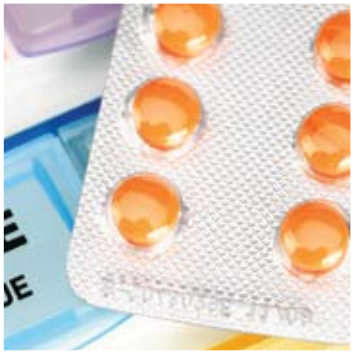
PHARMACEUTICAL MARKETING IN PERSPECTIVE

Its Value and Role as One of Many Factors Informing Prescribing

PhRMA

One role of pharmaceutical research companies is to provide information about their medicines to health care professionals. This interaction between pharmaceutical representatives and health care professionals is often referred to as "marketing and promotion." Without it, health care professionals would be less likely to have the latest, accurate information available regarding prescription medicines, which play an increasing role in effective health care.



Direct communication between health care professionals and pharmaceutical research companies is a part of the companies' mission of developing medicines that patients use to live longer, healthier, and more productive lives. This communication enables pharmaceutical research companies to inform health care professionals about the benefits and risks of their products, provide scientific and educational information about their use, and obtain information and advice about their medicines through consultation with medical experts.

This brochure reviews the evidence about:

- The value of pharmaceutical marketing and promotion;
- How the patterns of prescribing among health care practitioners relate to pharmaceutical marketing; and
- The role of pharmaceutical marketing among the full range of influences on physician prescribing.

Value of Pharmaceutical Marketing and Promotion

The FDA-regulated, scientifically-based information conveyed by pharmaceutical company representatives to physicians helps disseminate knowledge about medicines. Providing physicians with up-to-date information about pharmaceutical products supports appropriate care decisions and can lead to better health outcomes.

Bringing information about new treatments into the health care system often is challenging and requires significant effort. Even many years after new types of medicines are introduced, a large share of patients who should be using them according to clinical practice guidelines go untreated. In fact, these treatment gaps are often viewed as serious public health problems that lead to poor patient outcomes and high health costs—both human and economic—that could have been avoided.

Pharmaceutical representatives also provide physicians and other health care professionals with information about new studies and clinical data, new dosing information, and updates on safety and risk information. Timely access to this information helps support effective patient care, and pharmaceutical representatives disseminate it to health care providers.

Prescription Marketing Helps Addresses Treatment Gaps. While pharmaceutical marketing often is viewed as leading to overuse of medicines, data across scores of peer-reviewed studies demonstrates that medicines used to treat many conditions are far more likely to be underused than overused.[1] Pharmaceutical marketing can play a role in

raising awareness of the need for treatment and helping patients get the treatment they need.

The problem of ongoing treatment gaps was discussed in a 2003 *New England Journal of Medicine* article authored by Claude Lenfant, then the Director of the National Institutes of Health (NIH) National Heart, Lung and Blood Institute. The article cited underuse of beta blockers, cholesterol screening and treatment, and aspirin (along with other services) for heart attack and coronary artery disease patients to illustrate the "lack of success we have had in translating research findings into medical practice and personal behavior," and concluded that as a result of such gaps "we are not reaching the full public health benefits of our investment in research."[2]

The gap between necessary care and the care patients actually obtain indicates that new medicines cannot be expected to enter into appropriate use based solely on the clinical evidence supporting them. In the absence of active dissemination of information about medicines to both physicians and consumers, the gap would likely be even larger.

For example, a study by Harvard economist David Cutler and then-Stanford researcher Mark McClellan points out that through promotional activities, "Manufacturers of SSRIs [then a new type of antidepressant medicine] encouraged doctors to watch for depression and the reduced stigma afforded by the new medications induced patients to seek help."[3] Nonetheless, of the 19 million Americans with depression, over half of these individuals remain untreated.[4]

Similarly, marketing and promotion efforts have helped raise physician awareness of the most recent clinical practice guidelines. In the case of high cholesterol, the NIH updated their National Cholesterol Education Program [NCEP] guidelines in May 2001. These guidelines called for greater numbers of individuals to be treated for high cholesterol. According to an October 2002 article in the *American Journal of Managed Care*, "[c]oncurrent public and private efforts aimed at physicians and consumers were related to increased diagnosis and treatment. Physician-directed initiatives have included pharmaceutical industry marketing, continuing medical education programs, and promotion of NCEP guidelines."[9] According to a *Journal of the American Medical Association* article,

Gaps in the Treatment of Disease: The Reality

RAND research on vulnerable elders published in the *Annals of Internal Medicine* found that when quality of care standards for medication management were failed, 50 percent of the time it was because an indicated medication was not prescribed, while only 3 percent were failed because an inappropriate medication was prescribed.[5]

A 2003 study in the *Journal of Managed Care Pharmacy* examined data from three of the 10 largest health plans in California and concluded that effective medicines appear to be underused for three of four conditions studied—asthma, congestive heart failure and depression. The researchers concluded that "the results are particularly surprising and disturbing when we take into account the fact that [asthma, congestive heart failure, and depression] are known to produce high costs to the health care system."[6]

A 2002 study published in *Arthritis & Rheumatism* examined whether patients at high risk for additional fractures were being evaluated and treated effectively for osteoporosis. The study found that only 2–10 percent of patients received treatment.[7]

A 2005 Stanford Medical School study published in *Public Library of Science-Medicine* found that among patients at high risk for heart attack who had high cholesterol, fewer than half of patient visits resulted in a statin being prescribed.[8]

overcoming barriers to use of treatment guidelines—such as lack of awareness and familiarity— "should improve quality of care by decreasing inappropriate variation and expediting the application of effective advances to everyday practice."[10]

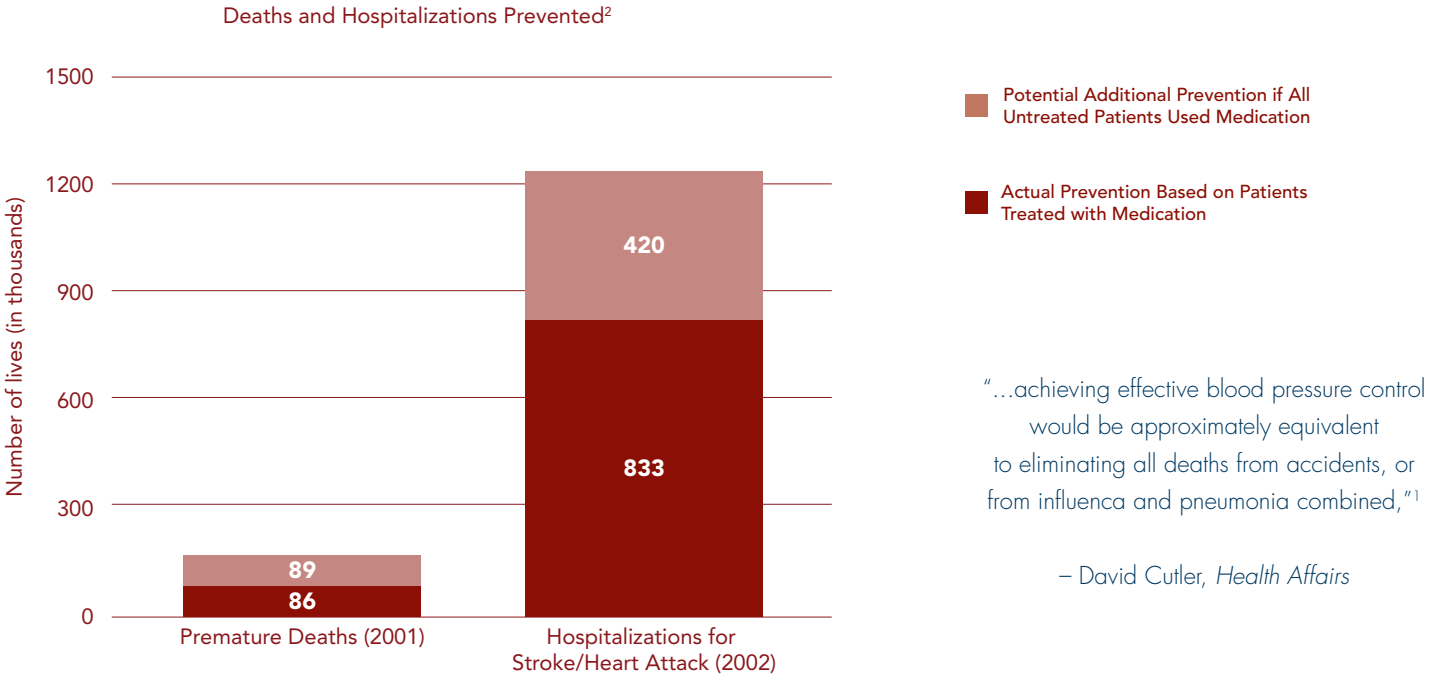
Pharmaceutical Marketing Helps Raise Awareness About Treatments for Chronic Diseases, the Leading Driver of Health Care Spending. Chronic conditions such as diabetes, depression, hyptertension and asthma are increasingly prevalent. Many patients with these conditions are not treated at all or are not treated according to recommended guidelines. Analysis of Center for Disease Control an Prevention (CDC) data from 2003-2004 shows that approximately 29 million Americans with hypertension, 9 million with diabetes, and 50 million with hyperlipidemia are undiagnosed or diagnosed but untreated.[11]

Chronic conditions are extremely costly. According to the CDC, people with chronic conditions now account for 75 percent of total health care spending.[12] For example, Harvard and MIT researchers estimate that if all patients with high blood pressure were treated optimally with antihypertensive medicines, an additional 89,000 premature deaths and 420,000 hospitalizations would be avoided annually (Figure 1), saving annually $10.7 billion in total direct medical costs from fewer strokes and $5.8 billion from fewer heart attacks.[13]

Pharmaceutical marketing can help narrow these treatment gaps. For example, in 2003, Francine Kaufman, M.D., then-President of the American Diabetes Association (ADA), credited patient advocacy organizations like ADA, along with pharmaceutical companies, with helping narrow the gap between the standard of care for diabetes, which had become increasingly complex with the

Figure 1

EFFECTIVE USE OF ANTIHYPERTENSIVE MEDICINES COULD AVOID AN ADDITIONAL 89,000 DEATHS AND 420,000 UNNECESSARY HOSPITALIZATIONS PER YEAR[2]



"…achieving effective blood pressure control would be approximately equivalent to eliminating all deaths from accidents, or from influenca and pneumonia combined,"[1]

– David Cutler, *Health Affairs*

Source: [1]D. Cutler, et al., "The Value of Antihypertensive Drugs: A Perspective on Medical Innovation, " *Health Affairs*, Vol.26, No. 1, 2007: 97-100; [2]Centers for Disease Control and Prevention (2006), *Health, United States, 2006, with Chartbook on Trends in Health of Americans*, National Center for Health Statistics, p 559.

introduction of new agents, and actual practice.[14] Moreover, pharmaceutical companies are among the few participants in the health care system with an incentive to provide information about new medicines; others have incentives to steer patients and prescribers toward older generic medicines.

Pharmaceutical Marketing Ensures Timely Access to New Studies, Clinical Data, Dosing Information, and Updated Drug Safety Profiles. Many physicians find it at least somewhat difficult to stay informed about medications or therapies.[15] This poses a challenge: not only do physicians need to know about the treatment options available, they also need to keep abreast of emerging drug safety and risk information that could affect their prescribing decisions.

Pharmaceutical company representatives provide one source of help in bridging this information gap by providing physicians with the latest clinical evidence and updated drug safety and risk profiles as they develop. This helps speed the translation of clinical evidence into clinical practice, and can help improve patient outcomes. A recent KRC Research physician survey sponsored by PhRMA confirmed the value of this function: over 90 percent of physicians surveyed agreed that pharmaceutical representatives provide up-to-date, useful and reliable information (Figure 2).[16] The vast majority of physicians find it useful that pharmaceutical representatives provide information about drug interactions, the latest drugs and treatments, and patient assistance programs (Figure 3).[17] Physicians also recognize value in pharmaceutical representatives answering their specific questions and relaying reports of side effects and other experiential information to manufacturers.[18]

Pharmaceutical Marketing: One of Many Factors Informing Prescribing

In addition to the value pharmaceutical marketing and promotion provides in disseminating knowledge about new medicines and treatment guidelines, pharmaceutical marketing helps balance other aspects of our health care system. Debate about pharmaceutical marketing and promotion often assumes that it is the sole factor informing prescribing. Other factors—including benefit design and utilization management techniques used by insurers, as well as peer-reviewed research—clearly play a larger role in determining which medicine a patient receives.

It is important for policymakers to consider the full range of factors informing prescribing and the role played by each, rather than focusing exclusively on marketing by pharmaceutical companies. Restricting pharmaceutical marketing would likely significantly reduce the dissemination of information about new treatments without replacing that information from another source, while the influence of other factors would remain unaffected or increase.

The Majority of U.S. Prescriptions Are for Generic Drugs, Demonstrating the Role of Factors Other Than Pharmaceutical Marketing. Pharmaceutical companies market brand-name drugs. Nonetheless, in 2007, generics accounted for:

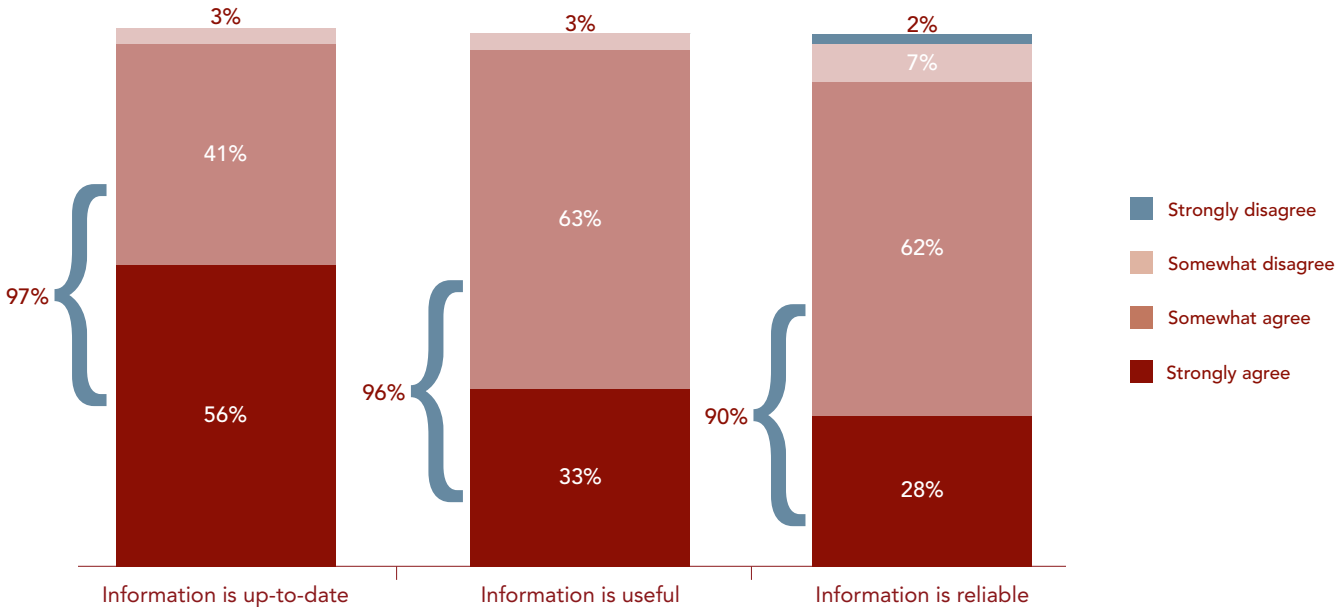
- 9 of the 10 most frequently prescribed drugs in the United States;[19]
- 13 of the 15 most frequently prescribed drugs for Medicare beneficiaries;[20] and
- 67 percent of all prescriptions filled.[21]

This high level of generic use (up from about 47 percent in 2000)[22] demonstrates that pharmaceutical marketing to physicians and consumers does not determine the number and type of medicines that patients use. Public and private insurers heavily promote generic use and the generic use rate is consistent with the tools payers use (described below) to influence physician and patient decisions about which medicines to use.[23] Notably, the U.S. generic use rate is one of the highest among developed countries[24], notwithstanding pharmaceutical marketing to physicians in the U.S.

Physician Surveys Report Peer-Reviewed Studies, Peers, Formularies and Guidelines, Have Greater Influence on

Figure 2

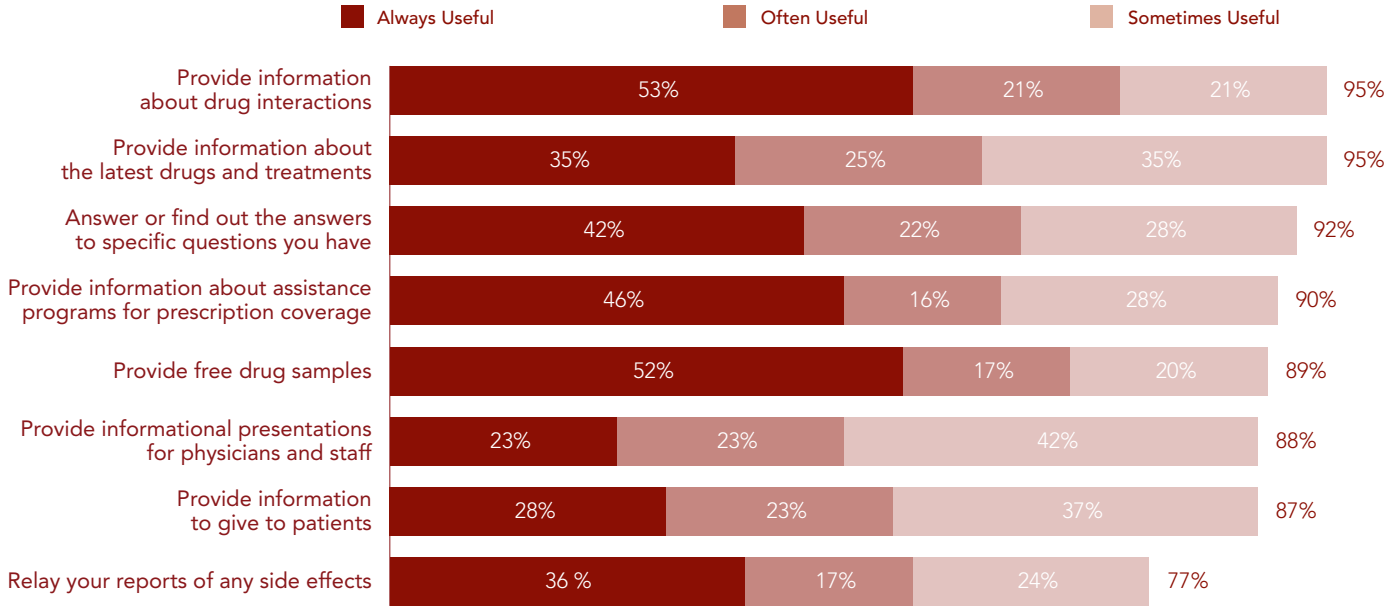
MOST PHYSICIANS SAY INFORMATION FROM PHARMACEUTICAL COMPANY REPS IS UP-TO-DATE, USEFUL, AND RELIABLE



Source: KRC Research, Survey of Physicians about Pharmaceutical and Biotech Research Activities and Information, Commissioned by PhRMA, March 2008.

Figure 3

PHYSICIANS VALUE THE WORK OF PHARMACEUTICAL AND BIOTECH RESEARCH COMPANY REPRESENTATIVES



Source: KRC Research, Survey of Physicians about Pharmaceutical and Biotech Research Activities and Information, Commissioned by PhRMA, March 2008.

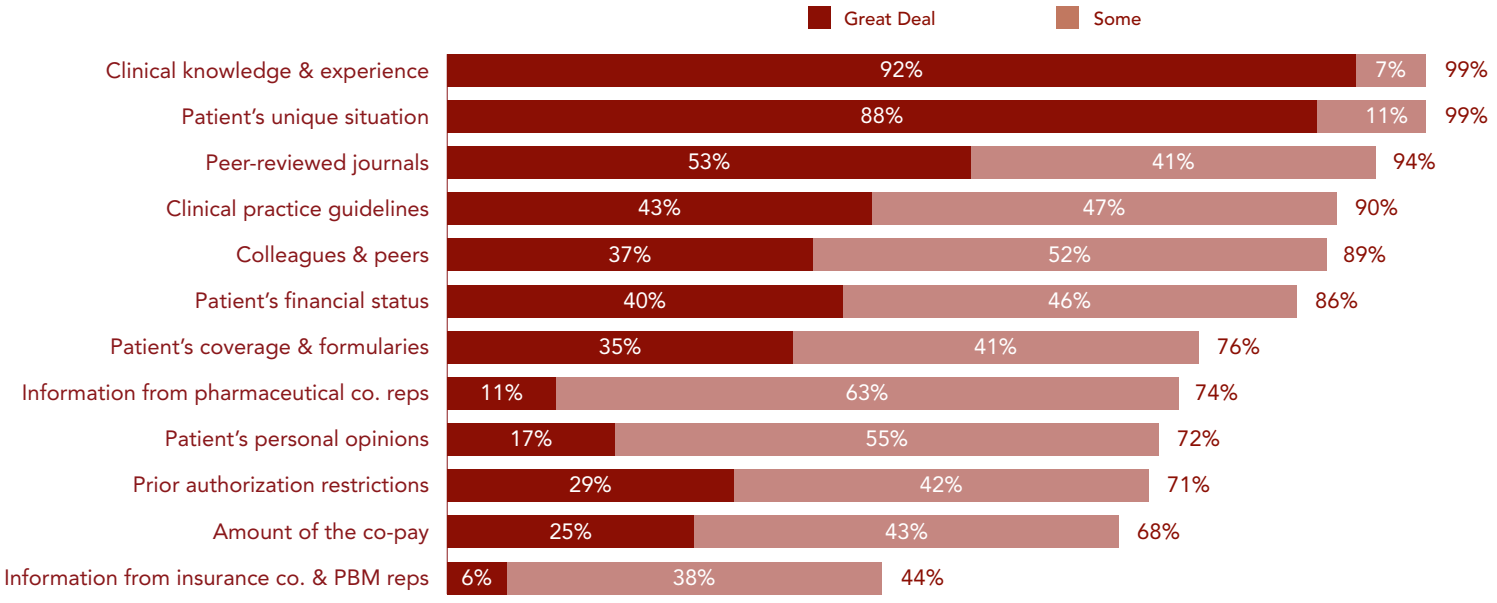
Prescribing than Pharmaceutical Company Marketing. Physician surveys consistently report that many factors play a more prominent role than pharmaceutical marketing in prescribing decisions:

- In a 2002 physician survey by the Boston Consulting Group, 54 percent of physicians reported that formularies have a major impact on prescribing decisions. Among the other factors identified as having a major impact were peers (50 percent) and clinical practice guidelines (47 percent), with pharmaceutical representatives at 14 percent.[25]
- A 2007 physician survey by the Tufts Center for the Study of Drug Development yielded broadly similar results: asked to identify factors very important in prescribing decisions, continuing medical education (67 percent), information from peers (43 percent), and payers' decisions (37 percent) outweighed information from pharmaceutical companies (13 percent).[26]
- In a 2008 KRC Research survey, physicians reported giving more weight to their clinical knowledge and experience, the patient's particular situation, peer-reviewed journal articles, clinical practice guidelines, their colleagues and peers, and the patient's financial status than to information from pharmaceutical companies when prescribing medication (Figure 4). In identifying information that influenced prescribing a "great deal," about five times as many physicians (55 percent) identified peer-reviewed literature and three times as many (35 percent) identified the patient's formulary as identified information from pharmaceutical companies (11 percent).[27]

Public and Private Payers Strongly Influence Which Medicines Patients Will Receive. Public and private insurers and prescription benefit managers (PBMs) apply utilization management techniques to prescription drugs.[28] These techniques steer patients and physicians toward use of some drugs and away from others by varying the terms of coverage for particular drugs. Utilization management tools typically are designed to increase use of generics over brand medicines, and use of brand medicines insurers have designated as "preferred" over non-preferred brand medicines. As a result, nearly all medicines used by insured patients are either generic or preferred brand.[29]

Figure 4

FACTORS PHYSICIANS CONSIDER WHEN PRESCRIBING



Source: KRC Research, Survey of Physicians on Pharmaceutical Information, Commissioned by PhRMA, March 2008.

While pharmaceutical companies use FDA-regulated information to inform physicians and patients about new medicines in advance of a prescribing decision, utilization management techniques clearly have a strong effect at the actual point of prescribing. This is evident in a study on the effect of direct-to-consumer advertising on the demand for pharmaceuticals, which found that direct-to-consumer advertising may increase demand for a particular drug, but only if that brand has a favorable status on the insurer's formulary.[30] As discussed on page 8, another study demonstrated that prior authorization of certain atypical antipsychotics in a public insurance program significantly shifted prescribing.[31]

Some of the utilization management techniques used by insurers and prescription benefit managers to promote prescribing of generic and preferred brand drugs include:

- *Formularies*. A formulary is a list of drugs approved for use and reimbursement by an insurer. Drugs make it on a formulary based on (1) an insurer or PBM's Pharmacy & Therapeutics (P&T) Committee assessing the evidence about a drug and (2) the price that the insurer or PBM negotiates with the manufacturer. Drugs not listed on the formulary are not covered, creating a strong disincentive for their use. This suggests that the medicines being used are meeting with health plans' approval. Insurers and PBMs point to the rigor of their formulary review process. For instance, Aetna states, "drugs chosen for our formulary have gone through an extensive review process. Our formulary selection process is structured so that there are internal and external physicians and pharmacists offering clinical input about the medications under consideration. The drugs listed on the preferred drug list either represent an important therapeutic advance, or are clinically equivalent and possibly more cost-effective than other drugs not on our preferred drug list."[32] In fact, virtually all drugs used by insured patients are drugs on the preferred tiers of formularies, suggesting that the medicines being used are meeting with health plans' approval.

- *Tiered Copays*. Most insurers and PBMs use tiered formularies, which include a broad range of drugs organized into multiple tiers of coverage. Generally, there are separate tiers for generics, "preferred brand" and nonpreferred brand drugs. Some plans are increasing the number of tiers: according to Kaiser Family Foundation, in 2007 approximately 7 percent of covered workers were in plans with a fourth tier.[33]

The patient's out-of-pocket payment for drugs on each tier is set to steer patients to use generics over brands (evident in the high and increasing generic use rate noted above) and "brands that plans prefer,"[34] over non-preferred brands.[35] Commonly, generic drugs, listed on tier 1, have the lowest copay, or per prescription payment by the patient, in order to promote their use. In 2007, this averaged $11 per prescription.[36] Brand drugs that the insurer designates as "preferred," based on its assessment of therapeutic value and cost,[37] are typically on tier 2, which averaged a $25 copay in 2006. Non-preferred brand drugs, listed on tier 3, averaged a $43 copay.[38] Between 2000 and 2007, the share of workers in a plan with three or more tiers of cost-sharing for prescriptions increased from 27 percent to 68 percent.[39]

A large body of research reports that formulary tiering significantly affects treatment patterns. For example, studies show that changes in tiering design (number of tiers and copayments in each tier) and which tier a drug is placed on lead to large changes in how many and which medicines patients use. This occurs even when the medicines being moved across tiers are promoted to physicians and advertised to patients by pharmaceutical companies.

A 2003 study in the *New England Journal of Medicine*[40] found that when employers switched from 1-tier and 2-tier formularies to 3-tier formularies, about half of enrollees who had been taking statins (used to treat high cholesterol) covered on tier 3 of the new formulary switched to statins covered on tiers 1 and 2. Similar results were reported for two other types of medicines studied—ACE inhibitors to control blood pressure and proton pump inhibitors (PPIs) that treat gastroesophogeal reflux disease. Another study of the same three types of medicines came to the same conclusion, "Tiered prescription copayments were associated with a significant shift from nonpreferred to preferred brand medications."[41]

Tiered Copays: Impact on Medication Use and Patient Adherence

Numerous studies have demonstrated the impact of tiered formularies.[42] Most notable among these is a RAND review of 132 studies from around the world, which showed that for each 10 percent increase in patient cost-sharing, prescription drug use fell between 2 and 6 percent depending on the condition and therapeutic class.[43] The authors conclude that "increased cost sharing is associated with lower rates of drug treatment, worse adherence among existing users, and more frequent discontinuation of therapy. . . . For certain conditions, the evidence clearly indicates that more cost sharing is associated with increased medical use of other services, such as hospitalizations and emergency department visits."

Notably, formulary changes had these effects even though pharmaceutical companies promoted brand-name drugs of the types studied to physicians and/or advertised to consumers during the period covered by the research. This is consistent with the finding, noted on page 7, that direct-to-consumer advertising may increase demand for a particular brand-name drug, but does so only if that brand has a favorable status on the insurer's formulary.

In light of the numerous studies reporting that copay increases reduce use of any medicine and compliance with physician-prescribed therapy, often accompanied by increased use of hospital and emergency care,[44] some forward-looking employers are now reversing the trend of increasing copays. Instead, they are reducing copays for some generic and brand-name drugs to improve health reduce costs by encouraging increased use of medicines that treat chronic illnesses.[45]

- *Prior Authorization*. Under prior authorization (PA) programs, insurers do not cover a medicine prescribed by a physician unless the insurer first "prior authorizes" use of that medicine. This requires the patient's physician to fill out a form justifying use of the particular drug; based on the information provided, the insurer decides whether to cover the drug.

  Prior authorization significantly diminishes prescribing of the drugs to which it is applied. For instance, a 2008 study in *Health Affairs* reported that the Maine Medicaid program's implementation of prior authorization and step therapy for atypical antipsychotics markedly changed prescribing patterns[46], even in this sensitive class of medicines. After Maine implemented prior authorization, use of atypical antipsychotics not requiring PA increased while use of those requiring PA decreased even among continuously enrolled patients already on the medicines. Among new users of atypical antipsychotics, the effect was even larger, with the share using atypical antipsychotics subject to PA declining from about 40 percent before the policy started to 29 percent during the policy, while use of drugs not subject to PA increased. The authors conclude, "our findings suggest that step therapy and PA of AAs for patients with schizophrenia may result in suboptimal use of essential medications."

- *Step Therapy*. Step therapy programs require that physicians and patients try drugs in a certain order rather than first prescribing the drug most suited for a patient.[47] Thus, a step therapy program might require that patients first try a generic antidepressant, with a brand antidepressant that does not have a generic copy covered only if the patient fails to improve on the generic.

- *Physician Profiling, Feedback, and Counter-detailing*. Insurers and PBMs operate programs that examine physicians' prescribing patterns, provide feedback to them, and "counter-detail" them to promote the use of generics. For instance, in its 2007 Drug Trend Report, Medco, one of the nation's largest PBMs, describes a program it launched with an employer client. In addition to providing employees with handouts and emails "that promoted generics" and asking

employees to sign a "Generic Pledge Card", the program included elements that directly targeted physicians:

> "Top-prescribing physicians were also targeted with a multifaceted communications strategy. These physicians received generic medication samples, as well as quarterly mailings outlining the objectives for the "Improve Generic Drug Utilization" project. The mailing provided progress reports using Six Sigma® statistical process control (SPC) charts. The top 50 prescribing physicians also received periodic reports on their individual generic substitution rate (GSR), GDR [generic dispensing rate], and dispense-as-written (DAW) performance metrics."[48]

Unlike marketing to physicians by pharmaceutical companies, this type of program is not required to comply with FDA regulations.

- *Financial Incentives to Physicians and Pharmacists to Promote Therapeutic Interchange and High Generic Use Rates*. With therapeutic interchange, insurers and PBMs encourage physicians who have prescribed non-preferred medicines to switch patients to a different medicine, typically a generic or preferred brand, in the same therapeutic class.[49] As an incentive, physicians are sometimes offered financial rewards for switching patients to a different medication[50] or to increase their generic prescribing rate.[51]

  Additionally, some insurers and PBMs employ pharmacists to call physicians to advise on switching opportunities.[52] According to the 2008 KRC survey, eight in ten physicians report that they are asked by insurers and pharmacists to switch from a drug they prescribed to another drug (not a generic copy of the one they prescribed). Fifty-six percent said they are asked to switch at least one out of every ten times they write a prescription. The remaining 44 percent reported being asked to switch more often.[53] Finally, some insurers and PBMs financially reward pharmacies for achieving high dispensing rates of generics and preferred brands.[54]

Conclusion

Pharmaceutical marketing and promotion provides value to physicians by providing FDA-regulated educational and scientific information about new medicines. However, marketing of new medicines by pharmaceutical companies is only one factor considered by physicians. This marketing does not exist in a vacuum—physicians' judgment and experience, many other sources of information, formularies and other utilization management techniques all play a large role in determining what, if any, medicine a patient receives. While pharmaceutical marketing is far from the sole source of information for physicians, it plays an important role in providing information about brand medicines and helps balance other factors that emphasize promoting older treatments and that reduce use of needed medicines.

ENDNOTES

[1] See, for example: T. Higashi et al., "The Quality of Pharmacologic Care for Vulnerable Elder Patients," *Annals of Internal Medicine*, May 4, 2004; K.Gilberg et al., "Analysis of Medication Use Patterns: Apparent Overuse of Antibiotics and Underuse of Prescription Drugs for Asthma, Depression, and CHF," *Journal of Managed Care Pharmacy*, May/June, 2003; J. T. Harrington, "Hip Fracture Patients Are Not Treated for Osteoporosis: A Call to Action," *Arthritis & Rheumatism*, 2002; and J. Ma, "National Trends in Statin Use by Coronary Heart Disease Risk Category," *Public Library of Science-Medicine*, May 2005.

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[13] D. Cutler, et al., "The Value of Antihypertensive Drugs: A Perspective on Medical Innovation, *Health Affairs*, January/February 2007.

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[15] KRC Research, Survey of Physicians about Pharmaceutical and Biotech Research Activities and Information, Commissioned by PhRMA, March 2008.

[16] *Ibid.*

[17] *Ibid.*

[18] *Ibid.*

[19] IMS National Prescription Audit Plus.

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[21] IMS Press Release, "IMS Reports U.S. Prescription Sales Grew 3.8 Percent in 2007, to $286.5 Billion," March 12, 2008.

[22] R. Frank, "The Ongoing Regulation of Generic Drugs," *New England Journal of Medicine*, November 15, 2007.

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[34] T.S. Rector et al., "Effect of Tiered Prescription Copayments on the Use of Preferred Brand Medicines," *Medical Care*, March 2003.

[35] See P. Landsman et al., "Impact of 3-Tier Pharmacy Benefit Design and Increased Consumer Cost-sharing on Drug Utilization," *The American Journal of Managed Care*, October 2005 and T.S. Rector et al., "Effect of Tiered Prescription Copayments on the Use of Preferred Brand Medication," *Medical Care*, March 2003, which show that increases in copayments for medications influence the types of medications chosen.

[36] The Kaiser Family Foundation and Health Research Educational Trust, "Employer Health Benefits, 2007 Summary of Findings."

[37] Aetna Preferred Drug List FAQs, *http://www.aetna.com/help/faq_formulary.html*.

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[40] H. Huskamp et al., "The Effect of Incentive-Based Formularies on Prescription-Drug Utilization and Spending." *New England Journal of Medicine*, December 4, 2003. Much smaller changes were found in switching and stopping use of statins in a comparison group that maintained a 3-tier formulary throughout the period studied.

[41] T.S. Rector et al., "Effect of Tiered Prescription Copayments on the Use of Preferred Brand Medications," *Medical Care*, March 2003.

[42] See, for example: H. Huskamp et al., "The Effect of Incentive-Based Formularies on Prescription-Drug Utilization and Spending." *New England Journal of Medicine*, December 4, 2003 (Much smaller changes were found in switching and stopping use of statins in a comparison group that maintained a 3-tier formulary throughout the period studied.); T.S. Rector et al., "Effect of Tiered Prescription Copayments on the Use of Preferred Brand Medications," *Medical Care*, March 2003; and E.R. Cox et al., "Impact of Patient and Plan Design Factors on Switching to Preferred Statin Therapy," *Annals of Pharmacotherapy*, Dec. 2007.

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