

HEALTH POLICY REPORT

Doctors and Drug Companies

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When a great profession and the forces of capitalism interact, drama is likely to result. This has certainly been the case where the profession of medicine and the pharmaceutical industry are concerned. On display in the relationship between doctors and drug companies are the grandeur and weaknesses of the medical profession — its noble aspirations and its continuing inability to fulfill them. Also on display are the power, social contributions, and occasional venality of a very profitable industry whose products contribute in important ways to the health and longevity of the American people but that at times employs methods that are deeply troubling and even criminal. Government also plays a part as it tries with limited success to help the profession stay true to its own tenets and to deter the industry's most egregious excesses. The spectacle is profoundly human and, like most such spectacles, seems never to end or to lose its fascination.

The interaction of doctors and pharmaceutical companies is also extremely consequential for patients, doctors, and the larger society. The drug industry manufactures, distributes, and publicizes powerful chemical and biologic agents that have proven benefits and that physicians sometimes fail to use as often as they should, or in sufficient doses.¹ In this sense, industry's efforts to encourage the use of some agents by physicians can be seen as contributing to the public health. At the same time, the marketing by the drug industry of its products to physicians is manifestly aimed also at improving industry profits; in the process, such marketing may contribute to less savory social consequences, including increasing drug costs and the misuse or overuse of medications in ways that may adversely affect patients.²

Several recent developments have focused renewed attention on the relationship between drug companies and doctors. One is the surge in spending on prescription drugs, which totaled \$162.4 billion in 2002 after years of double-digit percentage increases.³ A second is the publicity surrounding

a number of prominent legal cases in which drug manufacturers have been convicted of crimes related to their marketing of drugs to physicians or have made huge payments in the settlement of civil suits for similar noncriminal violations.⁴⁻⁷ A third is an increasing recognition by both pharmaceutical companies and physicians that, in certain respects, the relationships between drug companies and doctors have become embarrassing to both parties and need to change.⁸⁻¹¹

This report reviews the salient aspects of the relationships between physicians and drug companies at the turn of the 21st century. I examine the nature and extent of drug-company interactions with physicians and review what is known about the consequences of those interactions for physicians' clinical decisions, as well as the cost and quality of the care they provide. I then briefly note some recent attempts by private organizations and government agencies to manage or regulate the interactions between physicians and drug companies in an effort to prevent perceived abuses, and I conclude with a discussion of how the relationships are likely to evolve in the future.

THE NATURE AND EXTENT
OF THE RELATIONSHIPS

Interactions between drug companies and doctors are pervasive. Relationships begin in medical school, continue during residency training, and persist throughout physicians' careers. The pervasiveness of these interactions results in part from a huge investment by the pharmaceutical industry in marketing. In 2002, the industry expended 33 percent of its revenues on "selling and administration."¹² In 2001, one company, Novartis, reported spending 36 percent of its revenues on marketing alone.² The marketing expenditures of the drug industry have been estimated variously at \$12 billion to \$15 billion yearly, or \$8,000 to \$15,000 per physician.^{7,8,13} In 2001, the industry's sales force of drug detailers, whose job is to meet individually with physi-

icians and promote company products, numbered nearly 90,000 in the United States^{2,8} — 1 salesperson for every 4.7 office-based physicians.⁸

Moynihan¹⁴ catalogued 16 different ways in which drug companies relate directly or indirectly with doctors. These range from the seemingly trivial (e.g., the ubiquitous dispensing of gifts such as pens and pads with drug names inscribed) to the much more troubling (e.g., the ghostwriting of articles for academic physicians, the payment of large honoraria and consulting fees to prominent physicians who extol the virtues of company products, and the support of lavish trips and entertainment for physicians who commonly prescribe company products).

Surveys of residents indicate that they receive an average of six gifts from pharmaceutical companies annually.¹⁵ In a survey of 106 directors of emergency-department programs in 2002, 41 percent responded that their programs allowed residents to be taught by representatives of drug companies, 35 percent reported that residents received free industry samples at work, and 29 percent said that residents' travel to meetings was sometimes dependent on the availability of company support.¹⁶ According to another report, residents in a psychiatry program in Toronto attended up to 70 lunches that had been sponsored by drug companies and received 75 promotional items over the course of one year.¹⁷

As physicians mature, their relationships with drug companies also change, becoming more likely to involve consulting and honoraria and less likely to involve luncheon seminars. A 2001 survey of a random sample of U.S. physicians by the Henry J. Kaiser Family Foundation found that 92 percent of physicians received free drug samples from companies; 61 percent received meals, tickets to entertainment events, or free travel; 13 percent received "financial or other in-kind benefits"; and 12 percent received financial incentives to participate in clinical trials.¹⁸ A 1997 study by Ferguson and colleagues found that 83 percent of internists with the Department of Medicine at the University of Maryland had met with drug-company representatives in the previous year.¹⁹ Wazana reports that, on average, practicing physicians meet with drug-company representatives four times a month.¹⁵

One of the most common ways in which the pharmaceutical industry now interacts with practicing physicians is through continuing medical education. As of 2003, according to Dr. Murray

Kopelow, president of the Accreditation Council for Continuing Medical Education, pharmaceutical companies were providing about \$900 million of the \$1 billion spent annually on continuing medical education in the United States.²⁰ In fact, new, for-profit companies have arisen, called medical education and communication companies, whose purpose is to provide educational offerings to physicians. These organizations are sometimes subsidiaries of public-relations firms that also conduct advertising for the pharmaceutical industry.^{2,21}

Drug companies do not relate to physicians only as individuals. The pharmaceutical industry also maintains relationships with the organizations to which physicians belong and for which they work.¹⁰ Drug companies are frequent financial sponsors of the annual meetings of physician organizations, and they also support special projects by those organizations.² For example, the American Medical Association has received industry funding, including support to publicize its own guidelines for how physicians should relate to the drug industry.²² As many as 59 percent of the authors of clinical guidelines endorsed by many professional associations have had financial relationships with companies whose drugs might be affected by those guidelines.²³

Drug companies also have attempted to influence the pharmaceutical agents that are available for use by physicians who work with and for certain organizations. Some of these practices are widely accepted in the business world both inside and outside of medicine. For example, pharmaceutical companies offer discounts to managed-care organizations and their agents — pharmaceutical-benefit managers — in return for favorable treatment of their products in the formularies used by these organizations. Some pharmaceutical companies, however, have engaged in ethically, and perhaps legally, questionable efforts to affect the drugs that health care organizations allow or encourage their physicians to use. Studdert et al. review several instances of this behavior in another article in this issue of the *Journal*.²⁴

CONSEQUENCES OF THE RELATIONSHIPS

The relationships between drug companies and doctors would be of little interest if they did not have potential consequences for patients, doctors, and the larger society. Explicitly or implicitly, much

of the debate about these relationships revolves around the question of whether drug companies influence physicians' behavior and, if they do, whether the results are, on balance, positive or negative for the quality and cost of health care and for the profession of medicine itself.

Most physicians are quite tolerant of, and even have a positive attitude toward, their interactions with drug companies.¹⁵ Many physicians believe that their interactions with drug companies have educational value for themselves and also provide benefits for patients, both because physicians are kept informed about available therapeutic agents and because the free samples they are given can be distributed to patients.^{25,26} Physicians also tend to be confident that they themselves are invulnerable to any bias inherent in the educational content offered or supported by drug companies. A study of residents found that 61 percent believed that they were not influenced by the marketing efforts of pharmaceutical companies (although only 16 percent were equally confident about their colleagues).²⁵ Brett and colleagues found in a small survey of residents and faculty members at a U.S. medical school that a majority of respondents tended to view a wide variety of interactions between drug companies and doctors as ethically acceptable.²⁶ Examples included the receipt of pencils, pads, and expensive textbooks (valued at \$500 apiece), company-funded dinners at which the company's products were favorably mentioned, free drug samples for physicians' offices, free lunches for residents, and the presence of drug representatives during clinic hours and during company-supported "happy hours." Respondents were more likely to view interactions as problematic when the value of the gift or entertainment increased, when it involved recreational as opposed to professional activities, and when information provided to physicians during the interaction was biased or self-serving.²⁶

Despite the confidence of physicians in their ability to resist efforts by drug companies to affect their behavior — especially in ways that may serve company purposes rather than their own or those of their patients — a substantial body of theoretical and empirical literature (as well as physicians' own concern about their colleagues) suggests that many physicians may be mistaken. Some of this literature focuses on what might be called the gift relationship — that is, the manner in which gifts influence human behavior and the role they play in

human relationships. According to Katz et al., "When a gift or gesture of any size is bestowed, it imposes on the recipient a sense of indebtedness. The obligation to directly reciprocate, whether or not the recipient is conscious of it, tends to influence behavior. . . . Feelings of obligation are not related to the size of the initial gift or favor."¹³

The idea that small gifts may be as influential as large gifts seems counterintuitive but is supported by substantial research in social science.^{13,27} Among the most important influences on behavior are the simplest and most fundamental: food, friendship, and flattery. Indeed, these have constituted the basis of human relationships since the beginning of time.¹³ Also supported by research is the observation that humans are vulnerable to a powerful, unconscious "self-serving bias"; that is, they have trouble seeing themselves as biased when the bias serves their needs or advances their own perceived interests.²⁷

The social-science literature, therefore, suggests that it would be surprising if doctors were not influenced by the small and large services and tokens of appreciation and interest provided by pharmaceutical companies. Furthermore, if many physicians find the blandishments of drug companies gratifying and rewarding, then physicians in general would be systematically handicapped in detecting any bias in decision making caused by these interactions. To posit otherwise would imply that physicians are different in fundamental ways from their fellow human beings.

A reasonable response might be that the professional training of physicians does differentiate them from others, rendering them resistant or immune to influences that might affect other *Homo sapiens* and enabling them to appraise their patients' interests objectively and put those interests before all other considerations. However, the evidence suggests that physicians are unable to transcend their humanity in their daily practices.

In a very thorough review of the literature on the effects of interactions with drug companies on physician behavior, Wazana¹⁵ identified 16 relevant studies. These studies found that a wide variety of interactions — meetings with company representatives; the receipt of gifts, free drug samples, and free meals; company support for travel to and lodging at educational events; attendance at lectures by representatives of pharmaceutical companies; acceptance of honoraria; and other relationships — were associated with changes in physicians' use of

medications. Involved physicians were more likely to request the inclusion of the company's drugs on hospital or health maintenance organization formularies, more likely to prescribe the company's products, and less likely to prescribe generic medications. The resulting changes in the use of medication were often costly and "nonrational" in that the newly prescribed or requested drugs had no therapeutic advantage over the alternatives. Interestingly, several studies have found that the larger the number of gifts that physicians received, the more likely they were to believe that gifts did not affect their prescribing behavior.^{15,28} Wazana found no studies that directly measured the effects of relationships between physicians and drug companies on patients' outcomes or on the aggregate costs of health care.¹⁵

Interactions between physicians and drug companies may also affect another important consideration: the credibility of the medical profession in the eyes of patients and the public. In rewriting its own guidelines on physician–industry relationships, the American College of Physicians noted, "A perception that a physician is dispensing medical advice on the basis of a commercial influence is likely to undermine a patient's trust not only in the physician's competence but also in the physician's pledge to put patients' welfare ahead of self-interest."¹⁰ Obviously, such perceptions among patients, if widespread, could erode the public's collective trust in the profession. The limited research on the attitude of patients toward the receipt by physicians of gifts and other considerations from the pharmaceutical industry suggests that patients are more likely than doctors to believe that gifts may influence prescribing behavior and that patients tend to view gifts that influence prescribing behavior as inappropriate.²⁹

EFFORTS TO MANAGE
RELATIONSHIPS

What is clear is that physicians' organizations, drug companies, and the government have become uncomfortable in recent years with the nature, extent, and potential consequences of interactions between physicians and pharmaceutical companies. This discomfort reflects a growing consensus that some drug companies have been offering, and some physicians accepting, financial and other benefits that are ethically and even legally inappropriate.^{4-6,30,31} In response, professional, industry, and government

groups have attempted to clarify standards that differentiate appropriate from inappropriate relationships and thereby to reduce the frequency of suspect interactions.³² The content of several of these new sets of guidelines and regulations is summarized by Studdert and colleagues.²⁴

Taken together, this series of private and public pronouncements seems to embrace the view that relationships between some drug companies and physicians are ethically appropriate, often beneficial, and certainly unavoidable and that the challenge for the medical profession, drug companies, and the government is to contain those relationships within acceptable boundaries and to avoid certain egregious and possibly illegal practices. As such, new and existing policies seem to be generally consistent with the views of most physicians, who have indicated in studies cited here that they view as appropriate the provision by drug companies of modest gifts, free drug samples, support for educational programs (including associated modest meals), and a number of other services for doctors. Physicians are less likely, however, to view as acceptable the receipt of gifts and services that are either very valuable (though there is no consensus on the dollar amount) or unrelated to a professional purpose (e.g., a golf bag or tickets to a sporting event).

A number of critics find the efforts to preserve and manage relationships between drug companies and physicians to be ill conceived and impractical. Two former editors of the *Journal*, Arnold Relman and Marcia Angell, find the American Medical Association guidelines to be "general and vague."² Joseph Gerstein, an internist from Massachusetts and a former managed-care executive who first notified federal officials about illegal activities at TAP Pharmaceutical Products,²⁴ believes that it will be difficult for physicians to avoid biases introduced by even modest marketing activities by drug companies. "Maybe there are some physicians who are so morally stout . . . that they can be sure they weren't affected," commented Gerstein in an interview. "I would like to meet that person." He noted further that the Office of the Inspector General (OIG) of the Department of Health and Human Services "has put out some pretty firm guidelines, but there are an awful lot of people working to get around them."

Sidney Wolfe, director of Public Citizen's Health Research Group and a perennial critic of the drug industry, is skeptical that current guidelines will

have any meaningful effect on behavior. “The problem,” said Wolfe in an interview, “is that there is no detection mechanism and no enforcement mechanism.” The only practical approach to dealing with interactions between drug companies and physicians, in the view of many critics, is for physicians not to accept anything of financial value, no matter how trivial, from drug companies. The only professional group to support this viewpoint is the American Medical Student Association, which has called on physicians to sever their relationships with the pharmaceutical industry.³³

FUTURE DEVELOPMENTS

It is far too early to assess the ways in which recent efforts to manage physician–industry interactions have influenced the nature, extent, or effects of those relationships. Anecdotal reports attest both to a reduction in some perceived excesses, such as lavish entertaining of physicians at expensive resorts, and to their persistence in the face of new guidelines.^{34,35} M. Therese Crouse, director of compliance, health care, and marketing at Eli Lilly, asserts that OIG guidance in particular “absolutely affected the way we are doing business. . . . Entertainment is significantly cut down. . . . [There is] no more golf, no more movie nights.” Having just revisited or revised their policies, professional, government, and pharmaceutical groups and agencies seem likely to await the verdict of time before attempting additional interventions.

The one exception may be state governments, which have become much more active on a number of health policy fronts in recent years, including lawsuits against tobacco companies, the regulation of managed care, and, most recently, the scrutiny of behavior by drug companies. As of March 1 of this year, four states — Maine, Vermont, Nevada, and New Mexico — had begun requiring companies to report how much they were spending on the marketing of their products to physicians working in their states.³⁴ Vermont, which requires the disclosure of any marketing expenditures in excess of \$25, reported in February of this year that 44 pharmaceutical companies spent \$2.47 million in “fees, travel expenses and other direct payments to Vermont physicians, hospitals, universities and others for the purpose of marketing their products” in the year ending June 30, 2003.³⁶

Whether these and other external controls on the interactions between physicians and drug com-

panies will fundamentally change those interactions over the long run, however, remains far from certain. Doctors and leaders of drug companies are mature, consenting parties in relationships that both are highly motivated to maintain — for drug companies because the relationships are vital to selling their products, and for physicians because they value, wisely or not, the information, gifts, and services that companies provide in the course of their marketing activities. From a social standpoint, it is difficult to argue that the relationships are totally without redeeming value, since some of them seek to increase the dispensing of drugs and biologic agents that physicians currently underprescribe, with major adverse consequences for public health. Professional and company attitudes, together with the rationale that marketing by drug companies could in some ways enhance public health, will make it politically impractical for governments to adopt the kind of draconian ban on relationships between doctors and drug companies that their strongest critics favor. And as long as such relationships are legal, the parties involved will face constant temptations to test the limits of professional and industry codes and government regulations. One can predict, therefore, that there will be ongoing cycles of scandal and reform for the foreseeable future.

In many ways, the ultimate arbiter of the nature, extent, and consequences of interactions between drug companies and physicians is the medical profession itself.²¹ As a for-profit business, the pharmaceutical industry should be expected to market its products aggressively within legal boundaries. It is then up to physicians to decide whether to accept the proffered information and enticements. It is unlikely that professional organizations, as representative bodies, will move far out ahead of their members in making policy on these issues. As its president, Murray Kopelow, notes, the Accreditation Council for Continuing Medical Education “must reflect the values of the profession.” So too, in the end, must the interactions between drug companies and physicians.

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POSTING PRESENTATIONS AT MEDICAL MEETINGS ON THE INTERNET

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Effects of Using Free Sample Medications on the Prescribing Practices of Family Physicians

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Introduction: We determined whether family physicians (FPs) who distribute free sample medications are more likely to prescribe those medications than physicians who do not.

Methods: We reviewed administrative health plan prescription data of three similar clinics with 23 FPs within a comprehensive health care delivery system. Only clinic X physicians dispensed free sample medications. To determine which prescribed medications to study, the sample medications log from clinic X was categorized. The 25 sample medications most frequently dispensed by category were selected as study medications. Outcome measures included the number, proportion, cost, and formulary status of study medications prescribed and the average 30-day prescription costs.

Results: Physicians at clinic X prescribed the largest proportion of prescriptions for study medications, the smallest proportion of preferred name brands among study medications, and had the highest costs for prescriptions of non-listed formulary study medications ($P < .0001$). The average 30-day prescription costs differed significantly by clinic ($P < .0001$), with clinic X being the highest. There was a significant association between the number of samples dispensed and the number of prescriptions written for study medications by physicians at clinic X ($P = .006$).

Conclusions: Our data support the conclusion that FPs who distribute free samples are more likely to prescribe those medications than their counterparts who do not. (J Am Board Fam Med 2006;19:443–9.)

The escalation of medication costs in the United States is alarming and has been identified as a national crisis issue.¹ In less than 5 years, medication costs in the United States have doubled, rising from \$75 billion annually to over \$150 billion.^{2,3} The medication cost crisis is very complex with many stakeholders, including pharmaceutical companies, third party payers, patients, and physicians.

The pharmaceutical industry spent over \$12 billion in 1998 to promote its products in the United States. Of this promotional budget, over half was dedicated to supplying physicians with free sample medications for distribution to patients. This ex-

pense increased to almost \$15.7 billion in 2000, with free sample medications once more topping the budget, having increased an average of 12.8% annually since 1996.⁴ The extent of reaching physicians with this promotional strategy is remarkable, with one recent survey indicating that 92% of physicians had accepted free sample medications from pharmaceutical representatives.⁵ Despite this, some physicians may not believe they are influenced by drug company strategies.^{6–8}

Physicians' attitudes toward the use of free sample medications vary considerably. In the framework of concern for the high cost of medications to patients, physicians may believe that offering free sample medications to patients is a great service, especially for indigent patients. Another benefit rests in the easy availability of medication to immediately begin a course of therapy. There is also the opportunity to use free sample medications to evaluate patient tolerance and adjust dosage before a full prescription would be written for the patient.⁹ In addition, there are countless benefits for pharmaceutical companies.^{6,10}

Current research related to free sample medications center on multiple issues such as the possibil-

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ity of misuse by pharmaceutical representatives¹¹ and personal use of free sample medications by physicians and their office staff.¹² Tong and Lien's study¹¹ revealed that of 27 pharmaceutical representatives surveyed, only 11 had not taken those sample medications themselves, provided them to friends or relatives, or exchanged them with other pharmaceutical representatives. The more substantial problems, however, relate to physicians' inclination to prescribe the newer and more expensive medications that may be no more effective than well-known and established drug therapies.¹³ Sales of these newer medications have substantially accelerated, suggesting that pharmaceutical promotions including distribution of free sample medications may have contributed to the adoption of these therapies. This is despite the perception among physicians that they pay little or no attention to drug advertising.

In their recent, comprehensive review of the literature, Groves, Sketris, and Tett¹⁴ identified 23 papers focused, at least partially, on the impact of the distribution of sample medications by physicians. Of these articles, 15 identified the influence on prescribing behavior as a key issue, 9 addressed the resultant drug expenditure as a key issue, four identified the problem of unregulated handling in the delivery and receipt of the sample medications, 3 dealt with self-medication issues, 2 identified problems related to disposal problems, and 2 discussed resale of free sample medications to pharmacies or trading with others. All studies were observational. The authors concluded that although the marketing strategy of distributing free sample medications promotes the trial and introduction of new drugs, it might be contrary to the quality use of medications. The authors pointed out a lack of research focused on the negative aspects of free sample medications and recommended careful policy addressing quality medicine related to the use of sample medications. None of the studies in this meta-analysis demonstrated that physicians who use sample medications are more likely to prescribe those medications than physicians who do not use samples.

The objective of the current study was to assess family physicians' prescribing practices in relation to the distribution of free sample medications. We hypothesized that family physicians who distribute free sample medications are more likely to prescribe those medications than those who do not.

Methods

Scott & White is a large complex comprehensive health care delivery system with a 450-bed level one trauma center, an acute care teaching hospital, a 500+ physician multispecialty clinic, 14 regional clinics, 3 dialysis centers, 2 ambulatory care surgical centers, and a 180,000-member health maintenance organization (Scott & White Health Plan [SWHP]). This study was reviewed and approved by the Scott & White Institutional Review Board.

Physician practice regarding the dispensing of free sample medications within all Scott & White facilities is governed by written policy. That organizational policy requires that any clinic where free sample medications are dispensed must define mechanisms whereby any sample medication dispensed from that clinic could be identified in the event of a recall.

The participating sites were three Scott & White regional clinics including one clinic (clinic X) where sample medications were dispensed. Two clinics that do not dispense free sample medications (clinic Y and Z) but are similar in community population, location, and number of physicians were selected as comparison groups. All other Scott & White regional clinics are substantially larger, smaller, or located in communities vastly larger or smaller than these 3 clinics. SWHP case mix adjustment data indicates very similar practices among the 3 clinics with over 50% of visits from SWHP members. The prescribing practices of the individual family physicians were examined as well as the prescribing practice of each clinic, as a whole. Physicians at all three clinics had equal access to formulary education, counter-detailing efforts, and equal incentives to manage drug costs.

In the single clinic (clinic X) where samples were dispensed, a sample log was maintained in accordance with Scott & White policy, where all free sample medications dispensed were recorded. The sample log from 2003 was used to determine which medications were most frequently used. During the study period, 7 reconciliation reports, which compared the inventory of sample medications to the amount of sample medications received and dispensed, indicated that the 2003 sample log was 95% to 100% accurate. There is no way to verify the accuracy of the reconciliation reports, and the logs were assumed to be an accurate reflection of the distribution of sample medications during that

Table 1. Study Medications (Selected from Clinic X 2003 Sample Medications Log)*

Name Brand Medication	Formulary Status	General Pharmacy Index 4 Category
Aciphex	B tier brand	Proton pump inhibitors
Actonel	B tier brand—maintenance benefit	Calcium regulators
Allegra	B tier brand	Antihistamine-non-sedating
Amaryl	B tier brand—maintenance benefit	Sulfonylureas
Augmentin	B tier brand	Penicillin combinations
Avandia	C tier non-preferred	Insulin-sensitizing agents
Avelox	C tier non-preferred	Fluoroquinolones
Clarinet	Not listed	Antihistamine-non-sedating
Cozaar	B tier brand—maintenance benefit	Angiotensin II receptor antagonists
Detrol La	C tier non-preferred	Urinary antispasmodics
Ditropan XI	Not listed	Urinary antispasmodics
Elidel	Not listed	Immunomodulating agents—dermatitis
Imitrex	B tier brand	Serotonin agonists
Lexapro	Unlisted	Selective serotonin reuptake inhibitors
Maxalt	B tier brand	Serotonin agonists
Nasacort	B tier brand	Nasal steroids
Nexium	Not listed	Proton pump inhibitors
Oxytrol	Not listed	Urinary antispasmodics
Paxil	B tier brand	Selective serotonin reuptake inhibitors
Protonix	B tier brand	Proton pump inhibitors
Toprol XL	B tier brand—maintenance benefit	Beta blockers cardioselective
Valtrex	C tier non-preferred	Herpes agents
Vioxx	C tier non-preferred	Nonsteroidal anti-inflammatory drugs
Wellbutrin	Unlisted (SR is listed)	Miscellaneous antidepressants
Zocor	B tier brand—maintenance benefit	HMG CoA reductase inhibitors

* Formulary Scott & White Health Plan (SWHP) preference in descending order: (1) A tier = non-name brand generic; (2) B tier—maintenance benefit = specific name brand with quantity discounts for SWHP pharmacies; (3) B tier = specific name brand; (4) C tier = non-preferred name brand; (5) unlisted.

period. Data from this log including physician name, medication name, medication strength, and amount of sample medication dispensed were transcribed from the handwritten log into an electronic database where they were depersonalized. The sample medications were classified according to a commercial classification system used by SWHP known as the Medi-Span therapeutic classification system general pharmacy index (GPI), and the top 3 medications dispensed as free samples in each high level group were selected for analysis to assure that a broad array of prescribed medications would be examined. Only one topical medication was selected. The 25 sample medications selected comprised 84% of the sample medications dispensed during the study period. Table 1 defines the selected medications. Study medications are listed with their GPI category and formulary status.

A cross-sectional design was used with retrospective review of SWHP prescription claims data.

Prescribing data from the SWHP pharmacies for 2003 including clinic name, physician name, medication name, medication strength, number of days' supply prescribed, number of prescriptions, and cost of prescription were copied to a database and depersonalized, then to a statistical package for analysis.

Data analysis included frequencies and descriptive statistics of the study measures. Group differences were assessed using the χ^2 test for categorical data and ANOVA for continuous data for significant differences among clinics with Duncan's post hoc tests, if indicated. All prescriptions written by participating physicians for SWHP members during 2003 were classified as either written for a study medication or for a non-study medication and were compared by clinic. All prescriptions written for study medications were classified by formulary status, and the results were analyzed by clinic. Calculating the average 30-day prescription cost for each

Table 2. Prescriptions for Non-study and Study Medications by Clinic*

Clinic	Total Prescriptions	Non-study Medications		Study Medications	
		No.	%	No.	%
X†	50,849	43,750	86.0	7099	14.0
Y	50,686	44,642	88.1	6044	11.9
Z	42,907	37,180	86.7	5727	13.4
Total	144,442	125,572	86.9	18,870	13.1

* $P < .0001$ using χ^2 test.

† Significantly different from the rest in proportions of prescriptions for study medications.

physician and for each clinic normalized the data. For those physicians in clinic X, Pearson correlation was used to examine the association between the number of prescriptions written for study medications and the number of samples dispensed by physician. In addition to computing Pearson's coefficient of correlation (r) for each physician, a Bonferroni adjusted P statistic was computed for all physicians. All tests were two-sided tests and were considered significant at $P < .05$.

Results

Sample Medications Distributed

During calendar year 2003, there were 18,099 sample packets of 78 prescription medications that were recorded in 2771 sample records dispensed by 8 different family physicians in clinic X. This did not include 161 sample records for non-prescription sample medications. The 25 medications selected for this study represented 84% of the sample records. Clinic X was the only clinic dispensing samples.

Prescriptions for Study Medications versus Non-study Medications

The 23 family physicians providing patient care in the 3 study clinics were responsible for 144,442 total prescrip-

tions at a cost of \$6,315,673 to SWHP patients in 2003. Of this, 18,870 (13%) prescriptions were written for the 25 study medications. There were significant differences among the 3 clinics regarding prescriptions written for non-study medications and study medications (Table 2); clinic X significantly wrote the largest proportion of prescriptions for study medications ($\chi^2 = 97.01$; $P < .0001$).

There was a significant association between the number of free sample medications dispensed and the number of prescriptions written for study medications by physicians at clinic X (Bonferroni adjusted $P = .006$). The Pearson's coefficients of correlation were significant for 7 of the 8 physicians, ranging from 0.78 to 0.99. The coefficient for the eighth physician was 0.62 ($P = .06$) (data not shown).

Prescriptions for Study Medications by Formulary Status

Formulary status for each study medication was identified as a preferred name brand, a non-preferred name brand, or a medicine not included in formulary (unlisted) as demonstrated in Table 3. There were significant differences among the 3 clinics regarding the number of prescriptions written by formulary status, with clinic X significantly

Table 3. Prescriptions by Formulary Status of Medication and Clinic*

Clinic	Total Prescriptions	Preferred Name Brand		Non-preferred Name Brand		Not Included in Formulary	
		No.	%	No.	%	No.	%
X†	7099	6,246	88.0	529	7.5	324	4.6
Y	6044	5,359	88.7	380	6.3	305	5.1
Z	5727	5,056	88.3	482	8.4	189	3.3
Total	18,870	16,661	88.2	1,391	7.4	818	4.3

* $P < .0001$ using χ^2 test.

† Significantly different from the rest in prescriptions for preferred name brand medications.

Table 4. Average Cost of 30-Day Prescription by Clinic*

Clinic	No. of Physicians	Mean	SD	Min	Max
X†	8	\$47.57	\$4.32	\$41.83	\$56.67
Y	8	\$39.49	\$2.49	\$34.92	\$42.04
Z	7	\$41.48	\$1.94	\$38.17	\$43.97

* $P < .0001$ using ANOVA.

† Significantly different from the rest in average cost of 30-day prescription.

prescribing the lowest proportion of preferred name brand medications ($\chi^2 = 40.41$; $P < .0001$).

Cost of Written Prescriptions

The average cost of a 30-day prescription also differed significantly by clinic ($F[3, 23] = 14.33$, $P < .0001$). Duncan's post hoc test revealed that clinic X physicians were significantly higher in the average cost per 30-day prescription than those in clinic Y or clinic Z, with those in clinics Y and Z being similar (Table 4). Of the total cost of all prescriptions written for patients (\$6,316,673), prescriptions written for the 25 study medications amounted to \$1,894,485 or 30%. Further analysis by total cost showed significant differences among the clinics, with clinic X being responsible for the highest total costs for unlisted formulary medications (Table 5).

Discussion

The day-to-day practice of medicine is very complex. Physicians are sensitive to the rapidly escalating cost of health care and are interested in helping patients cope with that high cost. Physicians who dispense free sample medications are convinced they are helping patients, and do not necessarily believe that their prescribing behavior is influenced by pharmaceutical companies.^{7,8} Some organizations, including ours, are taking steps to dampen

the effects of pharmaceutical company strategies. These might include special directives to control when and how often drug representatives can see physicians as well as policies related to tight control of free sample medications, or whether or not sample medication distribution should be allowed. Special presentations related to medication expense and the organizational effect have been made to all family physicians. On occasion, specifically targeted medication prescriptions have been changed as a result of a family medicine departmental effort.

Although some physicians may believe their prescribing practices are not influenced by the use of free sample medications,^{7,8} our data suggest otherwise about our family physicians. In the practice of a physician whose prescribing was influenced by the use of sample medications, one might possibly expect to see a higher than usual cost of prescriptions ordered for patients, since pharmaceutical companies typically try to promote their newer, expensive medications. If a physician is influenced by the use of free sample medications, one might also expect to see comparatively more prescriptions written for medications that the physician dispensed as sample medications. Scott & White does not mandate prescriptions only for formulary medications. Under these circumstances, if free sample medications influence physician prescribing, one might also expect to see fewer formulary-preferred

Table 5. Total Prescription Costs of Study Medications by Formulary Status and Clinic*

Clinic	Total Prescriptions	Preferred Name Brand		Non-preferred Name Brand		Not Included in Formulary	
		Costs	%	Costs	%	Costs	%
X†	\$711,482	\$621,589	87.4	\$54,547	7.7	\$35,345	5.0
Y	\$646,885	\$584,272	90.3	\$34,110	5.3	\$28,504	4.4
Z	\$536,118	\$471,848	88.0	\$44,724	8.3	\$19,546	3.7
Total	\$1,894,485	\$1,677,709	88.5	\$133,381	7.0	\$83,395	4.4

* $P < .0001$ using χ^2 test.

† Significantly different from the rest in total costs for unlisted formulary medications.

medications prescribed than that of a physician not influenced by free sample medications. Furthermore, one might expect to see more cost for non-formulary medications prescribed by a physician influenced by the use of free sample medications, because sample medications distributed by pharmaceutical companies are frequently the newer, more expensive medications, and because it takes some time for a medication to become formulary-approved. Although some results are weak because of the large numbers used in the analyses, our data do suggest to us that our family physicians' prescribing practices are influenced by the use of free sample medications.

The implications of our conclusions are worthy of consideration, both for physicians and for consumers. For physicians, the knowledge that free sample medications may influence their prescribing behavior independently from clinical judgment must be included in the ethical debate over whether to accept such sample medications.¹⁵ Although there may be some benefits in using free sample medications, for example as starter dosages and to complete courses of treatment,^{6,16} there are also notable unseen and not easily measured costs to patients. For consumers, this is an excellent fulfillment of often quoted maxim "there is no free lunch." Consumers should also be aware that advertising is effective, that free sample medications are not always in their best interest and that sample medications may not be cost-effective for them. A free sample medication today may seem to reduce the cost of care for the moment but may result in a long-term prescription much more expensive than is perhaps necessary.

We recognize the results of this study are not necessarily generalizable to others and that confounding variables exist. We did not examine clinical outcomes or the quality of care. Although we have case-mix adjustment data that indicates very similar practices among the clinics we studied, there may still have been differences that we overlooked or were unable to measure. We also assumed that care delivered to all patients is the same, whether or not patients were SWHP members. The community in which clinic X is located has a larger minority population than clinic Y or clinic Z, but it is not known whether this variation exists in the patient population of these clinics or how any difference might affect the outcomes measured. The average age of the patient population was 43.6

years in clinic X but was 50.9 years in clinic Z. How this difference might have affected the measured outcomes is also unknown, although one might expect a higher prescription need in an older population. Very large numbers used in χ^2 analysis are known to identify the smallest of variability.

Scott & White physicians see patients other than their own. Any prescription signed by the physician for a SWHP member was credited to that physician's pharmacy record. Although it is believed that the physician would prescribe the same medications for their own patients as with other physician's patients under the same circumstances, that remains unknown. Moreover, patient panels may have differed more than is believed due to critical comorbidities. It is not known how this might have affected the data sets or the analyses.

As another potential confounder, it may also be that the practices of the physicians within the groups are similar to each other and not similar to others in different areas of practice, dealing with the same kinds of patients. Although this information is not known, we do know that all physicians were salaried and did not have any other financial incentives to prescribe medications in one way or another.

It is of interest to note the significant association we found between the number of samples distributed and the number of prescriptions written for study medications among 7 of 8 physicians in clinic X. This may be the strongest evidence presented. As a side note, the lone physician whose numbers were not significantly correlated is in the medical leadership role of clinic X and assisted in presenting counter-detailing drug information to the medical staff of clinic X.

Although the study has substantial limitations, to our knowledge, this is the first study to directly examine the relationship between the use of free sample medications and actual prescriptions written by specific physicians and clinics. Several observations from our findings are relevant. Health care costs are an important national issue, and efforts must be generated from many quarters to assist in bringing down the escalating costs. The cost of prescription medications is an important contributor to those costs and is as current as today's newspaper. A great deal of work is required to educate physicians about the effects of distributing free sample medications. As a body of evidence continues to accumulate, studies such as this can

help illustrate the consequences of accepting and dispensing free sample medications to patients. Physicians experience pressures from many different directions. This includes pressure from patients who ask for free sample medications. It is incumbent on physicians to analyze honestly and critically data that describe the impact of free sample medications on prescribing practices. More research in this arena will be helpful to demonstrate both the direct and indirect effects of using free sample medications. Responsible researchers in health care must do what pharmaceutical companies have done for many years—study those things that impact physicians' prescribing behaviors, and then publish the results to inform policy changes.

Author contributions were as follows: study concept and design (BS, MA, SNF, CP); acquisition of data (BS, SNF, MA, CP); analysis and interpretation of data (SNF, BS, MA, CP); drafting of manuscript (BS, SNF); critical revision of manuscript for important intellectual content (BS, SNF, MA, CP); statistical expertise (SNF, CP); obtained funding (BS, SNF); and study supervision (BS, SNF).

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Who pays for the pizza? Redefining the relationships between doctors and drug companies. 1: Entanglement

Ray Moynihan

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Education and debate

Who pays for the pizza? Redefining the relationships between doctors and drug companies. 1: Entanglement

Ray Moynihan

In this two part article, a journalist based in Washington DC explores the brewing conflicts at one of the world's leading medical campuses as it joins the wider global debate about how to redefine relations with big pharmaceutical companies

Twisted together like the snake and the staff, doctors and drug companies have become entangled in a web of interactions as controversial as they are ubiquitous (box). As national drug bills rise at rates that vastly exceed those of inflation (fig 1), this entanglement and the subsequent flows of money and influence are attracting increasing public and academic scrutiny.

Studies from several countries show that 80-95% of doctors regularly see drug company representatives despite evidence that their information is overly positive and prescribing habits are less appropriate as a result.^{1 2} Many doctors receive multiple gifts from drug companies every year, and most doctors deny their influence despite considerable evidence to the contrary.³ Industry interactions correlate with doctors' preferences for new products that hold no demonstrated advantage over existing ones, a decrease in the prescribing of generics, and a rise in both prescription expenditures and irrational and incautious prescribing, according to a recent analysis of the ethics of gift giving.⁴ The number of gifts that doctors receive correlates with beliefs that drug representatives have no impact on prescribing behaviour.³

Accepting meals and expenses for travel or accommodation for sponsored educational meetings is common despite evidence that this is associated with an increase in formulary requests for and prescribing of the sponsor's drug.^{2 3} Most doctors attend company sponsored events providing continuing medical educa-

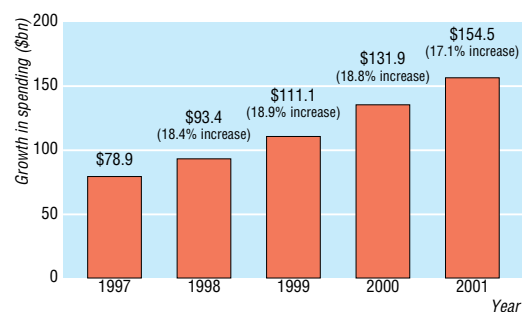


Fig 1 Retail spending on prescription drugs in the United States, 1997-2001.²³

Summary points

Entanglement between doctors and drug companies is widespread, and evidence shows that interactions with industry influence doctors' behaviour

Evidence is strong that sponsored research tends to produce favourable results

Leading academic institutions are currently debating the rules governing relations between researchers and sponsors

Pharmaceutical expenditures are rising rapidly, and entanglement may undermine rational prescribing strategies

Critics argue that a culture of industry gift giving creates entitlements and obligations for doctors that conflict with their primary obligation to patients

tion,² yet evidence shows that these preferentially highlight the sponsor's drug.³ Many professional societies rely heavily on industry sponsorship,⁵ just as their medical journals rely on drug company funded trials, company advertisements, company purchased reprints, and company sponsored supplements—despite the consequent conflicts of interest⁶ and evidence that sponsored supplements are more promotional than other articles.⁷

An estimated 60% of biomedical research and development in the United States is now privately funded, and two thirds of academic institutions have equity ties with outside sponsors.⁸ Finding senior medical researchers or clinicians without financial ties to pharmaceutical companies has become exceedingly difficult.⁹ Those regarded as “thought leaders” routinely work as paid members of drug companies' advisory boards despite evidence that the practice is part of industry's promotional machinery. According to an article on the “tricks of the trade,” published in

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Forms of entanglement

- Face to face visits from drug company representatives
- Acceptance of direct gifts of equipment, travel, or accommodation
- Acceptance of indirect gifts, through sponsorship of software or travel
- Attendance at sponsored dinners and social or recreational events
- Attendance at sponsored educational events, continuing medical education, workshops, or seminars
- Attendance at sponsored scientific conferences
- Ownership of stock or equity holdings
- Conducting sponsored research
- Company funding for medical schools, academic chairs, or lecture halls
- Membership of sponsored professional societies and associations
- Advising a sponsored disease foundation or patients' group
- Involvement with or use of sponsored clinical guidelines
- Undertaking paid consultancy work for companies
- Membership of company advisory boards of "thought leaders" or "speakers' bureaux"
- Authoring "ghostwritten" scientific articles
- Medical journals' reliance on drug company advertising, company purchased reprints, and sponsored supplements

Pharmaceutical Marketing, the advisory process is one of the most powerful means of getting close to people and of influencing them.¹⁰

The familiar becomes strange

Relationships that from the inside feel familiar now look strange to people outside. The routine wining and dining of prescribers is now seen by some legal authorities as bribery, with a major case currently unfolding in Italy¹¹; heavy corporate sponsorship of professional societies and their guideline writing panels is regarded in some quarters as suspect, as shown by the case of Genentech's \$11m (£7m; €10m) connection with the American Heart Association¹²; accredited events in continuing medical education seem little more than an opportunity for speakers paid by sponsors to speak about their drugs, particularly when even the lecture hall bears the sponsor's name.¹³

Most scrutinised are the relationships that entail corporate funding of academic research: a recent review of the evidence found financial conflicts of interest to be "pervasive and problematic" in biomedical research, with a quarter of university researchers receiving industry funding and a third having personal financial ties to sponsors.⁸ The concern is that the evidence base of healthcare is being distorted fundamentally. Strong and consistent evidence shows that industry sponsored research tends to draw conclusions favourable to industry and industry sponsored studies were much more likely to reach conclusions that were favourable to the sponsor than were non-industry studies. Another review, published in this issue, has similar findings and concerns.¹⁴ The explanations for

the "systematic bias" in results is not that sponsored science is bad science but rather that the scientific questions being asked reflect the self interest of the sponsor.

"The medical profession is being bought by the pharmaceutical industry, not only in terms of the practice of medicine, but also in terms of teaching and research," says Arnold Relman, a Harvard professor and former editor of the *New England Journal of Medicine*, whose recent critique of the industry's influence in health care, published in the *New Republic*,¹⁵ won him and his co-author one of the top awards for magazine journalism in the United States. "The academic institutions of this country are allowing themselves to be the paid agents of the pharmaceutical industry. I think it's disgraceful."

Major interest groups, including the American Medical Association and the Pharmaceutical Research and Manufacturers of America, have responded to the current concerns about entanglement with revised codes of conduct.^{16 17} Although egregious behaviours such as direct cash payments to doctors are discouraged, some of the new codes have generally done little more than endorse the myriad forms of the existing interactions, said a biomedical ethicist at Stanford University, Mildred Cho, a researcher with a strong interest in the entanglement between doctors and drug companies.

Even groups who are genuinely suggesting a greater degree of independence, including the Association of American Medical Colleges, are doing so from within the context of a stable marriage—the association's latest guidelines say: "A principled partnership between industry and academia is essential if we are to preserve medical progress and continue to improve the health of our citizenry."¹⁸ Says Cho: "Conflicts of interest are so pervasive now that many of the existing rules—or their revisions—are working with the assumption that those conflicts are necessary, and somehow even desirable, because the private financial interests of physicians or research institutions actually enhance the interests of the patients, rather than conflict with them. And I don't think that assumption is right."

Inexorably drawn into the debate are institutions like the University of California in San Francisco (UCSF), one of the top recipients in the United States of health research funding from the government and a campus with extensive ties to the pharmaceutical industry and burgeoning biotech sector of nearby Silicon Valley. A special "conflict of interest task force" set up by the academic senate has just produced a draft report canvassing major changes to the rules on relations with private research sponsors. Reflecting profound disagreements within the university and the wider medical establishment, a serious split has occurred in the task force, which is soon to report. Ultimately the academic senate will make a recommendation to the university administration on the topic, and, given the size and prestige of UCSF, the outcomes of this current conflict will resonate far beyond the hills of San Francisco.

Relationships with researchers

UCSF currently has a reputation for one of the strictest policies in the United States on financial ties between

researchers and study sponsors—for two reasons. Firstly, most other institutions don't regard researchers' relations with individual companies that are worth less than \$10 000 in any given year as a notable tie and hence don't require their disclosure—whereas at UCSF researchers with any outside tie worth more than \$250 must disclose it to the institution. Secondly, a principal investigator conducting sponsored research at UCSF is expressly prohibited from having any other form of financial tie with that sponsor while that research is being conducted.

Despite this perceived restrictiveness a study of two decades of disclosures at UCSF found an intricate web of ties that, although affects only a small minority of the campus population, had steadily increased.¹⁹ Common ties between academics and private drug or biotech companies included:

- Paid speaking arrangements, ranging from \$250 to \$20 000 a year;
- Paid consultancies, mostly less than \$10 000 but up to \$120 000 a year;
- Paid positions on advisory boards; and
- Equity holdings, mostly over \$10 000 and ranging up to \$1m.

The draft report prepared for the academic senate at UCSF has canvassed a fundamental loosening of the university rule—an end to the prohibition on personal ties with a sponsor during the life of a sponsored research project and a change of definition in line with other institutions, so that any tie worth less than \$10 000 a year with an individual company would no longer be considered noteworthy. Given that many researchers have financial relations with multiple companies, the new rules could mean that large amounts of the private dealings of public academics would remain undisclosed.

Task force chair Michael Weiner says that, although a consensus recommendation has not yet been reached by the heavily divided committee, his personal view is that the current prohibitions are unnecessarily restrictive—a view that he says is shared by many of his clinical researcher colleagues at UCSF. Meanwhile other task force members are pushing to retain the prohibition on personal financial ties during sponsored research, and an unnamed member told me of potential dangers if UCSF lifts the ban. “Currently the public feels it can trust research from this institution. Loosening the rules could open the door to concerns that researchers may be influenced by corporate funding and their research may be biased towards that sponsor.”

Relationships with clinicians

As debate about the ties between academic researchers and their sponsors continues at UCSF, as elsewhere, industry's interactions with prescribing clinicians are also under review. The dean of medicine at UCSF, Haile Debas, has become increasingly concerned about what he sees as industry's uncontrolled access to campus doctors and about data indicating that many young doctors believe that they are immune from promotional influence.²⁰ “I think this is a very serious problem, and it's one we need to address,” he said.

In the United States an estimated 80 000 drug company representatives,²¹ backed by more than



SUE SHARPLES

\$19bn of industry's combined annual promotional budgets,²² are visiting doctors every day, including those working on the wards of the hospital at the medical centre of UCSF. The industry magazine *Pharmaceutical Executive* describes them as “industry's favourite marketing tool,” because “the reps carry the bulk of the selling expectations” and the relationships they build with doctors are so critical.²¹

Almost every lunchtime a company will sponsor free pizza or pasta at UCSF, and dozens of hungry resident doctors will attend. As Katz observed in her recent analysis of gift giving: “Food, flattery, and friendship are all powerful tools of persuasion, particularly when combined.”²⁴ But the contacts that start with a free lunch are not just one-way sales pitches: many prescribing clinicians are also aspirant academics, and the friendly drug company staff who accompany the food can facilitate the flow of research funding, speaking tours, and precious publications on which successful medical careers are built.

Across the United States drug companies sponsor close to 300 000 events for doctors every year as part of their promotional efforts, many of them far more generous than free pizza. Under the industry's new voluntary code covering relationships with health professionals, if a company flies 300 doctors to a golf resort, reimburses their costs, pays them to attend, and educates them about the company's latest drug, in order to train them to become members of the company's stable of paid speakers, the entire activity would be in compliance.¹⁷

The senior vice president for scientific and regulatory affairs of Pharmaceutical Research and Manufacturers America, John Kelly, defends the new code as being for the benefit of patients, and in relation to the golf resort event he said that it is “appropriate to train the number of speakers that a company needs to support its communications effort.”

The chief of the UCSF hospital's medical services, Robert Wachter, a professor of medicine, does not endorse such company organised junkets but welcomes the free pizzas at lunchtime, arguing they come with no strings attached. “Industry dollars are fine as

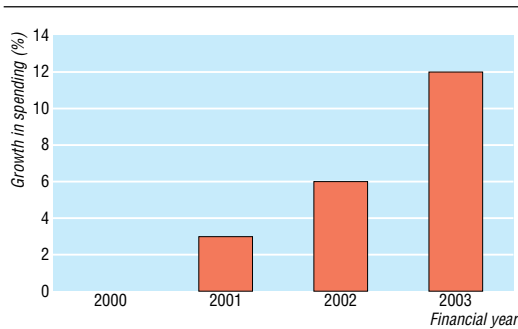


Fig 2 Growth rates of pharmaceutical spending at the University of California, San Francisco (source: UCSF School of Pharmacy)

long as the companies have no role in choosing content or speakers.” As a national leader of an emerging specialty of hospital based doctors known as “hospitalists,” Wachter sees great value in company funded education, as long as there is a firewall between sponsorship and editorial content. And in his role as “thought leader” he is occasionally paid to meet up with drug industry executives to develop mutual understanding around issues related to this new field—interactions he regards as appropriate as long as they are transparent. For Haile Debas, the free lunches and the sponsored education are part of a much bigger process of companies “buying influence” and building problematic relationships, “creating conflicts of interest for prescribers, which in turn can affect their judgments about the care of patients and inadvertently drive up healthcare costs.”

Peaking at around 18% in 1999, UCSF’s annual growth in pharmaceutical spending in its hospitals and medical centres was brought under control in 2000, but in 2003 it is already growing again at double digits—for all the familiar reasons: rising drug prices, rising volumes of prescriptions, and rising proportions of prescriptions written for the newer, more expensive drugs (fig 2). In addition, regular shortages of older, cheaper, but effective, medicines are also driving the cost increases at UCSF’s medical centre and in hospitals across the United States.

Those in the university who are in charge of achieving more rational use of medicines are convinced that the entanglement between drug companies and doctors is part of the reason for the explosion in costs and part of the reason why attempts to control costs are undermined. The dean of pharmacy at UCSF, Mary Anne Koda-Kimble, has a sympathetic understanding of the mutual benefits that flow from the relationships but says the ties bring undue influence on drug use. Her department, like others at UCSF and elsewhere, is in the process of serious rethinking, with open discussion of plans to wind back the influence of industry fundamentally.

Redefining the relationships

Late last year Haile Debas appointed his own special committee to “redefine the relationships” with industry, and he has just received its final report (see part 2 of this article). “There have to be relationships with industry, but within a framework that respects the

independence of the physician and does not unduly effect their judgments about patient care,” he said.

Another UCSF researcher advocating a change is Drummond Rennie, a deputy editor with *JAMA* (the journal of the American Medical Association), who argues that the culture of gift giving, which starts with medical students, breeds a long term sense of entitlement. “I don’t criticise the marketers for behaving like marketers. What they do is make people feel entitled—so it’s not a bribe; it’s their due. And you end up with a situation where doctors won’t walk fifty yards at a big medical meeting without being transported in a drug company bus.”

The flipside of this sense of entitlement is of course indebtedness, which, as Katz points out, is to be repaid by support for the patron’s drugs,⁴ with a sense of obligation in direct conflict with doctors’ primary obligation to their patients.

Numerous requests for an interview with pharmaceutical company Genentech, to discuss the guidelines of the American Heart Association and the broader issues of entanglement, were declined.

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