

# DRUG REPS AND THE ACADEMIC MEDICAL CENTER

*a case for management rather  
than prohibition*

---

THOMAS S. HUDDLE

**ABSTRACT** Academic physicians and bioethicists are increasingly voicing objections to “drug rep” detailing. Leaders in academic medical centers are considering proposals to ban the small gifts of detailing within their walls. Such bans would be a mistake, as the small gifts are unlikely to act as bribes and do not create unacceptable conflicts of interest for physicians. Drug rep detailing does influence physician behavior, but this influence has not been shown to be harmful. Calls for a ban are premised on empirical evidence for harm that is inconclusive at best, and emerging literature in economics suggests that detailing may well be socially beneficial. A preponderance of harm over benefit is not, however, the primary source of the animus against detailing, which stems from moral considerations that are independent of its social consequences. However, pharmaceutical advertising, including detailing, is a morally legitimate aspect of the world of medical practice that we in academic medicine ought to be preparing our trainees to encounter and properly sift.

LEADERS OF ACADEMIC MEDICAL CENTERS are considering proposals to ban common forms of pharmaceutical marketing from their premises (Brennan et al. 2006). It is argued that the small gifts of pharmaceutical sales representative (“drug rep”) detailing produce unacceptable conflicts of interest for the physi-

---

Division of General Internal Medicine, University of Alabama at Birmingham School of Medicine, and Birmingham VA Medical Center.

Correspondence: Division of General Internal Medicine, University of Alabama at Birmingham School of Medicine, 1530 3rd Avenue South, FOT 720, Birmingham AL 35294.

E-mail: thuddle@uab.edu.

*Perspectives in Biology and Medicine*, volume 51, number 2 (spring 2008):251–60

© 2008 by The Johns Hopkins University Press

cians who are its objects. Such small gifts do influence physician behavior, in spite of physicians' widespread belief that they do not, and such influence is believed to be malign (Goodman 2007). Advocates of bans claim that by forbidding faculty from accepting such gifts, academic medical centers would be encouraging exemplary behavior that trainees would likely imitate—thus, over time, elevating the morals of the medical profession. Such proposals are a natural outgrowth of a growing literature suggesting that the small gifts of drug rep detailing are unethical and unbecoming to the medical profession (Katz, Caplan, and Merz 2003).

In the past, pharmaceutical promotion has involved practices that most would agree created worrisome conflicts of interest for involved physicians. Trips to meetings in attractive venues, expensive entertainment, and other large gifts were lavished upon physicians targeted for pharmaceutical promotion. These practices are now generally agreed to have been improper and are forbidden by the pharmaceutical companies themselves (PhRMA 2004). The more recent proposals focus upon the nominal gifts of day-to-day drug rep detailing. Academic medical centers are tasked with preparing trainee physicians to practice good medicine, both morally and technically. Our trainees will almost certainly interact with representatives of pharmaceutical companies after completing their training, whatever restrictions are imposed on them earlier (McCormick et al. 2001)—unless suggested bans on small gifts in the university are extended to the profession at large, as some have called for (Chimonas, Brennan, and Rothman 2007). A comprehensive ban on gifts would likely extinguish most detailing, as physicians are unlikely to spend time with drug reps without the small inducements of coffee or a sandwich during time snatched from practice. While I believe that small gifts do not bribe physicians to prescribe improperly, they do buy access for the drug rep's spiel. If small gifts do not act as bribes and are thus morally innocuous, and if detailing is not otherwise socially harmful, the use of gifts to obtain access to physicians is a legitimate part of pharmaceutical marketing. I shall argue that there is no plausible case for improper conflict of interest and that the case for social harm has not been made; training programs would do better to show trainees how to handle drug rep interactions than to effectively ban drug rep detailing by banning small gifts.

### **CONFLICTS OF INTEREST**

Recent proposals to restrict the practice of pharmaceutical detailing justify the restriction on the grounds that such gifts create a conflict of interest to which physicians fall prey when they are influenced to prescribe the drug rep-endorsed drug (Brennan et al. 2006). Conflicts of interest occur when one's interests or motives conflict with the interest of another party to whom one is responsible. Do the small gifts of drug rep detailing create a worrisome conflict of interest for physicians? Questionable conflicts of interest are those which, in the judg-

ment of a reasonable person, involve an interest extrinsic to one's duty that would likely impede one's performance of that duty (Carson 2004; Davis and Stark 2001). Even these cannot always be forbidden: we all have interests in fame or income or leisure that can potentially interfere with our duties to patients. Different methods of paying physicians come with particular incentives to increase or diminish services apart from the needs of the patient; altering payment methods can change the direction of the undesirable incentives but cannot eliminate them completely (Epstein 2007; Latham 2001). We are all vulnerable to temptations we must constantly resist.

We ought not, of course, subject ourselves to temptations unnecessarily, and some important conflicts of interest can be and are forbidden. The gifts of detailing would appear to be good candidates for proscription if in fact they tempted physicians to misprescribe. But do they? To suppose so is to presume that well-paid and highly educated professionals value pens and sandwiches more than their patients' welfare—a presumption reasonable people are unlikely to find plausible. Detailing thus passes the usual test for worrisome conflicts of interest. Yet despite the fundamental implausibility of the accusation, gift-ban advocates insist that the gifts of detailing bribe physicians into misprescribing. Their claim turns upon inferring corruption from evidence that detailing influences physicians. But corruption need not be invoked to explain influence, which, if it leads to misprescribing, is far more likely to be the result of simple persuasion by misleading advertising than of succumbing to bribery by pens. Of course the regulation or banning of detailing would be justifiable if it led to net misprescribing by any mechanism; hence the importance of determining what the effects of detailing on physicians actually are.

#### **THE INFLUENCE OF DRUG REP DETAILING ON PHYSICIANS**

Drug reps offer biased information about their products; physicians would do better to consult academic sources for information about drugs. Unfortunately, they often fail to do so and either make do with drug rep information or do without. In such cases detailing may be useful if it leads to patients getting drugs from which they may benefit, or harmful if misleading information leads to misprescribing. Gift-ban advocates assert that detailing distorts rather than improves physician judgment in prescribing. But the evidence they offer for the detrimental effects of drug rep detailing is weak—surprisingly so, given the emphatic character of the claims and prescriptions founded upon it. Numerous studies have scrutinized physician-industry interactions and have concluded that they lead physicians to prescribe needlessly expensive drugs for no proportional benefit. Many of these studies are, however, seriously flawed. Those reviewed by Wazana (2000) in a frequently cited meta-analysis generally rely upon physician self-reporting in written surveys for their data. None of the cited studies pur-

porting to examine the relationship between detailing and prescribing behavior assessed actual (rather than self-reported) prescribing behavior, pharmaceutical costs, or patient outcomes. The Wazana studies have been trenchantly criticized in the economics literature. Rubin (2004) points out that those that address prescribing behavior focus upon changes in that behavior after drug rep interactions. But the studies' authors tend to presume that such changes are caused by the drug rep interactions, even though other factors may be implicated in causing both the interactions and the altered prescribing. Physicians who have contact with drug reps may self-select for such contact. Various motives, such as a pre-existing desire to prescribe a drug or a concern to obtain information about drug side effects from reps, might lead both to the drug rep interaction and to the prescribing behavior. If this is true, attributing altered prescribing to the drug rep interaction would be unwarranted.

The studies also presume that altered prescribing behavior is harmful when it might be harmful, beneficial, or ambiguous (Rubin 2004). Among the prescribing outcomes cited by the papers are that drug rep information leads to more expensive prescribing by physicians more worried about side-effects than cost (Caudill 1996); that physicians less likely to trust generics and more likely to rely on drug reps for information prescribe fewer generics than other physicians (Bower and Burkett 1987); that CME course attendance led to marginally more prescribing of the drug produced by the course sponsors (Bowman and Pearle 1988); and that residents attending a grand rounds sponsored by a pharmaceutical company afterwards made some decisions more correctly and some less so (Spingarn, Berlin, and Strom 1996). These results do not necessarily imply aggregate harm to patients from drug rep interactions. Some of them are compatible with benefit.

To ascertain the actual effect of drug rep detailing, one would have to prospectively scrutinize physician practices operating with and without it over time, looking at the differential use of pharmaceuticals for similar illnesses and comparing costs and outcomes of therapy between the groups subjected to detailing and the non-detailed controls. Such a study would require the cooperation of drug reps, who would have to agree to visit physicians they might not otherwise spend time pursuing. That kind of study, perhaps not surprisingly, has not been done. The best evidence we do have about the effects of drug rep detailing is in the economics rather than the medical literature. Studies in that literature confirm that physician prescribing is affected by pharmaceutical detailing, at least modestly (Manchanda 2004; Mizik and Jacobson 2004). Detailing is important for new product diffusion, especially in the early stages, and it leads to a positive return on investment for pharmaceutical companies (Manchanda, Xie, and Youn 2004; Narayanan, Desiraju, and Chintagunta 2004). Detailing may lower physician sensitivity to price considerations in prescribing (Rizzo 1999; Windjmeier et al. 2006)—or, perhaps, not (Gonul 2001). Detailing is driven by scientific evidence, at least in part, and such evidence likely acts as useful information to

physicians in at least some detailing activity (Azoulay 2002; Narayanan, Manchanda, and Chintagunta 2003).

If the measure is patient outcomes achieved for a given cost, there is no direct evidence that detailing is either beneficial or harmful. But we do have indirect evidence that new pharmaceuticals likely contribute to increased longevity in developed countries and that such effects have been achieved at a reasonable cost (Lichtenberg 2005). If this is so, detailing, insofar as it contributes to the diffusion of longevity-enhancing new drugs, is socially useful. Lichtenberg compared disease-specific mortality rates with the number of new chemical entities (NCEs) launched by disease category from 1982 to 2000, in a sample of 52 countries in which causes of disease-related mortality overall were those typical of developed countries (cardiovascular disease and malignancy together caused 75% of disease-related deaths over the age of 65). After controlling for education, income, nutrition, the environment, and “lifestyle,” 40% of the 1.96 year overall improvement in life expectancy (0.79 years) that occurred between 1986 and 2000 was left potentially attributable to the effect of new NCE launches. There was generally a three-year lag before new NCEs maximally affected mortality rates, consistent with what is known about the time required for the diffusion of innovative new drugs into the U.S. national market. Given that drug rep detailing is an important impetus to new drug diffusion, such data offers a *prima facie* case that detailing contributes to the appropriate use of new drugs and to better health outcomes as a result. Such positive effects of detailing must of course be balanced against the effects of detailing-induced misprescribing. But I am unaware of any evidence, direct or indirect, for negative effects of detailing on health outcomes.

The pharmaceutical industry has used marketing practices, including detailing, in an unsavory and unethical way in various instances (Berenson 2007; Steinman et al. 2006); pharmaceutical marketing needs to be practiced ethically and abuses ought to be punished firmly. Nevertheless, considering detailing as a general mechanism for promoting the use of new drugs, such evidence as we have suggests that drug rep detailing is more likely to be socially beneficial than harmful. Such evidence is, however, unlikely to persuade gift-ban advocates as the gravamen of their case does not come primarily from the weighing of harms and benefits.

### **THE WISH TO DRIVE OUT THE MONEYCHANGERS**

Much of the effort expended by gift-ban advocates seems directed at expunging the whiff of the marketplace from the practice of medicine (insofar as that is possible in America in the early 21st century). If gifts are a time-honored marketing tool in business, it does not follow that they are acceptable among physicians. In fact, it is the profit motive behind promotional gifts that makes them unacceptable for some gift-ban advocates (Katz, Caplan, and Merz 2003). The profit motive is not, of course, acceptable if it gets in the way of our commitment to our patients' well-being, and academic physicians are perfectly right to be wary

of it. But it is just one of a panoply of possible motives and interests that may move us in directions opposed to the interests of our patients and that we must guard against. Our task is not to eliminate these interests, but to keep them within their proper bounds—not only because such interests are inevitable well-springs of human action but because, properly channeled, they can further our patients' interests as well as our own. The profit motive serves important purposes in medicine, just as in other sectors of the economy. Physicians have a direct interest in the availability of effective remedies for patients, and that availability is likely to be directly proportional to the opportunity for profit making among those who invent and develop these remedies. If we wish to further such development, it would behoove us to favor such profit making insofar as it stems from new remedies getting to those who need them. And that is a likely outcome of pharmaceutical advertising if we heed it properly.

Suspicion of the profit motive and of the business world has a long tradition among academic physicians—not, of course, without reason. We have seen how dangerous the profit motive can be if inserted into our work lives in the wrong places. Over the past 30 years we have seen how changes in the financing of American medicine have eroded our profession's traditional protections against the exigencies of market conditions, and we are still sorting out the meaning of professionalism in our new environment. As we adapt to our new position in the marketplace as best we can, we grope toward ways of protecting the doctor-patient relationship and preserving our commitments to patients. Our anxiety about succumbing too much to the business world may lead us to view drug rep detailing as an especially grubby aspect of that world that we ought best to avoid.

But the business world has not been an unalloyed evil for the morals of medicine: while subversive of our professional identity in some respects, the market revolution has strengthened it in others. The removal of restraints on professional advertising is a case in point. Professionals in medicine and law justified advertising bans on the grounds that advertising would contaminate our service orientation. Advertising certainly brings medicine more overtly into the realm of business before doctor and patient confront one another, but it is unclear that it must therefore contaminate the doctor-patient relationship once that relationship is established. It would certainly be hard to maintain that any change in physicians' service orientation in the past 30 years (if, as is doubtful, there has been any such change) was due to the new prevalence of physician advertising. On the other hand, advertising bans undoubtedly did hinder price competition among physicians, and were thus clearly detrimental for patients—as medicine is perforce in the realm of economic exchange, and patients do benefit from measures taken to protect them in their role as medical consumers. To recognize that medicine is in part business is not to say that it is just like other business. But insofar as patients are consumers, they ought to be protected as such, and the Supreme Court was therefore right to strike down advertising bans and to expose the self-interest behind favoring such bans on the grounds of service ori-

entation—pointing out that such arguments presumed an imperative that professionals conceal from themselves and clients the real-life fact that professionals earn a living from their professional vocations (*Bates v. State Bar of Arizona* 1977).

Advertising is simply not among the commercial practices that ought to set off our professionalism alarm bells if it is ethically sound (i.e., not socially harmful through being misleading). It is perfectly honorable for us to seek to attract patients through publicizing information likely to do so, especially if the diffusion of such information may lead to more choice and lower prices—goals for patients that we ought to applaud. The same is true for pharmaceutical companies, which need to make a profit just as we physicians need to make a living. We should be happy that they do, insofar as we are interested in a continuing flow of new drugs. This is not merely self-interest on their part, but legitimate and socially useful self-interest. They need not be ashamed to advertise, and we need not be ashamed for paying attention, so long as we do so circumspectly.

While we academics have grown somewhat accustomed to advertising on behalf of our university's HMO or PPO, we are often still disdainful of drug rep advertising; this disdain likely stems from our differing regard for knowledge and its uses. We seek, or ought to seek, truth through the pursuit of knowledge for its own sake. We are taught in our academic training to seek information from unimpeachable sources, impartial professors writing in peer-reviewed journals and textbooks. Why then encourage or even permit the acquiring of information from blatantly biased drug reps?

In the pharmaceutical industry, knowledge is produced and used as a tool for profit making. It is right to carefully distinguish this approach to knowledge from our own, and to make sure that trainees do not mistake one for the other. Pharmaceutical industry money has sometimes impaired the impartiality of academic voices speaking in academic venues; that is to our shame and must be prevented. But it does not follow that we ought simply to suppress the voice of the pharmaceutical industry within our precincts. If we accept the legitimacy of profit making in the pharmaceutical industry, we ought to accept the legitimacy of knowledge promulgated as a means to profit making in the world of medical practice. Accordingly, we ought to prepare our trainees to interact with drug reps by managing their presence during training. How might training programs do that? Drug reps could be limited to carefully selected venues, such as particular hospital areas during lunch. Interactions with residents might be permitted only with faculty present, faculty who could courteously ask pointed questions, expose fallacies in the reps' sales pitches, and direct residents toward information that would provide "the rest of the story"—thus modeling a critical approach to the drug rep spiel that would both identify drug rep bias and extract useful information.

Such a model of information gathering will still offend those for whom only impartial and unsullied academic sources of information are acceptable. But to take that stance is to make the best the enemy of the good—good that is, if detailing is handled properly as a useful source of information that adds to, rather than



substitutes for, journal reading and conferences. It is also to deny the legitimacy of pharmaceutical companies making the best case they can for the use of their products—a necessary function of a pharmaceutical marketplace. It is, finally, to assert a sharp distinction between biased and impartial information that is never as clear-cut as we might like it to be. Bias is a universal phenomenon in the world of medical research (Iaonnidis 2005); teaching our trainees to identify it when obvious may help them to see it more easily when it appears in other guises.

### CONCLUSION

The development, production, and diffusion of effective pharmaceuticals is the moral end toward which market arrangements in which a profit-making pharmaceutical industry can flourish are the appropriate and effective means. Pharmaceutical advertising has a legitimate role to play among those arrangements and will not be misleading if it meets given standards of truth and if we physicians digest it critically. While academic physicians will never embrace it, we ought to recognize its proper role in the practice world and teach trainees to process it. Such, unsurprisingly, is also the conclusion of Manchanda and Honka (2005) in their review of both medical and economics literature on detailing.

Banning detailing in academic medical centers would likely have unhappy consequences. Gift-ban advocates contend that academic leaders will be able to educate medical faculty and build a consensus around gift bans, and that such consensus will make easier the necessary monitoring of compliance with a ban and enforcing of the rules against accepting the small gifts of detailing (Katz, Caplan, and Merz 2003). They are almost certainly mistaken. Consensus that it is wrong to accept a pen from a drug rep is unlikely to be achieved in the medical center I inhabit in any assignable time. And the expending of significant time and effort on enforcing a ban on small gifts will more likely induce cynicism than consensus, as medical academia strains at the gnat of detailing gifts while swallowing the camel of much more questionable academia-industry interactions, such as those involving undisclosed consulting relationships, biased clinical trial design, and the misreporting of clinical trial results (Hrachovec and Mora 2001; Johanson and Gotzsche 1999; Stelfox et al. 1998).

Most worrisome is the possibility that a detailing ban may corrupt rather than elevate the morals of our trainees. From a ban on the gifts of detailing in academic medical centers, trainees may conclude not that taking small gifts from drug reps is like Medicare fraud, but instead that Medicare fraud is like taking small gifts. If everything is evil, then perhaps nothing is really evil. Rather than developing a more sensitive conscience in trainees, making rules about matters such as drug rep gifts may lead to cynicism and a coarsening of their morality. That would be the saddest among possible outcomes of a ban.

The spectacle of moral enforcers obsessed with appearances while actual malfeasance goes unpunished is characteristic of our time and society (Morgan and



Reynolds 1997). But academic medical centers need not and ought not to join the appearances police by forbidding detailing. We would do better to focus on practices actually productive of important conflicts of interest, to police actual wrongdoing, and to educate the young about handling the complex world in which we live. That drug reps are “money changers”—agents of profit making—is insufficient reason for us to cast them out; the academic medical center is not a temple, much as many of us would prefer it to be so. It needs to be a training ground for the world of practice. While we need not countenance unsavory aspects of the practice world, it would become us to include hazardous but legitimate aspects of that world among the contingencies for which we prepare our trainees. Pharmaceutical marketing is one of those—which is why we in the academic world should work with drug reps rather than banish them.

#### REFERENCES

- Azoulay, P. 2002. Do pharmaceutical sales respond to scientific evidence? *J Econ Man Strat* 11(4):551–94.
- Bates v. State Bar of Arizona*, 433 U.S. 350, 97 S.Ct. 2691 (1977).
- Berenson, A. 2007. Lilly settles with 18,000 over Zyprexa. *NY Times* (Jan. 5).
- Bower, A. D., and G. L. Burkett. 1987. Family physicians and generic drugs. *J Fam Prac* 24(6):612–16.
- Bowman, M. A., and D. L. Pearle. 1988. Changes in drug prescribing patterns related to commercial company funding of continuing medical education. *J Cont Ed Health Prof* 8(1):13–20.
- Brennan, T. A., et al. 2006. Health industry practices that create conflicts of interest: A proposal for academic medical centers. *JAMA* 295(4):429–33.
- Carson, T. L. 2004. Conflicts of interest and self-dealing in the professions: A review essay. *Bus Ethics Q* 14(1):161–82.
- Caudill, T. S., et al. 1996. Physicians, pharmaceutical sales representatives and the cost of prescribing. *Arch Fam Med* 5(4):201–6.
- Chimonas, S., T. A. Brennan, and D. J. Rothman. 2007. Physicians and drug representatives: Exploring the dynamics of the relationship. *J Gen Intern Med* 22:184–90.
- Davis, M., and A. Stark. 2001. *Conflict of interest in the professions*. New York: Oxford Univ. Press.
- Epstein, R. A. 2007. Conflicts of interest in health care: Who guards the guardians? *Perspect Biol Med* 50(1):72–88.
- Gonul, F. E., et al. 2001. Promotion of prescription drugs and its impact on physicians’ choice behavior. *J Marketing* 65(July):79–90.
- Goodman, R. L. 2007. Medical education and the pharmaceutical industry. *Perspect Biol Med* 50(1):32–39.
- Hrachovec, J. B., and M. Mora. 2001. Reporting of 6-month vs 12-month data in a clinical trial of celecoxib [letter]. *JAMA* 286:2398
- Ioannidis, J. P. 2005. Molecular bias. *Eur J Epidemiol* 20:739–45.
- Johanson, H. K., and P. C. Gotzsche. 1999. Problems in the design and reporting of trials of antifungal agents encountered during meta-analysis. *JAMA* 282:1752–59.

- Katz, D., A. L. Caplan, and J. F. Merz. 2003. All gifts large and small: Toward an understanding of pharmaceutical industry gift-giving. *Am J Bioeth* 3(3):40–46.
- Latham, S. R. 2001. Conflicts of interest in medical practice. In *Conflict of interest in the professions*, ed. M. Davis and A. Stark; 279–301. Oxford: Oxford Univ. Press.
- Lichtenberg, F. 2005. The impact of new drug launches on longevity: Evidence from longitudinal, disease-level data from 52 countries, 1982–2001. *Int J Health Care Finance Econ* 5:47–73.
- Manchanda, P. 2004. Responsiveness of physician prescription behavior to salesforce effort: An individual level analysis. *Marketing Lett* 15(2–3):129–45.
- Manchanda, P., and E. Honka. 2005. The effects and role of direct-to-physician marketing in the pharmaceutical industry: An integrative review. *Yale J Health Pol Law Ethics* 5(2):785–822.
- Manchanda, P., Y. Xie, and N. Youn. 2004. The role of targeted communication and contagion in product adoption. University of Chicago working paper. <http://www.olin.wustl.edu/fs/acadseminars/downloadPDF.cfm?recNum=41627>.
- McCormick, B. B., et al. 2001. Effect of restricting contact between pharmaceutical company representatives and internal medicine residents on post-training attitudes and behavior. *JAMA* 286(16):1994–99.
- Mizik, N., and R. Jacobson. 2004. Are physicians “easy marks”? Quantifying the effects of detailing and sampling on new prescriptions. *Manag Sci* 50(12):1704–15.
- Morgan, P. W., and G. H. Reynolds. 1997. *The appearance of impropriety: How ethics wars have undermined American government, business and society*. New York: Free Press.
- Narayanan, S., R. Desiraju, and P. K. Chintagunta. 2004. Return on investment implications for pharmaceutical promotional expenditures: The role of marketing-mix interactions. *J Marketing* 68(Oct.): 90–105.
- Narayanan, S., P. Manchanda, and P. Chintagunta. 2003. The informative versus persuasive role of marketing communication in new product categories: An application to the prescription antihistamines market. (Sept. 3). SSRN: <http://ssrn.com/abstract=472881> or DOI: 10.2139/ssrn.472881.
- Pharmaceutical Research and Manufacturers of America (PhRMA). 2004. PhRMA code on interactions with healthcare professionals. [http://www.phrma.org/code\\_on\\_interactions\\_with\\_healthcare\\_professionals/](http://www.phrma.org/code_on_interactions_with_healthcare_professionals/).
- Rizzo, J. A. 1999. Advertising and competition in the ethical pharmaceutical industry: The case of anti-hypertensive drugs. *J Law Econ* 42(April):89–116.
- Rubin, P. H. 2004. Pharmaceutical marketing: Medical and industry biases. *J Pharm Fin Econ Pol* 13(2):65–79.
- Spingarn, R. W., J. A. Berlin, and B. L. Strom. 1996. When pharmaceutical manufacturers’ employees present grand rounds, what do residents remember? *Acad Med* 71(1):86–88.
- Steinman, M. A., et al. 2006. Narrative review: The promotion of gabapentin: An analysis of internal industry documents. *Ann Intern Med* 145:284–93.
- Stelfox, H. T., et al. 1998. Conflict of interest in the debate over calcium-channel antagonists. *New Engl J Med* 338(2):101–6.
- Wazana, A. 2000. Physicians and the pharmaceutical industry: Is a gift ever just a gift? *JAMA* 283(3):373–80.
- Windmeijer, F. E., et al. 2006. Pharmaceutical promotion and GP prescription behavior. *Health Econ* 15:5–18.