

# MEDICAL EDUCATION AND THE PHARMACEUTICAL INDUSTRY

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**ABSTRACT** Interactions with industry begin early in medical training, and attitudes toward these interactions among students and trainees are permissive, which is not surprising given the “informal curriculum” received from peers and role models. Though the Accreditation Council on Graduate Medical Education has recommended explicit policies on interactions between trainees and industry, past studies have shown that most schools and training programs do not have such policies. Given that acceptance of gifts from industry can create conflicts of interest, that promotional information may be biased, and that non-promotional sources of prescribing information are readily available, medical schools and training programs should develop and implement explicit policies restricting interactions between trainees and industry representatives.

ONE DOESN'T HAVE TO LOOK too hard to find the imprint (often literal) of the pharmaceutical industry on medical education and training: from the medical student with the branded stethoscope tag (perhaps even the stethoscope itself) to the resident attending a catered noon conference while writing prescriptions with a branded pharmaceutical pen, industry's presence is ubiquitous.

Interestingly, if you ask that medical student or resident—or perhaps even their supervising attending physician—if they are influenced by any of this, the unanimous answer will be: “How could you even suggest it? A sandwich influ-

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ence my prescribing? Ridiculous!" And many a medical student might add further: "I couldn't even prescribe their medication if I *wanted* to; so what's the harm in a free meal?" One wonders: why does industry go to such trouble?

#### PREVALENCE AND ATTITUDES

Several studies have examined the prevalence of, and attitudes toward, pharmaceutical promotion among students and residents. The common theme among these studies is as follows: (1) interactions between trainees and industry are common; (2) students and residents are relatively permissive regarding the acceptance of gifts; and (3) students and residents minimize the influence these gifts have on their behavior.

For example, a survey of third-year medical students found that almost 97% of students had attended a lunch sponsored by a drug company, and 50% had attended a dinner, with the mean exposure to gifts or promotional activity of one per week (Sierles et al. 2005). Over 70% of students responded that "It is sometimes okay for medical students to accept gifts and lunches from drug companies because drug companies have minimal influence on students," and slightly over 80% answered that "It is sometimes okay for medical students to accept gifts and lunch from drug companies because most students have considerable debts and minimal income." More than 30% of students thought that gifts or food would influence their own prescribing, while a little over 40% thought it might influence their fellow students. Over 90% were asked or required by a physician to attend at least one sponsored lunch. Slightly over 80% believed that they were entitled to gifts. Importantly, of eight schools surveyed, seven had no written policy regarding student-industry interactions, and 95% of students did not know whether their school had such a policy.

In a survey of first- and second-year primary care internal medicine residents, approximately 90% of residents responded that lunches, dinner lectures, and prescribing guides were appropriate or "somewhat" appropriate (Steinman, Shlipak, and McPhee 2001). Slightly over 60% of residents responded that contacts with industry did not influence their own prescribing, while only 16% believed other physicians were not influenced. In another study of primary care residents in which residents were asked to empty the pockets of their white coats, 97% of residents were carrying at least one item with a pharmaceutical insignia (Sigworth, Nettleman, and Cohen 2001). Brett, Burr, and Moloo (2003) surveyed residents and faculty at their medical school and found that neither residents nor faculty found most marketing activities ethically problematic, though faculty tended to show more concern than did residents.

In a white paper entitled "Principles to Guide the Relationship Between Graduate Medical Education and Industry," the Accreditation Council of Graduate Medical Education (ACGME 2002) placed relationships with industry within the framework of its six "competencies" (medical knowledge, profession-

alism, systems-based practice, etc.). The paper states, for example, that "Ethics curricula must include instruction in and discussion of published guidelines regarding gift-giving to physicians," that "Residents must learn how promotional activities can influence judgment in prescribing decisions and research activities through specific instructional activities," and that "Programs and sponsoring institutions must determine through policy, which contacts, if any, between residents and industry representatives may be suitable, and exclude occasions in which involvement by industry representatives or promotion of industry products is inappropriate." What impact these principles have had, and to what extent the guidelines have been adopted, is not known.

While many professional societies have guidelines on interactions with industry, most notably the American Medical Association (2001), none specifically addresses the issue of students' or residents' interactions with industry. The American Medical Student Association encourages students not to accept any gifts (AMSA 2002). However, Sierles et al. (2005) found that of students who were AMA members, only 14% were familiar with the AMA guidelines, and only 12% of AMSA members were familiar with its guidelines. Likewise, Watkins and Kimberly (2004) found that only 2% of their internal medicine residents were familiar with the AMA position statement.

#### HOW DID WE GET HERE?

It seems hard to formulate a convincing argument in favor of gifts to individual clinicians (Need? Reimbursement for time?), and it is likewise difficult to justify the present position of industry in medical education (from the non-industry perspective, at least). This differs from the situation in clinical research, where—problematic as its presence may at times be—an argument can be made for a role of industry. The primary explanation for the current situation seems to be simply that residents need to eat lunch, and training programs and hospitals cannot afford to buy lunch for their own housestaff. Though many will try to justify their presence, would any training program (or medical school) ever chance upon the idea of inviting salespeople in to teach their trainees (or students) were it not for the free lunch that was provided? It seems unlikely. Imagine a program director saying, "You know, we're a bit short on faculty, perhaps we could see if Bristol-Myers Squibb could supply us with a talk on anti-thrombotics?" Of course not. Nevertheless, we find ourselves, *ex post facto*, rationalizing the current state of affairs.

The arguments that do go beyond the free lunch go something like this: if residents are not exposed to sales reps and pharmaceutical promotion during residency, upon completion of residency they will get out into the "real world" and be "devoured" by sales people and promotional information, having not received proper training about processing promotional information and interacting with reps. Some will make the argument that the reps are providing, and are a useful

source of, prescribing information, though this is heard less commonly (other than from industry). Thus, reps are often present at lunchtime conferences and are invited to journal clubs, where their presentations are subjected to withering critiques by the residents and faculty in the audience, a practical lesson in how to critique promotional information.

But is this the best approach? Is all this free food really worth the cost? Certainly if reps were the only source of information about new drugs, this would make some sense. It would be reasonable to train students and housestaff “how to critique the Pfizer rep” just like we teach them “how to critique the medical literature.” But promotional sources are not only not the *only* source of prescribing information; they are also, not surprisingly, a *biased* source of information (Ziegler, Lew, and Singer 1995), and an inefficient one, as well. This should not surprise anyone: these are salespeople after all. Their goals—to sell their products—are not bad goals; they just are not our goals. We want to prescribe the most cost-effective drug; they want us to prescribe *their* drug. Occasionally these goals may overlap, but often they do not.

The argument—made usually by industry—in favor of sales reps as a source of information goes something like this: reps are an important source of information for the doctor forever too busy to keep up with the ever-expanding medical literature. What better way than a few minutes chatting with a rep to learn about useful new drugs (or, lacking that, new uses for old drugs).

What is interesting about this argument is that it is the same argument that industry was making 20 years ago, before *PubMed*, before *Uptodate*, before, can you imagine, Google. And while the *Medical Letter* did exist two decades ago, it certainly did not exist on anyone’s laptop, or PDA for that matter. It is an argument that ignores the virtual revolution that has occurred in the intervening time in regards to access to information, and this is a revolution felt in the practice of medicine as much as anywhere else. It would likely never occur to a 21st-century medical student or resident to use promotional sources of information except for the fact that, alas, they observe their role models doing just that.

That, of course, and the fact that the promotional information comes with free lunch.

#### INTERVENTIONS AND POLICIES

Many programs do provide instruction on “appropriate interactions” with sales reps, and several reports have addressed such interventions (Zipkin and Steinman 2005). For the most part, these interventions tend to produce more skeptical students and residents (Agrawal, Saluja, and Kaczorowski 2004). Interestingly, the results may depend on who is doing the intervening. For example, Wofford and Ohl (2005)—who support a “partnership” approach with industry and claim that “In contrast to many educators who oppose PCR [pharmaceutical company representative] contact for trainees,” they encourage “respect for the individual

PCR”—developed a 90-minute workshop during the ambulatory internal medicine medical student clerkship. They found that the perceived educational value of pharmaceutical representative interactions increased after their session, and the perception of bias in drug rep information decreased (though this was not statistically significant). On the other hand, Wilkes and Hoffman (2001), whose attitude toward these interactions are more skeptical, found that students who had participated in their session (which involved pharmacists portraying pharmaceutical reps) found students more likely to believe that gifts bias behavior and were more likely to believe that “Drug company promotions are less likely to be about unique drugs than about drugs that are essentially similar to drugs made by other companies.”

Of course, as long as attending physicians are role modeling such behaviors as accepting gifts and promotional information, serving as “knowledge opinion leaders” and speaking at sponsored events at local restaurants, and as long as professional societies continue to feature lavish exhibit halls at their annual meetings, we can lecture students all we want. Regardless of whatever explicit or “manifest” curriculum we provide them, the implicit or “hidden” curriculum (Hafferty and Franks 1994) will teach trainees that acceptance of and entitlement to gifts is accepted and acceptable physician behavior.

But should we really be training residents and students how to interact with sales people, as if meeting with reps and accepting promotional information and gifts were some sort of a mandatory requirement of physicianship? The intention of such training is to produce physicians who are better equipped to meet with reps, but if relying on promotional sources of information, interacting with reps, and using “free” samples may result in inappropriate prescribing (Adair and Holmgren 2005; Avorn, Chen, and Hartley 1982; Caudill et al. 1996), why are we training residents to interact with them at all? During residency, if we demonstrate (via teaching as well as role modeling) that less biased information is easily available elsewhere and acknowledge that the acceptance of gifts creates an unacceptable conflict of interest, the “real world” that residents enter will more likely be one without sales reps. For, unlike us, they will no longer see a need for promotional sources of information and, importantly, will not develop the sense of entitlement to industry largesse that those who went before them have acquired.

Furthermore, a real (though currently unsubstantiated) concern is that we may actually be producing physicians who are *more* susceptible to promotion. Residents who receive an hour or two of training on “appropriate interactions with reps,” critique print advertisements, and learn many of the promotional ploys and tricks used by sales people may naively believe that they can meet with reps and remain untouched by promotional messages. In fact, they may be more willing to meet with them and may even be more willing to accept gifts—as some studies have suggested a correlation between the number of gifts received

and the belief that one is influenced (Hodges 1995). But of course, they are not immune to industry influence. Industry is much better at this than we are, and reps have had lot more training.

Schneider et al. (2006) surveyed residents annually in their internal medicine training program—a program that has an explicit policy on interactions that follows the AMA’s guidelines—and also compared residents who had received an intervention consisting of an interactive educational workshop to residents who hadn’t received the intervention. They found that the effect of the educational intervention was minimal; however, changes in attitudes were consistent with institutional policies. The authors conclude that policies—as well as role modeling—may thus be more effective than didactic educational interventions.

McCormick et al. (2001) looked at three cohorts of physicians: residents from the Department of Medicine at McMaster University in Hamilton, Ontario, which instituted a restrictive policy in 1992 (pre- and post-policy cohorts), and the University of Toronto, which did not have such a policy. They found that the “post policy” McMaster residents were less likely to find rep-provided information useful and met less frequently with reps than did the other cohorts.

The current prevalence of policies in training programs and medical schools is unknown. Lichstein, Turner, and O’Brien (1992) surveyed internal medicine residency program directors of accredited U.S. programs; of the 60% who responded, only 35% reported the existence of a formal policy. More recently, Sierles et al. (2005) surveyed 110 medical school student affairs deans, and of the 99 who knew whether there was a policy, only 10% reported that their school had such a policy.

### PROFESSIONAL SOCIETIES

As outlined elsewhere in this issue, professional societies are highly addicted to, and dependent upon, pharmaceutical money and largesse (Kassirer 2007). It is easy to see how this can affect medical education and practice: professional societies produce guidelines that may be highly influential, and both the society and the guideline writers may be heavily conflicted. Medical journals and meetings are heavily dependent on industry money. And just imagine the effect on a medical student or resident who—perhaps inadvertently—wanders through the football field-sized exhibit hall at a typical annual meeting. Though societies have rules for exhibitors, Lurie et al. (2005) found that violations of these rules were common at the 2002 meeting of the American Psychiatric Association (APA), with over half of companies violating either an APA or FDA regulation.

Professional societies maintain that journals could not survive and meetings would be prohibitively expensive were it not for industry’s contribution. This is a sorry and for the most part untested hypothesis. In fact, one professional society, the Society of General Internal Medicine, takes practically no industry

money, has no exhibit hall to speak of, has a well-attended meeting, and even has a journal, the *Journal of General Internal Medicine*, which contains no drug advertisements. Perhaps other societies could consider following its lead.

#### WHAT IS TO BE DONE?

Other than the perceived financial need for industry funding, it is not at all clear that there is a role—or any other need—for industry involvement in medical education. Certainly we should be teaching about evidence-based prescribing, about applying clinical epidemiologic principles to promotional literature, and about the ethical issues surrounding acceptance of gifts from industry. But most importantly, medical schools and residency programs must have explicit policies, in accordance with ACGME recommendations. Unless evidence appears that demonstrates favorable effects of these interactions, such policies preferably should prohibit interactions between trainees and industry. Though some will prefer to teach about “appropriate interactions,” it may be that the most appropriate, evidence-based interaction is a polite “no, thank you.”

This is not to say we should inculcate negative attitudes toward industry into students and residents. Rather, trainees need to appreciate the conflicting interests of the medical profession and of industry, and—importantly—understand the fiduciary nature of the physician’s role. Industry’s primary interest is the (financial) well-being of its shareholders. The primary interest of the medical profession, however, is the well-being of patients. Social responsibility, as Milton Friedman (1962) has said, is not the responsibility of corporations. But it *is* the responsibility of the medical profession. And here, in the throes of Mammon, we have failed our patients and society. For as Friedman (1975) also said, there’s no such thing as a free lunch.

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