found to involve dilemmas of professionalism and ethics. This study also found that the two most popular personality traits of physicians were sensitivity and vulnerability [2]. Portraying physicians as human beings—rather than the gods they once were on television—leaves a much different impression with patients [1].

Complex ethical dilemmas are probably the most consistent theme in all current medical dramas. Turow and Serazio point out that, “In popular culture today, medical certainty can no longer be taken for granted” [1]. *Prime Time Doctors* highlights, for example, an episode of *ER* in which Dr. Benton has to decide whether or not to perform surgery on a patient who would rather die than have the operation [1]. On TV, the physicians who make these decisions appear to be on an island, where they alone shoulder the burden of the choice. Rarely do we see how such ethical decisions are actually made—through ethics committee meetings and consultation with the patient’s family and, if necessary, hospital administration. Early in medical training, students are asked to solve fictional ethical dilemmas. To help us with the task, we are introduced to decision-making models, protocols and guidelines that consider all of the parties involved. These tools allow us to weigh the effects each option will have on each party and bring clarity to a process that could otherwise become far more confusing.

In the same manner, hospitals and other health care institutions have protocols and guidelines that physicians can follow when faced with a quandary. Hospital ethics committees staffed with bioethicists, lawyers and physicians handle especially difficult problems not explicitly covered by the guidelines. But showcasing a room full of experts deliberating ethical dilemmas or explaining the systems and institutional protocols detracts from the drama and mystery that television audiences demand. It is intentional that “the world of TV medicine is not as straightforward as it once was” [1]. Future physicians must realize that, while we will undoubtedly face our share of ethical dilemmas, there are systems in place to get us through. Unlike Dr. Benton, we are not on an island.

By creating awareness of the controversial images of medicine, *Prime Time Doctors* overlooks some of the potential good that comes from the television shows. The fact that millions of people eagerly await their weekly dose of medical suspense is a testament to the outreach potential these dramas have. A study published in the *British Journal of Medicine* found that the information broadcast on these shows can have a significant impact on the actions and attitudes of the audience [3]. After an episode about a paracetamol overdose aired, viewers were twice questioned about the facts of an overdose, first one week after the show aired and then 31 weeks later. The results were compared with responses from people who had not watched the show. The study discovered that those who had watched the show were much more aware of the signs of a paracetamol overdose and were significantly more likely to seek help in the case of one [3]. Similarly, viewers of *Amarte Asi*, a telenovela on the Telemundo network in which one of the protagonists has diabetes, were more likely to be knowledgeable about the disease and to exercise and eat more healthful foods than nonviewers [4].

The federal government recognizes the ability these shows have to disseminate information to a large group of people. The Centers for Disease Control (CDC) has contacted TV executives on many occasions, asking them to incorporate public health messages into their shows [4]. Subjects that are often not discussed like HIV/AIDS and organ donation are worked into a story line to help educate the public [4]. The type of exposure that the CDC's initiative gets in exchange for sharing their medical expertise with a show's writers is quite astonishing. During the 2005 season of *Grey's Anatomy*, a 30-second ad cost more than \$350,000, while an hour-long episode devoted to a CDC-endorsed public health matter was free [4].

The principle that patients' interest comes first is the foundation of medical ethics and the point that *Prime Time Doctors* leaves us with.

The messages prime time TV offers about physicians are not always comforting ones. But patients may also carry in their heads one consistent message that may benefit you greatly. It is that despite personal and professional troubles, despite the bureaucratic roadblocks...DOCTORS DO CARE [1].

It is not uncommon for a television episode to depict a physician jeopardizing his or her career and respect from colleagues to accomplish something that will benefit the patient. The authors urge their audience to capitalize on the widely held belief that despite all their shortcomings doctors still care about their patients. This longstanding truth can serve as a foundation from which to build trust and rapport between patient and physician in an age where what is real and what is fiction becomes more indistinguishable every day.

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Neil Parikh is the theme issue editor for the March 2007 Virtual Mentor.

Related article

[Imagining doctors: medical students and the TV medical drama](#) March 2007

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Suggested readings and resources

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Virtual Mentor

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