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Risks of Imbalanced Information on US Hospital Websites

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Conducting a Google search for a disease is how many people get information about their illness and possible treatments. In a national survey sponsored by the Pew Research Center, 72% of adult Internet users reported looking online for health information in the past 12 months and 43% reported searching for information about a specific medical treatment or procedure.¹ Valuable data and tools—including hospital quality ratings, professional treatment guidelines, and patient decision aids—are increasingly available via the Internet and may help patients facing decisions about where to seek care or whether to undergo a medical procedure. Clinicians often encourage patients to engage with these types of information as a means of promoting patient involvement in medical decisions and offloading tasks from the too-brief clinical encounter. Unfortunately, valuable online health information may be hard to identify amid a growing number of online advertisements.

The research letter by Kincaid et al² in this issue finds that hospital advertisements for transaortic valve replacement (TAVR), a recently approved procedure for treating severe aortic stenosis, are imbalanced. The authors reviewed the websites of all 317 hospitals in the United States where TAVR is offered. Of the 262 hospitals with websites describing the procedure, nearly all described at least 1 benefit, while just more than one-fourth described any risk. Furthermore, benefits were quantified on 37% of hospital websites, while risks were quantified on less than 5%. These data build on prior studies that have found incomplete and imbalanced information in print and television advertisements for clinical services.^{3,4}

As we work to achieve a high-quality and transparent health care system, a system that makes “information available to patients and their families that allows them to make informed decisions when selecting a health plan, hospital, or clinical practice, or choosing among alternative treatments,”^{5(p8)} the impact of hospital advertising must be carefully questioned. Scholars have argued that techniques currently used in health care advertising

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threaten informed choices, fiduciary health care relationships, and the quality of medical care.^{6,7} Focusing specifically on the risk to patients, the findings by Kincaid et al² raise 4 significant concerns.

Identifying Advertising

Although consumers who are bombarded by television commercials may be aware that they are viewing an advertisement, hospital websites often have the appearance of an education portal. Many of the websites for hospitals that perform TAVR bear the imprimatur of top medical centers and look like reputable health information because they contain graphs, diagrams, statistics, and physician testimonials. Patients may assume that the content of these websites is informational, not persuasive. Patients who are referred to such pages to learn about a procedure may not be aware that they are consuming promotional materials rather than impartial educational resources.

Finding Unbiased Information

The regulatory environment for health care advertising in the United States is lax. Unlike direct-to-consumer advertising for prescription drugs—which is regulated by the US Food and Drug Administration and required to present a “fair balance of risks and benefits”⁸—hospital advertising is overseen by the Federal Trade Commission and subject to the same “reasonable” standards applied to advertisements for common consumer goods such as cars and cereal. (Nonprofit hospitals are subject to even less oversight, as their nonprofit status makes them exempt from the provisions of the Federal Trade Commission Act.) Thus, while hospital advertisements may describe specific medical interventions that entail significant risks, there is no legal requirement that these risks be disclosed. As patients seek information online, they are venturing into a highly competitive environment in which hospitals, driven by market pressures and a focus on patient choice via health insurance exchanges, increasingly use the Internet to reach wider audiences and attract potential patients.

The first page of results for an initial Google search for TAVR, for example, yields 3 sponsored advertisements for hospital TAVR programs followed by 10 unsponsored sites. Four of the 10 unsponsored sites are also for hospital TAVR programs, and 1 promotes a cardiothoracic surgery network sponsored by medical technology groups. Subsequent searches may be even more densely populated by advertisements owing to algorithmic online processes—referred to as *behavioral targeting*—that allow advertisers to target consumers based on web-browsing behaviors.⁷ Unbiased health information may be hard to find unless patients can read the medical literature.

Recognizing Incomplete or Imbalanced Information

Patients lack a framework for evaluating what they need to know about many medical treatments and surgical procedures and, therefore, whether the information they have received is adequate.⁶ Informational asymmetries distinguish health care decisions from decisions about other types of commonly advertised consumer goods, such as cars and cereal, for which consumers are better able to assess their needs and evaluate quality. A car

advertisement that fails to mention gas mileage or safety ratings, for example, may prompt a consumer to seek this information elsewhere. An advertisement for TAVR that fails to mention the potential for kidney injury or vascular complications is unlikely to prompt these questions. Poor-quality medical information is hard to recognize unless the person reading it is a clinician.

Influence on Health Care Decisions

An important shift away from medical paternalism in recent decades has meant that patient preferences are increasingly elicited and incorporated into health care decisions. In a randomized controlled trial with standardized patients, Kravitz and colleagues⁹ demonstrated the effect of advertising-influenced patient requests on physician prescribing practices: patients with depression who requested an antidepressant were nearly twice as likely to receive one as patients with depression who did not request a medication. Bioethicists Stark and Fins⁷ have written about how patient preferences for medical treatments are shaped by cognitive biases that may easily be exploited by online health care advertising. Initial exposure to a medical therapy via advertising, coupled with the repetition of straightforward and cohesive messaging in targeted advertising campaigns, may contribute to strongly held views related to an array of cognitive heuristics.

Thus, although the free flow of information is touted as a means of promoting patient autonomy, the crowded landscape of biased health care information on the Internet creates an environment in which it may be more difficult for patients to make informed health care decisions. An important first step toward ameliorating these risks would be to clearly label hospital websites in a manner that allows patients to identify them as advertisements. More resources are needed to create, and direct patients to, balanced online informational tools. Clinicians should ask patients what they have learned from online medical searches and assist them in forming a complete picture of the risks and benefits of treatment options. Finally, we must focus future attention not only on the content of health care advertising but on its impact. The risk that imbalanced information on US hospital websites may negatively impact patient decision making should be an area of close scrutiny and may provide support for stricter advertising regulations.

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