

Undergraduate and Graduate Medical Education and the Pharmaceutical Industry

The financial generosity of the pharmaceutical industry to provide funding for medical education tempts a compromise of professional standards and ethics.

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By professional patriotism [in medicine] . . . I mean that sort of regard for the honor of the profession and that sense of responsibility for its efficiency which will enable a member of that profession to rise above the consideration of personal or professional gain. . . . If the medical education of our country is in the immediate future to go upon a plane of efficiency and of credit, those who represent the higher ideals of the medical profession must make a stand for that form of medical education which is calculated to advance the true interests of the whole people and to better the ideals of medicine itself [1].

Nearly a century later, tight medical school budgets and managed care make promotional gifts and educational and research funding from the pharmaceutical industry financially attractive. Pharmaceutical industry generosity arguably entices compromise of ethical standards in medical education and professionalism [2-5]. Evidence of compromise prompts calls for renewing and reclaiming professionalism by minimizing and even eliminating the influence of the pharmaceutical industry in medical education [5-7]. This article focuses on policy issues pertaining to interactions between the pharmaceutical industry and undergraduate and graduate medical education.

In 2001, the pharmaceutical industry spent \$19 billion on promotion, which includes direct-to-consumer (DTC) advertising, medical journal advertising, product samples, and costs associated with sales representative interactions with office-based and hospital-based physicians and pharmacy directors [8]. Promotional activities directed at office-based and hospital-based physicians involve medical students serving clerkships, interns, and residents [9]. Additionally, the pharmaceutical industry contributed to the approximately \$540 million spent on graduate and continuing medical education (GME and CME, respectively) by companies who manufacture products regulated by the FDA [10]. The economic influence of the pharmaceutical industry has generated numerous articulations of ethical and legal guidelines to regulate industry interaction with medical research, practice, and education [11-20].

The federal government and professional organizations provide guidelines for interactions between GME and the pharmaceutical industry [15-20]. The Accreditation Council for Graduate Medical Education (ACGME) and the Association of American Medical Colleges (AAMC) require each GME site and program to develop, implement, and enforce policies that regulate interactions between residents and the pharmaceutical industry [16,18]. Wazana's analysis of the literature demonstrated that prior to the release of these guidelines, residency programs differed in their policies regarding the permissibility of pharmaceutical industry gifts and educational funding [4].

Publications after Wazana continue to note differences in policies and attitudes. Two articles in *Health Affairs* described the frustrations and "conversion" of a former resident and a former GME site committee member as they struggled against the lack of policies regulating interactions between residents and pharmaceutical representatives [21,22]. Ferguson, et al, reported that practicing internists who came from residency programs with policies restricting pharmaceutical industry contact were no less likely to interact with and accept samples from pharmaceutical

representatives than internists who came from programs with no restrictive policies [23]. McCormick, et al, reported that restrictive policies appeared to alter residents' attitudes toward pharmaceutical representatives, thereby reducing the frequency of contact between representatives and practicing physicians [24]. A study of factors influencing interns' prescribing behaviors concluded that educational interventions and multi-disciplinary mentoring would be more effective than restrictive policies [25]. These representative studies demonstrate the disparity among the results of policies restricting residents' interaction with the pharmaceutical industry.

Despite the disparity in restrictive policies, the above-mentioned authors agreed that educational interventions to equip residents to interpret and interact with pharmaceutical industry promotion are necessary. This conclusion is bolstered by studies that described educational interventions to train residents to interact with pharmaceutical industry promotion [26,27]. The importance of educational experiences in conjunction with restrictive policy is reported by the Association of Program Directors of Internal Medicine (APDIM) [28]. A survey of all APDIM member programs demonstrated that certain benchmarks of financial and staff support correlated with indicators of quality. One correlation was that programs that accepted higher amounts of financial support from the pharmaceutical industry also had lower pass rates for the American Board of Internal Medicine certification exam. Although the survey did not ask about policies involving interactions with the pharmaceutical industry, the conclusions of the report suggest that residents' success does depend on educational quality that is independent of financial influence from the pharmaceutical industry.

The guidelines for interactions between undergraduate medical students and the pharmaceutical industry are not as extensively developed as those for GME. Nevertheless, their presence in hospitals, practitioners' offices, clinics, and educational events make undergraduate medical students susceptible to pharmaceutical industry promotion. A recently published survey of fourth-year medical students reported that students were not "highly knowledgeable regarding pharmaceutical marketing," yet they "reported greater confidence in the accuracy of information received from PSRs [pharmaceutical sales representatives] . . . than did pharmacy students" [29]. The study concluded with recommendations for developing, implementing, and monitoring educational experiences regarding the pharmaceutical industry throughout the entire medical school experience. These recommendations corroborated the results of an earlier survey study, which described third-year medical students' understanding of pharmaceutical industry promotion, and proposed an intervention to improve students' understanding of ethical issues and guidelines [30].

Despite the apparent lack of a "core" curriculum on the ethics of interactions with the pharmaceutical industry [31], not all medical students are unaware of the influence of pharmaceutical industry promotion. The American Medical Student Association (AMSA) has called upon all medical students to "revitalize" professionalism in medicine by rejecting all pharmaceutical industry promotional activities [32-35]. This pursuit is enhanced by the activism of Dr. Bob Goodman and his No Free Lunch organization [36]. Thus, while the interactions between the pharmaceutical industry and undergraduate medical education seem to garner less formal attention, the ethical issues are no less important, and the necessity to address them all the more imperative.

Should medical education eschew all financial support from the pharmaceutical industry? Is the rejection of restrictive policies no more than acquiescence and laissez-faire? Professional, ethical, and legal norms combine education and regulation to deter and monitor abuse. While such norms cannot hold each individual in check, they do promote an atmosphere of mutual concern and respect that can foster optimal cooperation in the provision of effective health care, which recaptures the vision Flexner and Pritchett articulated nearly a century ago.

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