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REVIEW

Direct-to-Consumer Advertising of Pharmaceuticals

Ziad F. Gellad, MD, MPH,[a] Kenneth W. Lyles, MD[b]

[a]Division of Gastroenterology, Duke University Medical Center, Durham, NC; [b]Division of Geriatrics, Duke University Medical Center and Geriatric Research Education and Clinical Center (GRECC), Durham VA Medical Center, Durham, NC.

ABSTRACT

Since the US Food and Drug Administration (FDA) released new guidelines on broadcast direct-to-consumer advertising in 1997, the prevalence of direct-to-consumer advertising of prescription drugs has increased exponentially. The impact on providers, patients, and the health care system is varied and dynamic, and the rapid changes in the last several years have markedly altered the health care landscape. To continue providing optimal medical care, physicians and other health care providers must be able to manage this influence on their practice, and a more thorough understanding of this phenomenon is an integral step toward this goal. This review will summarize the history of direct-to-consumer drug advertisements and the current regulations governing them. It will summarize the evidence concerning the impact of direct-to-consumer advertising on the public, providers, and the health care system, and conclude with observations regarding the future of direct-to-consumer advertising.

KEYWORDS: Advertising; Direct-to-Consumer; Marketing; Pharmaceutical preparations; United States Food and Drug Administration

Direct-to-consumer advertising of prescription drugs is a powerful force in the health care market. Proponents claim that good direct-to-consumer advertising educates and empowers patients in their relationship with their health care providers.[1] Furthermore, they assert that direct-to-consumer advertising provides an opportunity for patients to talk with providers about under-diagnosed and under-treated medical conditions and may lead to improved health outcomes. Opponents of the practice argue that there is an inherent conflict of interest for pharmaceutical companies in advertising products directly to patients and that the decision to advertise is not based on concern for the public health but rather investment return.[2] Physicians and other health care providers are often caught in the middle of this debate trying to bridge the divide between consumer perception and medical reality. In order to be successful at this task, physicians need to be optimally informed about direct-to-consumer advertising and its effects on health care practice. This review will cover the history and prevalence of direct-to-consumer advertising of prescription drugs, current Food and Drug Administration (FDA) guidelines, the evidence to date regarding the effect of direct-to-consumer advertising on the public, physicians, and the health care system, and will conclude with observations regarding the future of direct-to-consumer advertising.

BACKGROUND

Direct-to-consumer advertising is not a new phenomenon. The first recorded advertisement of a pharmaceutical product occurred in the early 18th century, and the practice became widespread in the 19th and early 20th centuries.[3] Partially as a response to the proliferation of these advertisements, the United States Congress undertook a series of legislative steps to regulate drug advertisements. One of the first steps was the Federal Food, Drug, and Cosmetic Act (FDCA) in 1938 that established the FDA and required medications be proven safe prior to marketing. This act was amended in 1962 to require that medications be proven both safe AND efficacious prior to being advertised to the public.[4] The FDCA requires drug companies to provide a summary of the product label, including all the risk-related

Requests for reprints should be addressed to Ziad F. Gellad, MD, Division of Gastroenterology, Duke University Medical Center, Box 3913, Durham, NC 27710.

E-mail address: z.gellad@duke.edu

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information in a product's package labeling, in any promotional material. This is known as the *brief summary* requirement. Pharmaceutical companies found these regulations cumbersome and prohibitive to apply to the public, so pharmaceutical promotion was directed primarily at health care providers.[5] In the 1980s, pharmaceutical companies expanded direct-to-consumer advertising in magazines and newspapers with the intent of empowering consumers who were newly focused on the notion of patient autonomy.[6] After a brief moratorium and review, the FDA held that these consumer-directed advertisements should be held to the same standards as those directed to physicians. This decision limited the spread of direct-to-consumer advertising because pharmaceutical companies felt that the brief summary requirement would negate any promotional impact of advertisements in the minds of consumers.[4]

In 1997, after a series of public hearings on the topic, the FDA released draft guidelines regulating broadcast advertisements and dramatically changed the playing field by allowing the expansion of direct-to-consumer advertising into broadcast and electronic media (Table 1). Furthermore, drug companies were no longer required to provide a *brief summary* but instead could inform consumers of alternative sources for that information. This is known as the *adequate provision* requirement. This requirement could be fulfilled by referring consumers to a physician, a website, a toll-free telephone number, and a print advertisement.[7] The new guidelines required prescription drug broadcast advertisements to include information about the major risks of a drug and the most commonly occurring adverse effects only. This requirement is known as the *major statement*. With the finalization of this guideline in 1999, the modern era of direct-to-consumer advertising was born.

CLINICAL SIGNIFICANCE

- The United States and New Zealand are the only industrialized countries to allow direct-to-consumer advertising of prescription drugs.
- Direct-to-consumer advertising has increased exponentially since the release of new FDA guidelines in 1997 regulating broadcast advertisements.
- Direct-to-consumer advertising stimulates discussions between patients and providers and may stimulate increased prescription drug use.
- The future of direct-to-consumer advertising will depend, in part, on physicians' ability to manage this influence on their practice.

PREVALENCE OF DIRECT-TO-CONSUMER ADVERTISING

The FDA divides direct-to-consumer advertising into 3 categories (Table 2).[5] *Reminder advertisements* contain the name of a drug only and are designed to reinforce brand recognition; *Help-seeking advertisements* contain information about a disease or condition without mentioning a particular treatment; and *Product-claim advertisements* contain specific efficacy and safety information about a specific drug. The latter are regulated by the FDA, which requires that the advertisements present a fair balance of the risks and benefits of a drug. This is referred to as the *fair balance* requirement.

Since 1997, there has been a significant increase in the rate of growth of direct-to-consumer advertising in all 3 categories. In 2000, pharmaceutical companies spent $15.7 billion on drug promotion.[8] The majority of this money was

Table 1 FDA Guidelines on Direct-to-Consumer Drug Advertisements

Print Advertisements*	Broadcast Advertisements†
Brief Summary—Advertisements must disclose each side effect, warning, precaution and contraindication from the approved product professional labeling. FDA-approved patient labeling that focuses on the most serious risks and less serious, but most frequently occurring, adverse reactions is also acceptable. The latter must include: (1) All contraindications (2) All warnings (3) Major precautions, including any that describe serious adverse events (4) The 3-5 most common non-serious adverse reactions most likely to affect the patient's quality of life or compliance with drug therapy	Major Statement—Advertisements must disclose a product's major risks and most commonly occurring adverse effects in either the audio or audio and visual parts of the presentation and Adequate Provision—In place of brief summary, advertisements may make "adequate provision" for dissemination of package labeling with four alternative sources of information: (1) Toll-free telephone number (2) Referral to a print advertisement in a concurrently running print publication, or provision of enough brochures, with required product information, in convenient outlets (3) Referral to a health care provider (4) Internet web page address

*Amended in 2004 draft guidance from the FDA's Division of Drug Marketing, Advertising, and Communications in the Center for Drug Evaluation and Research, available at www.fda.gov/cder/Guidance/5669dft.pdf.

†Based on 1999 final FDA guidelines on consumer-directed broadcast advertisements, available at www.fda.gov/cder/guidance/1804fnl.pdf.

Table 2 Categories of Direct-to-Consumer Drug Advertisements

Category	Description	FDA Regulation
Help-seeking*	Contains information about a disease or condition with a recommendation to consult a health care provider if appropriate; Excludes discussions of specific treatments or drugs	No
Product-claim	Includes product's name and a therapeutic claim, including safety and efficacy	Yes
Reminder	Contains product's name only; Designed to reinforce brand recognition	No

Adapted from: Direct-to-consumer promotion; public hearing. *Fed Regist.* 1995;60:42581-42584.[5]

*If the only available treatment for a condition is a specific prescription drug product, help-seeking advertisements are not allowed.

earmarked for retail samples ($7.9 billion) and physician detailing ($4 billion), whereas $2.5 billion was spent on direct-to-consumer advertising. Between 1996 and 2003, there was a 400% increase in spending on direct-to-consumer advertising, from $791 million to $3.2 billion.[9] In 2004, the amount spent on direct-to-consumer advertising increased to over $4 billion, another 23% increase from the year prior.[10] Additionally, pharmaceutical companies increased emphasis on direct-to-consumer advertising as a means of drug promotion. For example, although total promotional efforts as a percentage of sales have remained constant, the proportion of sales devoted to direct-to-consumer advertising has increased and has done so at a faster rate than expenditures for research and development.[11,12]

As compared with physician detailing, spending on direct-to-consumer advertising is focused on a more limited array of products. In fact, the top 20 advertised drugs in 2000 accounted for approximately 60% of all spending on direct-to-consumer advertising.[12] The most heavily advertised classes include antidepressants, antihistamines, antihyperlipidemics, proton pump inhibitors, and anti-inflammatory agents. In 2000, the top spender was Merck. The $161 million they spent advertising Vioxx rivals the marketing dollars spent by Dell ($160 million), Budweiser ($146 million), Pepsi ($125 million), or Nike ($78 million) in the same year.[12]

DIRECT-TO-CONSUMER ADVERTISING AND THE PUBLIC

With such significant expenditure, there is little surprise that direct-to-consumer advertising reaches a wide audience in the United States. In 2004, Brownfield et al reported that during a 1-week period in Atlanta, the 3 major networks broadcast 907 advertisements for over-the-counter medications and 428 advertisement for prescription drugs.[13] Sixty percent of all direct-to-consumer advertising in this study occurred during news programs and soap operas, arguably targeting older adults and women. The authors conclude that based on average television viewing in the United States, an adult is exposed to 100 minutes of direct-to-consumer advertising for each minute they spend with their doctor each year.[13]

Furthermore, multiple sources have documented almost universal awareness of direct-to-consumer advertising. The most recent FDA survey on the topic reported that 81% of respondents were exposed to direct-to-consumer advertising in 2002, a significant increase from 72% in 1999.[14] *Prevention* magazine, which annually performs a series of national phone surveys on the topic, identified lower recognition among minorities and those with household incomes below $25,000. Women were more likely to be aware of direct-to-consumer advertising than men.[15]

Despite widespread recognition of direct-to-consumer advertising, patient perceptions about the quality of advertisements is variable. Based on 2002 FDA data, 58% of consumers believe direct-to-consumer advertising provides enough information to make a decision about whether to discuss an advertisement with a doctor. This is down from 70% the year prior. Sixty percent of people felt advertisements did not provide enough information about risks, and 44% stated that the advertisements lacked sufficient information about benefit.[9] These findings are not surprising when studies show that most broadcast advertisements give consumers more time to absorb facts about benefits than those about risks, and risks are presented at a higher grade level (9th grade) as compared with benefits (6th grade).[16] Similarly, an analysis of prescription drug websites found that the homepage often disproportionately emphasizes benefits at the expense of risks.[17]

Perhaps indicative of these findings, significant misconceptions exist on the part of consumers. A 1998 survey in California revealed that 50% of respondents thought direct-to-consumer advertisements were submitted to the FDA for approval prior to release. Similarly, 43% of respondents thought that only "completely safe" drugs could be advertised, and 21% thought that only "extremely effective" drugs were advertised.[18]

Another important issue to consider is the effect of direct-to-consumer advertising on patient behavior. In 2002, 43% of respondents to the FDA survey reported that seeing a drug advertisement led them to look for more information about the drug; the majority of respondents (89%) obtained information from their doctor, while pharmacists (51%), reference books (40%) and the internet (38%) also were sources.[14] Most consumers looked for more information about side effects as compared with benefits (61% vs 10%). Only 4% of patients reported seeing their doctors solely because of direct-to-consumer advertising. Of those who had seen an advertisement, 30%-35% discussed the adver-

tisement with their doctor. This translates into 61.1 million additional consumers asking about specific medications in a single year.[11]

DIRECT-TO-CONSUMER ADVERTISING AND THE PHYSICIAN-PATIENT RELATIONSHIP

Of significant concern to the medical community is the criticism that direct-to-consumer advertising undermines the physician-patient relationship.[19] In studying this issue, the 2002 FDA survey showed mixed results. For example, 73% of patients did not believe direct-to-consumer advertising minimized the role of physicians in making product decisions. In fact, 43% felt direct-to-consumer advertising helped them have better discussions with their doctor (down from 62% in 1999). However, 10% of respondents were hesitant to talk to their doctor about a drug because of fear of creating the impression of distrust with the doctor (up from 7% in 1999).[14] *Prevention* magazine in 2001 found 27% of respondents felt their visit with their physician was better because they discussed an advertisement.[15]

When polling physicians, a similar mixed picture emerges.[14] Forty-one percent of physicians reported direct-to-consumer advertising exposure led to benefits such as better discussions with patients and greater awareness of treatments. Eighteen percent felt direct-to-consumer advertising led to problems such as increased time to correct misconceptions, requests for unnecessary drugs, and requests for a drug therapy when a nonpharmacologic therapy might be as or more effective. Similarly, 41% of physicians felt that the patient was confused about the efficacy of a drug, and only 40% felt that patients understood the risks of a drug after seeing a drug advertisement. Overall, advertising led to tension in a quarter of patient interactions, and primary care physicians were more likely to report problems than specialists.[14]

DIRECT-TO-CONSUMER ADVERTISING AND PHYSICIAN BEHAVIOR

Physicians are more likely to prescribe a medication when they believe that the patient has an expectation to receive that medication.[20,21] By stimulating consumer demand, pharmaceutical companies hope to increase physician prescriptions for a particular product. About half of physicians in the FDA survey reported some pressure to prescribe as a result of direct-to-consumer advertising, with primary care physicians again more likely than specialists to report pressure. Approximately 73% of primary care physicians felt patients expected a prescription, compared with 63% of specialists. In fact, patients who asked for a particular brand were more likely to receive the drug than those who did not ask.[14] The Government Accountability Office (GAO) estimates that about 8.5 million Americans received a prescription drug in 2000 after viewing a drug advertisement and asking their physician for that drug.[11]

Evidence of this phenomenon of advertising-induced demand also can be found in the medical literature. In 2003, Hollon et al reported that women familiar with osteoporosis drugs due to direct-to-consumer advertising had 9 times the odds of having bone densitometry performed as compared with matched controls.[22] In 2005, Kravitz et al found that that physicians were significantly more likely to prescribe antidepressants for standardized patients with depression if the patients made a brand-name drug request or a general drug request as compared with no request at all.[23] Furthermore, patients were more likely to receive "minimal acceptable initial care" for depression if they requested a medication, illustrating a positive effect of patient empowerment. However, physicians also were more likely to prescribe antidepressants for standardized patients with adjustment disorder, despite minimal evidence of their benefit in this disorder. The authors suggest that their findings may indirectly support the notion that direct-to-consumer advertising stimulates prescribing for questionable indications.[23]

DIRECT-TO-CONSUMER ADVERTISING AND PUBLIC HEALTH

The findings by Kravitz et al illustrate the difficulty in deciphering the effect of direct-to-consumer advertising on the public health system. The effect of increasing prescriptions is dependent on the condition for which the drug is prescribed; that is, when an indication is appropriate and the condition being treated is under-diagnosed, direct-to-consumer advertising may improve overall health. However, when an indication for therapy is inappropriate and a condition is over-diagnosed, direct-to-consumer advertising may worsen overall health and strain the health care system.

One area that is especially susceptible to strain is health care costs. Opponents argue that direct-to-consumer advertising increases health care utilization and cost by stimulating prescription drug use. In 2002, the GAO reported that most of the spending increase for heavily advertised drugs resulted from increased drug utilization.[11] In the same report, the GAO estimated that every 10% increase in direct-to-consumer advertising for a drug class results in a 1% increase in sales for that class. Furthermore, ecological data from the Netherlands suggests that help-seeking advertisements can lead to increased physician visits for a particular condition.[24] Prescription drugs costs are already one of the fastest growing segments of health care. In 2005, it is estimated that the United States could have saved $20 billion in prescription drug costs if generic drugs had been substituted for brand-name equivalents.[25] If physicians are pressured to prescribe newer, more expensive, prescription drugs as a result of direct-to-consumer advertising, the costs to the health care system could be significant.

THE FUTURE

The health care market in the United States is a dynamic system. Direct-to-consumer advertising emerged from relative obscurity in 1997 to become a potent force shaping the future of health care. The United States and New Zealand

are the only countries in the world at present to allow it. Several factors may alter the course ahead. First and foremost, for direct-to-consumer advertising to be effective in creating interest in a product, consumers have to be willing to pay attention. FDA data discussed above suggest that interest in direct-to-consumer advertising has waned among the public.[14] Secondly, pharmaceutical companies are concerned about ever-increasing liability from direct-to-consumer advertising. In 1999, the New Jersey Supreme Court ruled in *Perez v Wyeth Laboratories* that drug manufacturers have a legal obligation to warn consumers directly of the risks of their products and cannot rely solely on physicians to provide that information to the public.[26] The outcome of Merck's legal battles concerning Vioxx will undoubtedly play a role in this debate as well. Finally, a collective concern has arisen from the medical community about these advertisements. The American Medical Association, in June 2006, called for a moratorium on direct-to-consumer advertising of new prescription drugs.[27] Similarly, the American College of Physicians has stated that direct-to-consumer advertising is inappropriate and in the absence of legislation banning the practice, increased regulation is necessary to protect the public from harm.[19]

The FDA also is concerned about the effect of direct-to-consumer advertising on health care but is limited in its ability to regulate the industry. The Division of Drug Marketing, Advertising, and Communications has only 40 employees to review all direct-to-consumer advertising.[19] The GAO found that the FDA's ability is hampered because it cannot ensure that it receives all direct-to-consumer advertising for review prior to release, and it cannot release regulatory letters to violators in a timely fashion.[11] The pharmaceutical industry introduced its own set of guiding principles in November 2005 that encouraged its member companies to submit all new direct-to-consumer advertising to the FDA before release, educate health professionals about new medications prior to advertising to the public, and ensure a fair balance of the risks and benefits in all advertisements.[1] It remains unclear what effects these voluntary guidelines will have.

CONCLUSIONS

Pharmaceutical companies continue to increase funding for direct-to-consumer advertising. Evidence discussed above suggests that direct-to-consumer advertising stimulates patient demand for pharmaceuticals, may influence physician prescribing habits, and likely increases drug spending. Consumers are aware of these advertisements, and discussions about them are becoming part of the routine provider-patient relationship. As the phenomenon of direct-to-consumer advertising evolves and the prevalence increases, providers need to continue in their role as advocates for patients. To do this effectively, providers should stay educated about new medications and the evidence for their use. Providers need to understand that patients may not have adequate information about a particular drug from advertisements, especially risks, and that specific reinforcement of the risks of a drug is key to assuring that the patient makes an informed decision. Additionally, providers may want to prepare printed material for patients ahead of time for some of the most heavily advertised drugs. This may save time during the visit for other concerns and reinforce the provider's role as advocate rather than create tension during a visit. Finally, it is important to understand that patient questions and inquiries do not necessarily represent expectations for a particular drug, but rather are opportunities to strengthen the provider-patient bond.[28] This bond remains the foundation of optimal medical care.

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