PARTIAL BIBLIOGRAPHY ON PHARMACEUTICAL PROMOTION AND PRESCRIBING HABITS

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Jeremy A. Greene, MD, PhD

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John G. Connolly

Division of Pharmacoepidemiology and Pharmacoeconomics

Brigham & Women’s Hospital
Harvard Medical School
Boston, MA

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Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits
Harvard Medical School, Brigham & Woman's Hospital,
Division of Pharmacoepidemiology and Pharmacoeconomics

ACADEMIC DETAILING


Improving precision and economy in the prescribing of drugs is a goal whose importance has increased with the proliferation of new and potent agents and with growing economic pressures to contain health care costs. We implemented an office-based physician education program to reduce the excessive use of three drug groups: cerebral and peripheral vasodilators, and oral cephalosporin, and propoxyphene. A four-state sample of 435 prescribers of these drugs was identified through Medicaid records and randomly assigned to one of three groups. Physicians who were offered personal educational visits by clinical pharmacists along with a series of mailed "unadvertisements" reduced their prescribing of the target drugs by 14% per cent as compared with controls (p = 0.0001). A comparable reduction in the number of dollars reimbursed for these drugs was also seen between the two groups, resulting in substantial cost savings. No such change was seen in physicians who received mailed print materials only. The effect persisted for at least nine months after the start of the intervention, and no significant increase in the use of expensive substitute drugs was found. Academically based "detailing" may represent a useful and cost-effective way to improve the quality of drug-therapy decisions and reduce unnecessary expenditures.


The cost-effectiveness of quality assurance programs is often poorly documented, especially for innovative approaches. The authors analyzed the economic effects of an experimental educational outreach program designed to reduce inappropriate drug prescribing, based on a four-state randomized controlled trial (N = 435 physicians). Primary care physicians randomized into the face-to-face group were offered two individualized educational sessions with clinical pharmacists, lasting an average of 18 minutes each, concerning optimal use of three drug groups that are often used inappropriately. After the program, expenditures for target drugs prescribed by these physicians to Medicaid patients decreased by 13%, compared with controls (P = 0.002); this effect was stable over three quarters. Implementation of this program for 10,000 physicians would lead to projected drug savings (to Medicaid only) of $2,050,000, compared with resource costs of $940,000. Net savings remain high, even after adjustment for use of substitution medications. Although there was a ninefold difference in average preintervention prescribing levels between the highest and lowest thirds of the sample, all groups reduced target drug expenditures at the same rate. Targeting of higher-volume prescribers would thus further raise the observed benefit-to-cost ratio from approximately 1.8 to at least 3.0. Net benefits would also increase further if non-Medicaid savings were added, or if the analysis included quality-of-care considerations. Although print materials alone may be marginally cost-effective, print plus face-to-face approaches offer greater net benefits. The authors conclude that a program of brief, face-to-face "detailing" visits conducted by academic rather than commercial sources can be a highly cost-effective method for improving drug therapy decisions. Such an approach makes possible the enhancement of physicians' clinical expertise without relying on restriction of drug choices.


In analyzing a university-based program to educate physicians about proper medication use, we sought to measure whether physician background characteristics and the quality or number of educational exposures influenced the rate of relinquishment of inappropriate prescribing. A sample of 435 doctors was randomized to control and experimental groups; interventions consisted of printed educational materials and face-to-face visits by clinical pharmacists. The program sought to reduce inappropriate use of three drug categories: propoxyphene, peripheral/cerebral vasodilators, and cephalosporin. Outcome data included the total volume (tablets/capsules) of these drugs prescribed through Medicaid by each study physician 9 months before and after the program. We estimated average changes in prescribing levels by experimental and control physicians within each physician subgroup (e.g., board-certified versus uncertified), adjusting for prescribing level in the same 9 months of the previous year. The results indicated that the rate of prescribing change was independent of most physician background characteristics studied, including age, board certification, specialty, rural versus urban practice, intensity of previous target drug use, and size of Medicaid practice. Experimental effects were highly significant (-9% to -20%, P less than 0.025) in 11 of 14 physician subgroups. The presence of a follow-up reinforcement visit was a strong independent predictor of prescribing change (P less than 0.05). An
increase from one visit to two visits was associated with an approximate doubling of the size of the program effect. However, total exposure time was not related to changes in prescribing behavior. These findings document that face to face education can be effective in improving the prescribing practices of a wide variety of physicians, and that brevity, repetition, and reinforcement of recommended practices are important components in the design of such programs.


Although there is increasing concern about inappropriate physician prescribing and how to devise programs to improve drug therapy decisions, little research has been published documenting the reasons for such misprescribing. We analyzed the motivations reported by 141 physicians who were part of a large multi-state randomized controlled trial of 'academic detailing.' The physicians were identified from state Medicaid prescribing records as moderate to high prescribers of cerebral or peripheral vasodilators, propoxyphene, or cephalexin, and were visited by clinical pharmacists serving as outreach educators in a medical school-based prescribing improvement program. Physicians' motivations for their prescribing patterns were discussed in an informal, interactive manner; all responses were recorded in detail by the pharmacists immediately following each visit. Of the 110 responses elicited, the most common reason offered by physicians for use of these medications was patient demand (51 statements, or 46%). Physicians also frequently attributed their prescribing of these drugs to intentional use of placebo effect (24%). An equally common reason was prescribers' assertion that their own clinical experience indicated that these drugs were actually therapies of choice in the conditions presented (26%), despite evidence from the research literature that this was not the case. Such indications included the use of the 'vasodilators' for senile dementia or peripheral vascular disease, cephalexin for viral upper respiratory infections, and propoxyphene instead of acetaminophen or aspirin for mild pain. Greater attention must be paid to physicians' attitudes and motivations concerning suboptimal prescribing if programs are to succeed in replacing these practices with more rational clinical decision-making.


We surveyed faculty and residents from seven hospitals affiliated with three academic internal medicine training programs about their perceptions of the informational and service benefits vs the risks of unethical compromise involved in interactions with pharmaceutical sales representatives. Questionnaires were returned by 467 (81%) of 575 physicians surveyed. Residents and faculty generally had somewhat negative attitudes toward the educational and informational value of detailing activities at their institutions but indicated that representatives supported important conferences and speakers. Residents were more likely than faculty to perceive contacts with sales representatives as potentially influencing physician decision making. Sixty-seven percent of faculty and 77% of residents indicated that physicians could be compromised by accepting gifts. More than half of the physicians who suggested that such compromise was possible indicated that acceptance of gifts worth more than +100 from drug companies would be likely to compromise a physician's independence and objectivity. A majority of both faculty and house staff favored eliminating presentations by pharmaceutical representatives at their hospitals. Only 10% thought they had had sufficient training during medical school and residency regarding professional interaction with sales representatives.

J. Avorn, "Improving the Quality and Cost-Effectiveness of Prescribing," Pharmacoeconomics, 1992 1: 45-8.

The 1980s witnessed the evolution of a number of programmes designed to improve the quality and economy of medication use. In the approach known as 'academic detailing', the effective communications techniques of the pharmaceutical industry are employed in the service of programmes designed to promote rational medication use, rather than to maximise sales of a particular product. Using this method, a balanced, concise presentation of the best available current research and cost literature is put into an engaging, readable format, and presented to the physician in a one-on-one interactive educational session by a pharmacist. In randomised controlled trials in 5 states, this approach has been shown to be effective in reducing inappropriate prescribing; benefit-cost analyses have shown that it generates savings that exceed programme costs. On the other hand, the 1980s also saw the implementation of several alternative approaches to changing prescribing practice, often through crude bureaucratic measures uninformed by the realities of clinical practice. Many such policies have proven to be either ineffective or counterproductive clinically and/or economically. As the issue of drug utilisation review receives increasing attention in the 1990s, it will be important to assimilate the lessons of the last 10 years to design
programmes in both the public and private sectors that will enhance the quality of drug therapy while containing its costs.


Proposing role for pharmacist in academic detailing


The National Cancer Institute (NCI), in its goal to reduce cancer mortality by 50% by the year 2000, has placed a special emphasis on prevention and early detection, especially in underserved populations. Check-Up On Health is a community based health education program being carried out by Fox Chase Cancer Center in three inner city Philadelphia neighborhoods, to improve the provision of appropriate cancer screening and prevention services to older, blue-collar adults by their primary care physicians. Primary care physicians in the chosen neighborhoods were targeted to receive a brief cancer prevention educational message delivered by project staff and patterned on the model of drug detailing developed by the pharmaceutical industry. This study represents an attempt to evaluate the feasibility and acceptability of such an approach aimed at improving cancer prevention promotion in the health care system. Primary care physicians were identified by community residents who attended one of 67 Check-Up On Health education presentations about cancer prevention at churches, social clubs, and senior-citizen centers within the targeted neighborhoods. An attempt was then made by project staff to visit each identified physician in his/her office or clinic, during office hours, both to conduct a brief survey and to deliver an educational message about either cancer screening guidelines or counseling for smoking cessation. The physicians were also provided with educational materials for themselves as well as their patients.


The objective was to study the effect of "academic group detailing" on the prescribing of lipid-lowering drugs in Swedish primary care. A randomized controlled trial was conducted, randomization being by group. Groups of doctors at 134 community health centres were randomly allocated to an intervention and a control group. The 67 intervention health centres were offered four sessions, conducted by a pharmacist, with group information on guidelines for the management of hyperlipidaemia. The number of prescriptions of lipid-lowering drugs per month increased in the intervention health centres and the increase was statistically different from the corresponding change in the control health centres among women in the age group 30-65 years (p = 0.03). The prescription of first-line lipid-lowering drugs increased by 20% in the intervention health centres (p = 0.03). "Academic group detailing" by pharmacists to primary care doctors can be an effective method for influencing prescribing practices.


Physician prescribing practices were the focus of a recent 1-day conference in Toronto. A BC hospital pharmacist outlined a successful initiative that provides physicians with impartial prescribing advice, saying it has resulted in considerable savings and improved prescribing practices in North Vancouver. Drugs of Choice author Dr. Joel Lexchin says such initiatives, called academic detailing, along with peer feedback, are cost-effective ways to improve prescribing habits.


OBJECTIVES: To assess the effects of outreach visits by trained nurse facilitators on the organisation of services used to prevent cardiovascular disease. To identify the characteristics of general practices that determined success. DESIGN: A non-randomised controlled trial of two methods of implementing guidelines to organise prevention of cardiovascular disease: an innovative outreach visit method compared with a feedback method. The results in both groups were compared with data from a control group. SETTING AND SUBJECTS: 95 general practices in two regions in The Netherlands. INTERVENTIONS:
Trained nurse facilitators visited practices, focusing on solving problems in the organisation of prevention. They applied a four step model in each practice. The number of visits depended on the needs of the practice team. The feedback method consisted of the provision of a feedback report with advice specific to each practice and standardised instructions. MAIN OUTCOME MEASURES: The proportion of practices adhering to 10 different guidelines. Guideline-directed improvement in the detection of patients at risk, their follow up, the registration of preventive activities, and teamwork within the practice. RESULTS: Outreach visits were more effective than feedback in implementing guidelines to organise prevention. Within the group with outreach visits, the increase in the number of practices adhering to the guidelines was significant for six out of 10 guidelines. Within the feedback group, a comparison of data before and after intervention showed no significant differences. Partnerships and practices with a computer changed more.

CONCLUSION: Outreach visits by trained nurse facilitators proved to be effective in implementing guidelines within general practices, probably because their help was practical and designed for the individual practice, guided by the wishes and capabilities of the practice team.


OBJECTIVE: To assess the effect of an intervention on general practitioners' (GPs) knowledge about the diagnosis and treatment of asthma, including the prescribing of anti-asthmatic drugs, and asthmatic patients' knowledge about their disease. METHODS: The study took place in the south-west region of Stockholm County. In the area where the intervention took place (area 1), 44 GPs at 21 health centres were visited by a clinical pharmacologist and a pharmacist presenting oral and written information. The basic messages were: (1) the central role of inhaled glucocorticoids; (2) the use of peak expiratory flow (PEF) meters; and (3) the use of reversibility tests. In the control area (area 2), there were 19 GPs at nine health centres. The GPs knowledge about the intervention message was evaluated by a questionnaire pre- and post-intervention. The ratios of prescribed inhaled beta-adrenoceptor agonists to inhaled glucocorticoids were determined. At the 26 local pharmacies, all asthmatic patients who presented a prescription for anti-asthmatic drugs, issued at the 30 health centres, were given a questionnaire before and after the intervention regarding their knowledge of asthma and its treatment. RESULTS: GPs in area 1 showed significantly more knowledge about item numbers 2 and 3 in the above-described intervention message than did the GPs in the control area 2. The data on prescriptions showed lower ratios of beta-adrenoceptor agonists to glucocorticoids in area 1 than in area 2. The difference, however, between area 1 and area 2 was not significant. After the GP intervention, the patients' knowledge about asthma had increased in area 1, as assessed by the questionnaire filled in by the patients. However, there was no significant difference from that in area 2. CONCLUSIONS: The study shows differences between the intervention and control areas regarding the knowledge and practice of GPs after the intervention. We found changes in knowledge, attitudes and actual practice, the latter being measured by the prescriptions.


OBJECTIVE: The purpose of this article is to discuss the principles of academic detailing, or educational outreach, in primary care and review the evidence of its effectiveness in, and potential for improving, mental health care. METHODS: The general educational research literature on improving physician performance was reviewed along with studies that were designed to test academic detailing. Four rigorous studies have tested this approach specifically on mental health care. These studies are reviewed in detail. RESULTS: Measuring pre-intervention performance to target those with increased educational needs and identifying barriers to change are associated with substantially improved program effectiveness. To change strongly held beliefs or to overcome patient demands, person-to-person contact with credible experts who provide structured alternatives is necessary. Brief reinforcement visits increase success rates and targeting programs to physicians at greatest need improves the cost effectiveness of educational interventions. CONCLUSIONS: Academic detailing is one of the few educational interventions that has consistently demonstrated improved physician performance. Educational outreach methods to improve mental health practices in primary care are in need of much additional research. Improving the detection of mental disorders and underuse of mental health treatment may prove to be more difficult than reducing the overuse of unnecessary medications.
OBJECTIVE: Exploration of longer-term outcomes of an ongoing educational-outreach service for community doctors. DESIGN: Quasi-experimental, with parallel and historical comparisons. SETTING: Since 1992, a teaching-hospital-based service has been providing advice and information on drugs and therapeutic strategies to community medical practitioners. PARTICIPANTS: 210 doctors practising in a particular area of metropolitan Adelaide (79% general practitioners; 21% specialists). INTERVENTIONS: Two surgery visits during 1992 focused on better use of prescribed non-steroidal anti-inflammatory drugs (NSAIDs). Subsequent visits on other topical therapeutic issues have occurred regularly. MAIN OUTCOME MEASURES: Doctor participation in the service; supply of prescription NSAIDs; hospital admissions for gastrointestinal (GI) effects of NSAID use. RESULTS: 89% of doctors practising within the service area received the first visit on NSAIDs and 86% received the second visit. More than 85% continue to receive the service. Relative to a comparison area, aggregate reductions of 9% and 28%, respectively, were observed in two different measures of NSAID use. During an 11-year observation period, a single change point in the number of hospital admissions for GI disorders occurred in the service area, coinciding with delivery of the NSAID program. In the five years since the visits commenced, a 70% reduction in admissions was observed. No notable changes in hospital admission rates occurred in the comparison area. CONCLUSIONS: A continuing education and support service for community medical practitioners which uses principally academic detailing methods in its contact with doctors has contributed to sustained changes in prescribed NSAID use over a five-year period. A focus on risk-minimisation in prescribing of NSAIDs appears to have contributed to reductions in hospitalisations for GI adverse events.


BACKGROUND: We undertook a project to promote evidence-based medicine (EBM) within a network of GPs (the Monash Division of General Practice) in Melbourne, Australia. A principal promotional strategy was to conduct practice visits (‘academic detailing’). OBJECTIVES: The aim of this study was to measure the impact of academic detailing on GP attitudes and knowledge of EBM. METHODS: All 132 GP members of the division were invited by mail to accept a practice visit about EBM. The GPs had been randomized to one of two groups: to receive academic detailing during the study period or to be visited at a later date. The practice visit consisted of a 30-45 minute discussion about EBM and the barriers to its practice. Pre- and post-intervention questionnaires were used to measure change in knowledge of and attitudes to EBM over a 3-month period in both groups. RESULTS AND CONCLUSIONS: Academic detailing led to a significant improvement in knowledge scores and self-perceived understanding of EBM, but had little influence on GP attitudes toward it. It is not known whether this would lead to change in clinical behaviour among GPs.


BACKGROUND: Antibiotic misuse is common and costly and may promote antibiotic resistance. We tested the efficacy of a targeted one-on-one educational program ("academic detailing") designed to improve the appropriateness of broad-spectrum antibiotic use. METHODS: A randomized controlled trial was conducted in a large US teaching hospital. During an 18-week study period, 17 general medical, oncology, and cardiology services either received academic detailing or did not. The intervention was prompted by an order for either levofloxacin or ceftazidime that led to a computer-based review of data for that patient. Orders for the 2 target antibiotics deemed unnecessary by a priori criteria were included in the study. The primary outcome examined was the number of days that unnecessary levofloxacin or ceftazidime was administered in intervention and control groups. RESULTS: Before the trial, intervention and control services had similar prescribing patterns for the target antibiotics; the drugs were used for similar indications throughout the study period. During the intervention, there was a reduction of 37% in days of unnecessary levofloxacin or ceftazidime use per 2-week interval on services randomized to the educational intervention vs control services (P< .001). In multivariable analyses controlling for baseline prescribing and study interval, the rate of unnecessary use of the 2 target antibiotics was reduced by 41% on the intervention services compared with controls (95% confidence interval, 44%-78%; P< .001). Length of stay, intensive care unit transfers, readmission rates, and in-hospital death rates were similar in both groups (P> or = .10 for all). CONCLUSION: Targeted one-on-one education is a practical, effective, and safe method for reducing excessive broad-spectrum antibiotic use.
Several studies indicate that treatment of hypertension in the United States does not follow recommendations from expert bodies. We thus implemented a program using academic detailers to increase practitioner compliance with antihypertensive treatment guidelines. Five Veterans Affairs medical facilities including academic medical centers and community based outpatient clinics were chosen for the intervention. Pharmacists were trained as academic detailers, and the intervention included lectures, educational materials, provider profiling, and meetings with 25 to 50 providers each. After intervention, the proportion of hypertensives receiving calcium antagonists decreased from 43% to 38% (P < .001), whereas the proportion receiving a beta blocker or thiazide diuretic increased from 58% to 64% (P < .001). For hypertensive subjects with diabetes mellitus or congestive heart failure, the proportion receiving an angiotensin converting enzyme inhibitor or angiotensin receptor blocker increased from 72% to 76% for the former and from 74% to 78% for the latter (P < .001 for both). Among hypertensive subjects with coronary artery disease an increase in beta blocker use was noted after intervention (P < .001 for change from baseline). Prescribing patterns after academic detailing more closely followed national recommendations.


BACKGROUND: Educational outreach visits, particularly when combined with social marketing, appear to be a promising approach to modifying health professional behaviour, especially prescribing. Results from previous studies have shown a varying effect. OBJECTIVE: The purpose of the study is to examine the effect of academic detailing as a method of implementing a clinical guideline in general practice. METHODS: A cluster randomized, controlled, blinded study was carried out of the effect of an academic detail visit compared with postal distribution of a guideline for prescribing asthma medication. Half the practices in a Danish county with 100 practices were visited once. The outcome measure was routinely collected data from all Danish pharmacies on the sales of asthma medication. Data were collected monthly for 2 years before to 1 year after the intervention. RESULTS: There was no effect on the pattern of prescription of asthma medicines following the visit, neither immediately nor long term. CONCLUSION: We found no effect of academic detailing as a single intervention.


BACKGROUND: Academic detailing utilizes educators trained in social marketing to conduct one-on-one visits with physicians using evidence-based data. Academic detailing programs have improved physician's prescribing behaviors; however, the feasibility of large-scale programs across a large, geographically disperse state is unclear. METHODS: The study team collaborated with a state-run pharmacy benefits program for low-income elderly in a trial to improve osteoporosis management. Community-practicing physicians who saw a minimum of 25 patients enrolled in the benefits program were randomized to receive academic detailing or not. Fourteen educators were trained in the principles of academic detailing as well as osteoporosis epidemiology, diagnosis, and treatment. From September 2003 to January 2004, they attempted to meet with physicians or an allied health professional to discuss osteoporosis and fracture prevention. RESULTS: The physician population was 356 and 148 (41.6%) visits were completed-100 with physicians, 38 with allied health professionals, and 10 with both the physician and an allied health professional. In mixed multivariable models, there were no physician characteristics associated with completed encounters, including gender, training, geographic location, years since medical school, and number of study patients (all p-values > 0.11). The detailer's gender, professional training, and professional experience were not statistically significant correlates of completed encounters (all p-values > 0.28). Number of years since a detailer's professional training was a predictor of a completed encounter, OR = 1.43 per 5 years (95%CI 1.05, 1.96). CONCLUSIONS: A moderate rate of completed encounters was achieved. There was only one predictor of completed encounters.

PURPOSE: To compare group versus individual academic detailing to increase diuretic or beta-blocker use in hypertension. METHODS: We conducted a cluster-randomized controlled trial in a large health maintenance organization. Subjects (N=9820) were patients with newly treated hypertension in the year preceding the intervention (N=3692), the 9 months following the intervention (N=3556), and the second year following intervention (N=2572). We randomly allocated 3 practice sites to group detailing (N=227 prescribers), 3 to individual detailing (N=235 prescribers), and 3 to usual care (N=319 prescribers). Individual detailing entailed a physician-educator meeting individually with clinicians to address barriers to prescribing guideline-recommended medications. The group detailing intervention incorporated the same social marketing principles in small groups of clinicians. RESULTS: In the first year following the intervention, the rates of diuretic or beta-blocker use increased by 13.2% in the group detailing practices, 12.5% in the individual detailing practices, and 6.2% in the usual care practices. As compared with usual care practices, diuretic or beta-blocker use was more likely in group detailing practices (adjusted odds ratio (OR), 1.40; 95% confidence interval (CI), 1.11 - 1.76) and individual detailing practices (adjusted OR, 1.30; 95% CI, 0.95 - 1.79). Neither intervention affected blood pressure control. Two years following this single-visit intervention, there was still a trend suggesting a persistent effect of individual (OR, 1.22; 95% CI, 0.92 - 1.62), but not group, detailing (OR, 1.06; 95% CI, 0.80 - 1.39), as compared with usual care. CONCLUSION: Both group and individual academic detailing improved antihypertensive prescribing over and above usual care but may require reinforcement to sustain improvements.


STUDY OBJECTIVE: To develop and evaluate a peer review group (PRG) meeting using feedback data on a patient level to improve the quality of drug therapy for prevention of recurrent myocardial infarction. DESIGN: Prospective follow-up study. DATA SOURCE: General practitioners' computerized patients records (intervention patients) and the PHARMO record linkage system (controls). PATIENTS: Forty patients in the intervention group and 1030 control patients; both groups had documented myocardial infarction. INTERVENTION: The intervention, which was based on the principles of group academic detailing, consisted of scoring current cardiovascular treatment on separate forms for each patient, presenting an overview of, and discussing, evidence-based treatment after myocardial infarction, defining the target population, formulating a binding consensus, and identifying patients who were eligible for improvement of pharmacotherapy. MEASUREMENTS AND MAIN RESULTS: Drug therapy and adherence to the newly formulated PRG consensus were assessed at baseline and 1 year after the intervention. Of the patients who received the intervention and were not treated according to the PRG consensus at baseline, 40% received treatment according to the consensus 12 months after the PRG meeting. In the control group, the proportion of patients was 9.5% (prevalence ratio 4.2, 95% confidence interval 1.8-9.7). CONCLUSION: Peer review group meetings can be a valuable tool for improving pharmacotherapy after myocardial infarction.


We assessed the effectiveness of an educational intervention in reducing antibiotic prescribing in public primary care clinics in Malaysia. Twenty-nine medical officers in nine clinics received an educational intervention consisting of academic detailing from the resident Family Medicine Specialist, as well as an information leaflet. The antibiotic prescribing rates were assessed for six months - three months before and three months after the intervention. A total of 28,562 prescriptions were analyzed. Among participating doctors, general antibiotic prescribing rates for pre- and post-intervention phases were 14.3% and 11.0% (post-intervention vs pre-intervention RR 0.77, 95% CI 0.72 to 0.83). The URTI-specific antibiotic prescribing rates for pre- and post-intervention phases were 27.7% and 16.6%, respectively (post-intervention vs pre-intervention RR 0.60, 95% CI 0.54 to 0.66). No significant change in antibiotic prescribing rates was observed among primary care practitioners who did not participate in the study. This low cost educational intervention using both active and passive strategies focusing on URTI produced a statistically significant (and clinically important) reduction in antibiotic prescribing.

ABSTRACT: BACKGROUND: The efficacy of academic detailing in changing physicians knowledge and practice has been the subject of many primary research publications and systematic reviews. However, there is little written about the features of academic detailing that physicians find valuable or that affect their use of it. The goal of our project was to explore family physicians (FPs) perceptions of academic detailing and the factors that affect their use of it. METHODS: We used 2 methods to collect data, a questionnaire and semi-structured telephone interviews. We mailed questionnaires to all FPs in the Dalhousie Office of Continuing Medical Education database and analyzed responses of non-users and users of academic detailing. After a preliminary analysis of questionnaire data, we conducted semi-structured interviews with 7 FPs who did not use academic detailing and 17 who did use it. RESULTS: Overall response rate to the questionnaire was 33% (289/869). Response rate of non-users of academic detailing was 15% (60/393), of users was 48% (229/476). The 3 factors that most encouraged use of academic detailing were the topics selected, the evidence-based approach adopted, and the handout material. The 3 factors that most discouraged the use of academic detailing were the time to see the academic detailer, and having CME provided by a non-physician. Users of academic detailing rated it as being more valuable than other forms of CME. Generally, interview data confirmed questionnaire data with the exception that interview informants did not view having CME as a barrier. Interview informants mentioned that the evidence-based approach adopted by academic detailing had led them to more critically evaluate information from other sources. CONCLUSIONS: Users of academic detailing highly value its educational value and tend to view information from other sources more critically because of its evidence-based approach. Non-users are unlikely to adopt academic detailing despite its high educational value because they find using office time for CME too much of a barrier. To reach these physicians with academic detailing messages, we will have to find other CME formats.


improve the use of antihypertensive medications. Analyses took the perspective of the payer. The total
costs of the mailed guideline, group detailing, and individual detailing interventions were estimated at
1000 dollars, 5500 dollars, and 7200 dollars, respectively, corresponding to changes in the average daily
per person drug costs of -0.0558 dollars (95% confidence interval, -0.1365 dollars to 0.0250 dollars) in
the individual detailing intervention and -0.0001 dollars (95% confidence interval, -0.0803 dollars to
0.0801 dollars) in the group detailing intervention, compared with the mailed intervention. For all patients
with incident hypertension in the individual detailing arm, the annual total drug cost savings were
estimated at 21,711 dollars (95% confidence interval, 53,131 dollars savings to 9709 dollars cost
increase). Information on costs of academic detailing could assist with health plan decision making in
developing interventions to improve prescribing.

Arnold, S. Gauthier, and J. Avorn, "Osteoporosis Improvement: A Large-Scale Randomized
Controlled Trial of Patient and Primary Care Physician Education," J Bone Miner Res, 2007 22:
1808-15.

We conducted a randomized controlled trial within the setting of a large drug benefit plan for Medicare
beneficiaries. Primary care physicians and their patients were randomized to usual care, patient
intervention only, physician intervention only, or both interventions. There was no difference in the
probability of the primary composite endpoint (BMD test or osteoporosis medication) or in either of its
components comparing the combined intervention group with usual care (risk ratio = 1.04; 95% CI, 0.85-
1.26). INTRODUCTION: Fractures from osteoporosis are associated with substantial morbidity, mortality,
and cost. However, only a minority of at-risk older adults receives screening and/or treatment for this
condition. We evaluated the effect of educational interventions for osteoporosis targeting at-risk patients,
primary care physicians, or both. MATERIALS AND METHODS: We conducted a randomized controlled
trial within the setting of a large drug benefit plan for Medicare beneficiaries. Primary care physicians and their
patients were randomized to usual care, patient intervention only, physician intervention only, or both
interventions. The at-risk patients were women >/=65 yr of age, men and women >/=65 yr of age with a
prior fracture, and men and women >/=65 yr of age who used oral glucocorticoids. The primary
outcome studied was a composite of either undergoing a BMD test or initiating a medication used for
osteoporosis. The secondary outcome was a hip, humerus, spine, or wrist fracture. RESULTS: We
randomized 828 primary care physicians and their 13,455 eligible at-risk patients into four study arms.
Physician and patient characteristics were very similar across all four groups. Across all four groups, the
rate of the composite outcome was 10.3 per 100 person-years and did not differ between the usual care
and the combined intervention groups (p = 0.5). In adjusted Cox proportional hazards models, there was
no difference in the probability of the primary composite endpoint comparing the combined intervention
group with usual care (risk ratio = 1.04; 95% CI, 0.85-1.26). There was also no difference in either of the
components of the composite endpoint. The probability of fracture during follow-up was 4.2 per 100
person-years and did not differ by treatment assignment (p = 0.9). CONCLUSIONS: In this trial, a
relatively brief program of patient and/or physician education did not work to improve the management of
osteoporosis. More intensive efforts should be considered for future quality improvement programs for
osteoporosis.

intervention on the utilization rate of cyclooxygenase-2 inhibitors in the elderly,” Ann

BACKGROUND: Osteoarthritis is prevalent in the elderly. Nova Scotia general practitioners (GPs) identified
the need for an academic detailing (AD) intervention aimed at optimizing the management of
osteoarthritis. AD was provided by Dalhousie University Continuing Medical Education in a face-to-face
encounter employing evidence-based information. GP participation was voluntary. OBJECTIVE: To evaluate
the effect of a GP-targeted osteoarthritis AD intervention on a reduction in the prescribing of
cyclooxygenase-2 (COX-2) inhibitors, as well as examine the intervention effect on the utilization rates of
gastroprotective agents and medical services. METHODS: A retrospective cohort study design employing
administrative data was used. Differences in utilization rates between intervention and control groups
were evaluated using generalized estimating equations analysis for longitudinal data over four 90-day
point-intervention periods. Confounding was addressed using propensity scores and adjusting for between-group
bias on the measured covariates. RESULTS: The between-group difference for change in COX-2 utilization
rates was 0.76 defined daily doses/patient (p = 0.040; 95% CI 0.037 to 1.48) for the 3-month period
following the intervention, with lower COX-2 utilization in the AD intervention group than in the control
group. The intervention group showed a significant decrease in the within-group utilization rate between
the pre- and postintervention periods (z = -2.34; p = 0.019). The between-group difference for change in
GP office visit rates was 0.40 visits/patient (p = 0.028; 95% CI 0.046 to 0.79) with the intervention
group, showing higher visit rates compared with the control group. CONCLUSIONS: The osteoarthritis AD

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intervention was associated with a significant decrease (23%) in COX-2 utilization rates in the 3-month period immediately following the intervention. The only secondary outcome to show a significant between-group effect was the GP office visit rate, which was higher for the intervention group in the second 3-month postintervention period.


BACKGROUND: Interventions to promote prescribing of preventive therapies in patients with cardiovascular disease (CVD) or diabetes have reported variable success. OBJECTIVE: (i) To evaluate the effect of prescribing feedback on GP practice using academic detailing compared to postal bulletin on prescribing of CVD preventive therapies in patients with CVD or diabetes at 3 and 6 months post intervention and (ii) to evaluate the intervention from a GP's perspective. METHODS: Volunteer GP practices (n = 98) were randomized to receive individualized prescribing feedback via academic detailing (postal bulletin plus outreach visit) (n = 48) or postal bulletin (n = 50). The proportion of CVD or diabetic patients on statins and antiplatelet agents/warfarin pre- and post-intervention was calculated for each GP practice. Multivariate regression with a random effects model was used to compare differences between the groups adjusting for GP clustering and confounding factors. beta-Coefficients and 95% confidence intervals (CIs) are presented. RESULTS: There was a 3% increase in statin prescribing in CVD patients at 6 months post-intervention for both randomized groups, but there was no statistical difference between the groups (beta = 0.004; 95% CI = -0.01 to 0.02). Statin and antiplatelet/warfarin prescribing also increased in the diabetic population; there was no significant differences between the groups. GPs participating in the project expressed a high level of satisfaction with both interventions. CONCLUSION: Prescribing of preventive therapies increased in both randomized groups over the study period. But academic detailing did not have an additional effect on changing prescribing over the postal bulletin alone.


BACKGROUND: The Prescription Peer Academic Detailing (Rx-PAD) project is an educational intervention study aiming at improving GPs' competence in pharmacotherapy. GPs in CME peer groups were randomised to receive a tailored intervention, either to support a safer prescription practice for elderly patients or to improve prescribing of antibiotics to patients with respiratory tract infections. The project was based on the principles of peer group academic detailing, incorporating individual feedback on GPs' prescription patterns. We did a study to explore GPs and tutors' experiences with peer group academic detailing, and to explore GPs' reasons for deviating from recommended prescribing practice. METHODS: Data was collected through nine focus group interviews with a total of 39 GPs and 20 tutors. Transcripts from the interviews were analyzed by two researchers according to a procedure for thematic content analysis. RESULTS: A shared understanding of the complex decision-making involved in prescribing in general practice was reported by both GPs and tutors as essential for an open discussion in the CME groups. Tutors experienced that CME groups differed regarding structure and atmosphere, and in some groups it was a challenge to run the scheme as planned. Individual feedback motivated GPs to reflect on and to improve their prescribing practice, though feedback reports could cause distress if the prescribing practice was unfavourable. Explanations for inappropriate prescriptions were lack of knowledge, factors associated with patients, the GP's background, the practice, and other health professionals or health care facilities. CONCLUSIONS: GPs and tutors experienced peer group academic detailing as a suitable method to discuss and learn more about pharmacotherapy. An important outcome for GPs was being more reflective about their prescriptions. Disclosure of inappropriate prescribing can cause distress in some doctors, and tutors must be prepared to recognise and manage such reactions.


BACKGROUND: Expenditures on prescribed drugs in Canada are now well past those for all services provided by outpatient physicians ($26.9 billion vs. $21.5 billion in 2007). Government has the opportunity to dedicate resources to continuing medical education of physicians, and effective profiling would assist in the allocation of these educational resources. OBJECTIVE: The purpose of this study was to evaluate physician prescribing patterns and establish criteria by which various prescribing profiles may be segmented and identified, so as to better target detailing and continuing medical education resources. METHODS: A sample of 925 physicians practicing in Nova Scotia (NS) was characterized by age, sex,
rural/urban nature of their practice and specialty. They were subsequently evaluated relative to all
prescriptions filled by their patients who were beneficiaries of the NS Department of Health’s senior’s
Pharmacare drug insurance program. The adoption of COX-2 inhibitors (eg, Vioxx and Celebrex) and their
substitution for NS-NSAIDs (non-specific non-steroidal anti-inflammatory drugs, eg, Motrin) from 1999 to
2003 were examined. RESULTS: This analysis established the profiles of 2 key groups of physicians. The
first consisted of those most likely to comprise the early, high volume COX-2-prescribing universe (profiles
based on the absolute number of prescriptions written over a given period). These individuals were likely
to be older, more experienced, male general practitioners operating in a rural practice. The second group
consisted of those most likely to comprise the early, high-relative, COX-2-prescribing universe (prescribing
of COX-2s relative to non-selective, non-steroidal anti-inflammatory drugs (NS-NSAIDs)). These
individuals were likely to be younger, less experienced female general practitioners, operating in an urban
practice. CONCLUSION: This research moves us closer to identifying unique physician segments that
account for either the largest volume of prescriptions for new drugs, or the largest relative volume of
prescriptions. Use of these physician groups can help continuing medical education providers target
specific prescribers with information to assist them in examining and improving their prescribing.

V. Bhargava, M.E. Greg, M.C. Shields, “Addition of generic medication vouchers to a pharmacist
academic detailing program: effects on the generic dispensing ratio in a physician-hospital

BACKGROUND: Generic dispensing ratio (GDR) is an important measure of efficiency in pharmacy benefit
management. A few studies have examined the effects of academic detailing or generic drug samples on
GDR. On July 1, 2007, a physician-hospital organization (PHO) with a pay-for-performance incentive for
generic utilization initiated a pilot generic medication voucher program that augmented its existing
pharmacist-led academic detailing efforts. No published studies have examined the role of generic
medication vouchers in promoting generic drug utilization. OBJECTIVE: To determine if supplementing an
existing academic detailing initiative in a PHO with a generic medication voucher program would be more
effective in increasing the GDR compared with academic detailing alone. METHODS: The intervention took
place over the 9-month period from July 1, 2007, through March 31, 2008. Vouchers provided patients
with the first fill of a 30-day supply of a generic drug at no cost to the patient for 8 specific generic
medications obtained through a national community pharmacy chain. The study was conducted in a PHO
composed of 7 hospitals and approximately 2,900 physicians (900 primary care providers [PCPs] and
2,000 specialists). Of the approximately 300 PCP practices, 21 practices with at least 2 physicians each
were selected on the basis of high prescription volume (more than 500 pharmacy claims for the practice
over a 12-month pre-baseline period) and low GDR (practice GDR less than 55% in the 12-month pre-
baseline period). These 21 practices were then randomized to a control group of academic detailing alone
or the intervention group that received academic detailing plus generic medication vouchers. One of 10
intervention groups declined to participate, and 2 of 11 control groups dropped out of the PHO. GDR was
calculated monthly for all pharmacy claims including the 8 voucher medications. GDR was defined as the
ratio of the total number of paid generic pharmacy claims divided by the total number of paid pharmacy
claims for 108 prescriber identification numbers (Drug Enforcement Administration [DEA] or National
Provider Identifier [NPI]) for 9 intervention groups [n = 53 PCPs] and 9 control groups [n = 55 PCPs]). For
both intervention and control arms, the GDR for each month from July 2007 (start of 2007 Q3,
intervention start date) through September 2008 (end of 2008 Q3, 6 months after intervention end date)
was compared with the same month in the previous year. A descriptive analysis compared a 9-month
baseline period from 2006 Q3 through 2007 Q1 with a 9-month voucher period from 2007 Q3 to 2008 Q1.
A panel data regression analysis assessed GDR for 18 practices over 27 months (12 months pre-
intervention and 15 months post-intervention). RESULTS: A total of 656 vouchers were redeemed over
the 9-month voucher period from July 1, 2007, through March 31, 2008, for an average of about 12
vouchers per participating physician; approximately one-third of the redeemed vouchers were for generic
simvastatin. The GDR increase for all drugs, including the 8 voucher drugs, was 7.4 points for the 9 PCP
group practices with access to generic medication vouchers, from 53.4% in the 9-month baseline period to
60.8% in the 9-month voucher period, compared with a 6.2 point increase for the control group from
55.9% during baseline to 62.1% during the voucher period. The panel data regression model estimated
that the medication voucher program was associated with a 1.77-point increase in overall GDR compared
with academic detailing alone (P = 0.047). CONCLUSION: Compared with academic detailing alone, a
generic medication voucher program providing a 30-day supply of 8 specific medications in addition to
academic detailing in PCP groups with low GDR and high prescribing volume in an outpatient setting was
associated with a small but statistically significant increase in adjusted overall GDR.

about industry relationships,” J Contin Educ Health Prof, 2010 30:197-204.

Many studies have shown that pharmaceutical marketing affects prescribing choices. Studies that have

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assessed the effects of educational interventions on perceptions of pharmaceutical promotion have found mixed results. This study assessed the short-term effects of an educational intervention about marketing tactics on the attitudes and fund of knowledge of residents, medical students, and attending physicians. A 1-hour slide show that covered detailing, prescription tracking, drug samples, medical meetings, and journals was developed by PharmedOut and presented at a total of 14 grand rounds and seminars at departments of family medicine, internal medicine, pediatrics, psychiatry, cardiology, and neurology. Pre- and posttests included attitudinal and fact questions addressing the influence of drug reps, gifts, pharmaceutical advertising and drug samples on prescribing behavior. The posttest asked whether attendees intended to change their prescribing behavior. The Mann-Whitney U test was used for Likert-scale questions and the Fisher exact test was used to compare the number of pre- and posttest correct answers for the multiple choice and true/false questions. Three hundred seventy-three participants completed pre- and posttests. Significant attitudinal shifts were seen overall, particularly in questions addressing influence of salespeople on physicians in general and on the respondent individually. Some participants commented that they intended to stop seeing drug reps or stop attending industry-funded meals. A new educational presentation can substantially shift attitudes toward perceived susceptibility to pharmaceutical marketing activities. Further research is needed to see if attitude change persists.


There are a number of sources available to prescribers to stay up to date about medicines. Prescribers in rural areas in developing countries however, may not able to access some of them. Interventions to improve prescribing can be educational, managerial, and regulatory or use a mix of strategies. Detailing by the pharmaceutical industry is widespread. Academic detailing (AD) has been classically seen as a form of continuing medical education in which a trained health professional such as a physician or pharmacist visits physicians in their offices to provide evidence-based information. Face-to-face sessions, preferably on an individual basis, clear educational and behavioural objectives, establishing credibility with respect to objectivity, stimulating physician interaction, use of concise graphic educational materials, highlighting key messages, and when possible, providing positive reinforcement of improved practices in follow-up visits can increase success of AD initiatives. AD is common in developed countries and certain examples have been cited in this review. In developing countries the authors have come across reports of AD in Pakistan, Sudan, Argentina and Uruguay, Bihar state in India, Zambia, Cuba, Indonesia and Mexico. AD had a consistent, small but potentially significant impact on prescribing practices. AD has much less resources at its command compared to the efforts by the industry. Steps have to be taken to formally start AD in Nepal and there may be specific hindering factors similar to those in other developing nations.


OBJECTIVE: Recent clinical trials comparing the effectiveness of antipsychotics have found no advantage for second-generation antipsychotics over older first-generation agents. However, the former are much more commonly used despite their significantly higher cost and potential for contributing to the metabolic syndrome. To date, educational interventions have been unsuccessful in influencing this pattern. The Duke University Medical Center Department of Psychiatry chiatry began a program based on principles of academic detailing designed to educate psychiatry residents about generic psychotropics. To encourage residents to gain experience with these medications, samples of selected generic drugs were provided. To assess the initiative’s impact, the authors measured the prescribing patterns of residents. METHODS: We measured the amount of generic drug use 6 months after the program began and compared it with data from a 6-month control period. The data were analyzed based on overall psychotropic use, class of medication, site, and diagnosis. RESULTS: We found a consistent increase in generic use across analyses. There was an increase in overall generic prescribing from 55.8% to 56.8% [X=10.37, odds ratio (OR)=1.12, P=0.001] and a particularly large increase in prescribing of generic antipsychotic medications from 39.5% to 47.7% [X=36.12, OR=1.39, P<0.0001]. Conclusion. The implementation of this educational program was correlated with increasing use of generic medications and brought antipsychotic prescribing into concordance with the new evidence. This is the first such study in a psychiatry residency program and has implications for promoting cost-effective care while preserving patient choice in the mental health system. The findings from this study also suggest potential techniques for expanding residents’ prescribing skills across specialties.

BACKGROUND: prescribing for older people is a complex process and can elevate the risk of inappropriate prescribing, with potentially severe consequences. With a growing ageing population, strategies to improve prescribing in care homes are essential. Our aim was to review systematically the effects of interventions to optimise prescribing in care homes. METHOD: databases searched were MEDLINE, EMBASE, International Pharmaceutical Abstracts and the Cochrane Library from 1990. Search terms included were 'nursing home', 'residential home', 'inappropriate prescribing', 'education' and 'intervention'. Two independent reviewers undertook screening and methodological quality assessment, using the Downs and Black rating scale. RESULTS: the search strategy retrieved 16 studies that met the inclusion criteria. Four intervention strategies were identified: staff education, multi-disciplinary team (MDT) meetings, pharmacist medication reviews and computerised clinical decision support systems (CDSSs). Complex educational programmes that focused on improving patients' behavioural management and drug prescribing were the most studied area, with six of eight studies highlighting an improvement in prescribing. Mixed results were found for pharmacist interventions. CDSSs were evaluated in two studies, with one showing a significant improvement in appropriate drug orders. Two of three studies examining MDT meetings found an overall improvement in appropriate prescribing. A meta-analysis could not be performed due to heterogeneity in the outcome measures. CONCLUSION: results are mixed and there is no one interventional strategy that has proved to be effective. Nevertheless, education including academic detailing seems to show most promise. A multi-faceted approach and clearer policy guidelines are likely to be required to improve prescribing for these vulnerable patients.


A review of the literature on the factors affecting drug prescribing in Western countries is given. Factors discussed are education, advertising, colleagues, control and regulation measures, demands from society and patients and doctor's characteristics. On the basis of the available literature the role of the drug industry seems especially important. Suggestions for further studies are given.


A review of the effect of advertising drug products in medical journals on the prescribing of drugs. The scope of advertising, the content of advertising, the latent effects of advertising, the effects of advertising on prescribing, and the social costs and benefits of advertising are discussed. Advertising for antibiotic and psychotropic drug products is reviewed in some detail. It is concluded that there is inconclusive evidence that the pharmaceutical industry, through journal advertising, is persuading physicians to prescribe drugs too often or unwisely, or both. It is suggested that pharmacists study the information needs of health care practitioners and provide good drug information services.


Comparison of drug utilization by physicians in cases where the recommendation of promotional materials clearly diverged from recommendations of clinical literature, findings. In these cases, prescribing patterns tend to follow promotional materials instead of clinical literature.


OBJECTIVE: To assess both the accuracy of scientific data presented in print pharmaceutical advertisements and the compliance of these advertisements with current Food and Drug Administration (FDA) standards. DESIGN: Cross-sectional survey. MEASUREMENTS: Each full-page pharmaceutical advertisement (n = 109) appearing in 10 leading medical journals, along with all available references cited in the advertisement (82% of the references cited were available) were sent to three reviewers: two physicians in the relevant clinical area who were experienced in peer review and one academic clinical pharmacist. Reviewers, 95% of whom responded, were asked to evaluate the advertisements using criteria based on FDA guidelines, to judge the educational value and overall quality of the advertisements, and to make a recommendation regarding publication. RESULTS: In 30% of cases, two or more reviewers...
disagreed with the advertisers' claim that the drug was the "drug of choice." Reviewers felt that information on efficacy was balanced with that on side effects and contraindications in 49% of advertisements but was not balanced in 40%. Reviewers agreed with advertisements' claims that the drug was safe in 86% of the cases but judged that headlines in 32% of the advertisements containing headlines misled the reader about efficacy. In 44% of cases, reviewers felt that the advertisement would lead to improper prescribing if a physician had no other information about the drug other than that contained in the advertisement. Fifty-seven percent of advertisements were judged by two or more reviewers to have little or no educational value. Overall, reviewers would not have recommended publication of 28% of the advertisements and would have required major revisions in 34% before publication. CONCLUSION: In the opinion of the reviewers, many advertisements contained deficiencies in areas in which the FDA has established explicit standards of quality. New strategies are needed to ensure that advertisements comply with standards intended to promote proper use of the products and to protect the consumer.


OBJECTIVE: To evaluate the methodologic quality and relevance of references in pharmaceutical advertisements in the Canadian Medical Association Journal (CMAJ). DESIGN: Analytic study. DATA SOURCE: All 114 references cited in the first 22 distinct pharmaceutical advertisements in volume 146 of CMAJ. MAIN OUTCOME MEASURES: Mean methodologic quality score (modified from the 6-point scale used to assess articles in the American College of Physicians' Journal Club) and mean relevance score (based on a new 5-point scale) for all references in each advertisement. MAIN RESULTS: Twenty of the 22 companies responded, sending 78 (90%) of the 87 references requested. The mean methodologic quality score was 58% (95% confidence limits [CL] 51% and 65%) and the mean relevance score 76% (95% CL 72% and 80%). The two mean scores were statistically lower than the acceptable score of 80% (p < 0.05), and the methodologic quality score was outside the preset clinically significant difference of 15%. The poor rating for methodologic quality was primarily because of the citation of references to low-quality review articles and "other" sources (i.e., other than reports of clinical trials). Half of the advertisements had a methodologic quality score of less than 65%, but only five had a relevance score of less than 65%. CONCLUSIONS: Although the relevance of most of the references was within minimal acceptable limits, the methodologic quality was often unacceptable. Because advertisements are an important part of pharmaceutical marketing and education, we suggest that companies develop written standards for their advertisements and monitor their advertisements for adherence to these standards. We also suggest that the Pharmaceutical Advertising Advisory Board develop more stringent guidelines for advertising and that it enforce these guidelines in a consistent, rigorous fashion.


Editorial on discerning helpful vs. deceptive promotional practices in the pharmaceutical industry


Survey of patient understanding of gift giving between pharmaceutical industry and physicians


In this paper we examine empirically the role of information in facilitating and explaining growth of the overall antiulcer drug market, as well as in shaping the changing market shares of the four patented products. The dissemination of information is due largely to the use of marketing channels, such as visits by manufacturers' representatives to physicians (called "detailing"), advertising in medical journals, and most recently, by direct-to-consumer advertising.
BACKGROUND: The pharmaceutical industry plays a large role in the lifelong learning of family physicians. Controversy exists over how to integrate this potential information source into residency curricula. METHODS: Based on a faculty and resident needs assessment, a curriculum was designed to teach the evaluation of pharmaceutical representatives' (PRs) presentations. The Pharmaceutical Representative Evaluation Form is the keystone of the curriculum. This evaluation form guides discussion of pharmaceutical presentation to facilitate understanding of the sales process and help residents confirm or dispute the presentation's content, based on the sales methods used. A second goal of the evaluation program is to improve the content of the PRs' presentations. RESULTS: Residents rapidly acquire the ability to identify potential fallacies of logic and other misleading sales techniques in representatives' presentations. Compared with pretest results, residents' posttest scores demonstrate an understanding that PRs and the acceptance of promotional items can affect their prescribing behavior. Most PRs are pleased that their role is seen as educational. CONCLUSIONS: Physicians must function more as information managers than as information repositories, and it is important that residents be able to obtain useful information from PRs. Our curriculum has been effective in increasing residents' abilities to evaluate the pharmaceutical sales process and allowing them to separate the inverted question mark wheat from the chaff inverted question mark contained in this ubiquitous source of information.


Editorial on characteristics of marketing materials in clinical settings, by the medical director of Public Citizens Health Research Group


OBJECTIVES: To describe material distributed to physicians by pharmaceutical companies; to describe characteristics of the drugs discussed in the material; to determine whether the material complies with Food and Drug Administration (FDA) regulations and whether it contains promotional and educational characteristics. DESIGN: Cross-sectional study. SETTING: An academic internal medicine residency program, a private internist's office, and a health maintenance organization (HMO). PATIENTS/PARTICIPANTS: A consecutive sample of 486 items, excluding gifts and drug samples, distributed by drug companies between August 11, 1993 and March 1, 1994. MEASUREMENTS AND MAIN RESULTS: Of the 486 items collected, 207 were reprints, 196 were advertisements, 51 were general information, and 32 were other. Reprints were delivered to residents significantly more often than to the HMO (p < .001) or to the private internist's office (p < .001). By contrast, the internist's office received a greater proportion of personal correspondence compared with the other locations (p < .001 for both). Of the drugs publicized, 10 percent of the items failed to comply with at least one of three FDA regulations assessed, including 17 items that discussed unapproved uses for drugs. Advertisements, as well as items that were not obviously promotional, contained promotional characteristics. Thirty-nine percent of the items offered scientific support for their claims. CONCLUSIONS: Little of the material distributed by pharmaceutical companies to physicians conveys information about important therapeutic breakthroughs; some of it fails to comply with FDA regulations. The material contains both educational and promotional characteristics.


PURPOSE: To determine whether declines in pharmaceutical industry advertising have been greater for family medicine research journals than for journals in other disciplines. METHOD: Three family medicine research journals and eight randomly selected journals in other disciplines were chosen for this study. The number of advertising pages from the first issue of each journal from 1990 through 1995 were calculated by manually counting every journal page that contained all or part of an advertisement for a pharmaceutical product. Data were compared using Student's t-test. RESULTS: Overall, the mean number of pages of pharmaceutical advertising in all of the journals fell 41%, from 34 pages in 1990-1991 to 21
pages in 1994-1995. For the three family medicine journals the drop over the same six-year period was 55\% (from 30 to 14, p = .01), compared with a 35\% drop for the eight other journals (from 36 to 23, p < .001). CONCLUSION: Although advertising in medical research journals has dropped in all disciplines, it would appear that the decline for family medicine journals has been disproportionately large. The potential effect of this decline for the discipline of family medicine is a decrease in the outlets and opportunities for the publication of new knowledge.


BACKGROUND: Over the past decade, calcium channel blockers (CCBs) and ACE inhibitors have been used increasingly in the treatment of hypertension. In contrast, beta-blocker and diuretic use has decreased. It has been suggested that pharmaceutical marketing has influenced these prescribing patterns. No objective analysis of advertising for antihypertensive therapies exists, however. METHODS AND RESULTS: We reviewed the January, April, July, and October issues of the New England Journal of Medicine from 1985 to 1996 (210 issues). The intensity of drug promotion was measured as the proportion of advertising pages used to promote a given medication. Statistical analyses used the chi2 test for trend. Advertising for CCBs increased from 4.6\% of advertising pages in 1985 to 26.9\% in 1996, while advertising for beta-blockers (12.4\% in 1985 to 0\% in 1996) and diuretics (4.2\% to 0\%) decreased (all P<0.0001). A nonsignificant increase was observed in advertising for ACE inhibitors (3.5\% to 4.3\%, P=0.17). Although the total number of drug advertising pages per issue decreased from 60 pages in 1985 to 42 pages in 1996 (P<0.001), the number of pages devoted to calcium channel blocker advertisements nearly quadrupled. CONCLUSIONS: Increasing promotion of CCBs has mirrored trends in physician prescribing. An association between advertising and prescribing patterns could explain why CCBs have supplanted better-substantiated therapies for hypertension.


Direct-to-consumer drug advertising is a useful medium for educating people and disseminating product information. Consumers make product purchase decisions based on the information gained from advertisements. If advertisements are misleading, consumers may not have adequate drug knowledge to detect this misinformation. The objective of this study was to evaluate print advertisements for over-the-counter (OTC) products. Five clinical pharmacists evaluated print advertisements appearing in three consumer periodicals. Advertisements were selected over a nine month period beginning January 1994. Accuracy of information on OTC advertisements was determined based on federal guidelines. Additionally, reviewers identified deficiencies in advertisements that may mislead consumers. According to reviewers, around 50\% of advertisements lacked accurate statements. Side effects were indicated on only one advertisement. All advertisements were indicated by reviewers to be more promotional than educational. Reviewers indicated that more than 50\% of advertisements lacked information essential for consumers to make an informed choice during self-medication decisions. This study indicates that OTC drug advertisements lack information necessary for consumers to make informed purchase decisions. Inaccurate information and lack of information on side effects could mislead consumers causing harmful adverse events.


Pharmaceutical sales representatives (PSRs) are a key component of pharmaceutical companies’ marketing strategies in that they are the link between the pharmaceutical company and the physician. PSRs provide various services in order to increase the physician’s prescribing activity of their companies’ products. Given the high cost of recruiting, training, and supporting a PSR, it is important for PSRs to understand the relative significance physicians ascribe to services provided. This study examined whether there is a gap in the perceptions of physicians and PSRs regarding the value of specific services provided by PSRs. Physicians and PSRs who attended medical meetings were surveyed. Results of the study indicated that there were significant differences in the perceived value between PSRs and physicians. Services which were perceived to be less important to physicians than to PSRs were new product detailing, old product detailing, providing product studies and research findings, PSRs serving as expert consultants, and recruiting physicians to participate in FDA approval drug studies. Services for which there were no significant differences of perceived value between the groups included free product samples and promotional luncheons and dinners.
OBJECTIVE: Pharmaceutical companies often use drug samples as a marketing strategy in the ambulatory care setting. Little is known about how the availability of drug samples affects physicians' prescribing practices. Our goal was to assess: (1) under what circumstances and why physicians dispense drug samples, (2) if drug samples lead physicians to use medications other than their preferred drug choice, and (3) the physician characteristics that are associated with drug sample use. DESIGN: Cross-sectional survey. SETTING: University-based clinics at one academic medical center. PARTICIPANTS: 154 general medicine and family physicians. MEASUREMENTS AND MAIN RESULTS: Physicians' self-reported prescribing patterns for 3 clinical scenarios, including their preferred drug choice, whether they would use a drug sample and subsequently prescribe the sampled medication, and the importance of factors involved in the decision to dispense a drug sample. A total of 131 (85%) of 154 physicians responded. When presented with an insured woman with an uncomplicated lower urinary tract infection, 22 (17%) respondents reported that they would dispense a drug sample; 21 (95%) of 22 sample users stated that they would dispense a drug sample that differed from their preferred drug choice. For an uninsured man with hypertension, 35 (27%) respondents reported that they would dispense a drug sample; 32 (91%) of 35 sample users indicated that they would dispense a drug sample instead of their preferred drug choice. For an uninsured woman with depression, 108 (82%) respondents reported that they would dispense a drug sample; 53 (49%) of 108 sample users indicated that they would dispense a drug sample that differed from their preferred drug choice. Avoiding cost to the patient was the most consistent motivator for dispensing a drug sample for all 3 scenarios. For 2 scenarios, residents were more likely to report using drug samples than attendings (p < .05). When respondents who chose a drug sample for 2 or 3 scenarios were compared to those who never chose to use a drug sample, or chose a drug sample for only one scenario, only younger age was independently associated with drug sample use. CONCLUSION: In self-reports, the availability of drug samples led physicians to dispense and subsequently prescribe drugs that differ from their preferred drug choice. Physicians most often report using drug samples to avoid cost to the patient. 


Data were collected from physicians attending a medical conference. This exploratory study was primarily interested in two areas. First, the investigators were interested in better understanding physicians' responses to different promotional tactics typically used by the pharmaceutical industry. Pharmaceutical representatives were most useful, followed by drug samples and infomercials in medical journals. Direct mail, promotional faxes, and promotional products were used less by physicians. Second, the investigators were interested in learning what information sources influenced physicians' drug choices. Physicians were primarily influenced by their prior experience with a drug, then by drug compendiums, and journal articles. Physicians were also influenced by information provided by the industry and other factors, like the drug's price and their patients' financial situations. Managerial implications for marketing to physicians and ideas for future research are discussed.


PURPOSE: The effects of advertising on urological practice are controversial. We studied patterns of pharmaceutical and medical device marketing in peer reviewed urological journals in 1975 and 2000. MATERIALS AND METHODS: Pharmaceutical and medical device advertising in 1 European and 2 American peer reviewed urological journals were evaluated in 4 randomly selected issues of each journal published in 1975 and 2000, respectively. Advertising quantity and the qualitative characteristics of each advertisement were analyzed. RESULTS: We analyzed 574 advertisements in 24 issues. Advertising decreased between 1975 and 2000 based on the number of pages per issue (55.3 to 31.9, p = 0.04), number of advertisements per issue (30.4 to 17.4, p = 0.0098) and the ratio of advertising-to-scientific pages (0.399 to 0.151, p = 0.0016). Mean advertisement length was stable at 1.8 pages. The top 3 advertisers in 1975 were Eaton, Roche and Warner compared with Pfizer, AstraZeneca and Merck in 2000. Advertising for antibiotics comprised 70.3% of all pharmaceutical advertisements in 1975 but only 15.2% in 2000 (p = 0.0001), while advertising for benign prostatic hyperplasia, erectile dysfunction and hormonal therapy increased sharply. Nutritional supplement marketing increased from 0.5% of all advertisements in 1975 to 4.3% in 2000 (p = 0.0026). The incidence of advertisements citing peer
reviewed literature increased from 16.7% to 33% (p = 0.0001) with a greater increase in the European than in the American journals. CONCLUSIONS: Advertising in peer reviewed urological journals has decreased since 1975 and fewer companies now market more products. Few advertisements cite the scientific literature. Better understanding of pharmaceutical marketing patterns may improve awareness of these efforts to influence physician practice.


PURPOSE: Little is known about the factors that influence housestaff attitudes toward pharmaceutical industry promotions or, how such attitudes correlate with physician behaviors. We studied these attitudes and practices among internal medicine housestaff. SUBJECTS AND METHODS: Confidential surveys about attitudes and behaviors toward industry gifts were distributed to 1st- and 2nd-year residents at a university-based internal medicine residency program. RESULTS: Ninety percent of the residents (105 of 117) completed the survey. A majority of respondents considered seven of nine types of promotions appropriate. Residents judged the appropriateness of promotions on the basis of their cost (median percentage of items considered appropriate 100% for inexpensive items vs. 60% for expensive ones) more than on the basis of their educational value (80% for educational items vs. 75% for noneducational ones; P < .001 for comparison of appropriateness based on cost vs. educational value). Behaviors were often inconsistent with attitudes; every resident who considered conference lunches (n = 13) and pens (n = 18) inappropriate had accepted these gifts. Most respondents (61%) stated that industry promotions and contacts did not influence their own prescribing, but only 16% believed other physicians were similarly unaffected (P < .0001). Nonetheless, more than two thirds of residents agreed that it is appropriate for a medical institution to have rules on industry interactions with residents and faculty. CONCLUSIONS: Residents hold generally positive attitudes toward gifts from industry, believe they are not influenced by them, and report behaviors that are often inconsistent with their attitudes. Thoughtful education and policy programs may help residents learn to critically appraise these gifts.


Prescription drugs comprise approximately 9% of the total cost of health care in the United States. The manner in which doctors obtain information about new and changing pharmaceuticals obviously has the potential to have a profound impact on health care costs, pharmaceutical companies’ profits, and the quality of health care. Patterns learned in medical school undoubtedly influence physicians’ future behaviors. The authors describe an educational program, in which university pharmacists portrayed pharmaceutical company representatives to model a promotional presentation, that they designed to generate critical thinking among third-year medical students regarding the influence of pharmaceutical representatives on the prescribing practices of physicians. The authors also provide information suggesting that the program increased the uncertainty many students felt about the accuracy and ethics of standard drug "detailing."


The relationships between direct-to-consumer advertising expenditures and the monthly frequencies of diagnoses and prescriptions written associated with the products advertised are examined. The analyses utilized quasi-experimental time-series techniques. Data from the National Ambulatory Medical Care Survey and Competitive Media Reporting were used to calculate monthly levels of the dependent and independent variables. The dependent variables included monthly frequencies of diagnoses for the products’ FDA-approved indications, medications prescribed within the advertised pharmaceutical class, and medications prescribed for the specific advertised agent. The independent variables included monthly expenditures for advertising each pharmaceutical class and each specific agent. Several significant monthly relationships were found. The diagnoses of hyperlipidemia (p = 0.003) and the number of prescriptions written for antihypertensives (p = 0.004) were positively associated with the advertising expenditure for antihypertensives. The number of prescriptions written for Claritin (p = 0.001) was positively related to the advertising expenditure for their respective pharmaceutical classes; the amount of prescriptions written for Hismanal (p = 0.001), Seldane (p < 0.001), and Zantac (p = 0.004) was negatively related to the advertising expenditure for their respective pharmaceutical classes. The number of prescriptions written for Claritin (p = 0.005) and Zocor (p < 0.001) was positively related to the advertising expenditure for each specific product; the amount of prescriptions written for Hismanal...
(p = 0.049) was negatively associated with the amount of money spent specifically advertising the agent. No significant associations were found in antihypertensive drugs and drugs to treat benign prostatic hypertrophy. The results of the analyses suggest that the direct-to-consumer advertising expenditure is associated with physician diagnosing and physician prescribing for certain drugs and drug classes.


Narrative discussion of the role of pharmaceutical promotion in shaping the definition of disease categories and affecting physician prescribing patterns.


We characterized the quantity and quality of graphs in all pharmaceutical advertisements, in the 10 U.S. medical journals. Four hundred eighty-four unique advertisements (of 3,185 total advertisements) contained 836 glossy and 455 small-print pages. Forty-nine percent of glossy page area was nonscientific figures/images, 0.4% tables, and 1.6% scientific graphs (74 graphs in 64 advertisements). All 74 graphs were univariate displays, 4% were distributions, and 4% contained confidence intervals for summary measures. Extraneous decoration (66%) and redundancy (46%) were common. Fifty-eight percent of graphs presented an outcome relevant to the drug's indication. Numeric distortion, specifically prohibited by FDA regulations, occurred in 36% of graphs.


BACKGROUND: Because of the effect of the ever-growing evidence-based medicine movement on prescribing behaviour of doctors, the pharmaceutical industry incorporates bibliographical references to clinical trials that endorse their products in their advertisements. We aimed to assess whether the references about efficacy, safety, convenience, or cost of antihypertensive and lipid-lowering drugs included in advertisements supported the promotional claims. METHODS: We assessed all advertisements for antihypertensive and lipid-lowering drugs published in six Spanish medical journals in 1997 that had at least one bibliographical reference. Two pairs of investigators independently reviewed the advertisements to see whether the studies quoted to endorse the advertising messages supported the corresponding claims. FINDINGS: We identified 264 different advertisements for antihypertensive drugs and 23 different advertisements for lipid-lowering drugs. We recorded at least one reference in 31 advertisements in the antihypertensive group and at least one reference in every seven advertisements in the lipid-lowering group, providing a total of 125 promotional claims with references. We could not retrieve 23 (18%) references from monographic works and non-published data on file. 79 (63%) of the 125 references were from journals with a high impact factor; 84 (82%) of the 102 references retrieved were from randomised clinical trials. In 45 claims (44.1%; 95% CI 34.3-54.3) the promotional statement was not supported by the reference, most frequently because the slogan recommended the drug in a patient group other than that assessed in the study. INTERPRETATION: Doctors should be cautious in assessment of advertisements that claim a drug has greater efficacy, safety, or convenience, even though these claims are accompanied by bibliographical references to randomised clinical trials published in reputable medical journals and seem to be evidence-based.


PURPOSE: There is increasing evidence that physicians may be compromised by their interactions with the pharmaceutical industry. The authors aimed to develop and determine the effect of an educational intervention to inform family medicine residents about pharmaceutical marketing. METHOD: Confidential, self-administered questionnaires were administered to family medicine residents at McMaster University, Hamilton, Canada, immediately before and after a two-part, 2.5-hour educational intervention. The curriculum consisted of (1) a faculty-led debate and discussion of a systematic review of physician-pharmaceutical industry interactions, and (2) an interactive workshop that included a presentation highlighting key empirical findings, a video illustrating techniques to optimize pharmaceutical sales representatives’ visits, and small- and large-group problem-based discussions. Residents were asked about their attitudes toward five marketing strategies: drug samples, industry-sponsored continuing...
medical education, one-on-one interactions with sales representatives, free meals, and gifts worth less than CAN


PURPOSE: While much is known about the interactions between the pharmaceutical industry and physicians, very little is known about pharmaceutical marketing directed toward medical students. This study sought to characterize the extent and forms of medical students' exposure to pharmaceutical industry marketing. METHOD: In 2001-02, an anonymous, 17-item questionnaire was distributed to 165 preclinical and 116 clinical students at the University of Minnesota Medical School-Twin Cities. The main outcome measures were the number and forms of exposures to pharmaceutical industry marketing reported by medical students and whether students had discussed these exposures with teachers or advisors. Preclinical and clinical students were compared using chi(2) analysis (p < .05). RESULTS: One hundred fourteen (69.1%) preclinical students and 107 (92.2%) clinical students responded. Nearly all students reported at least one exposure to pharmaceutical industry marketing. Seventy-six (71.7%) clinical students compared to 38 (33.3%) preclinical students recalled over 20 exposures (p < .005). Clinical students were more likely to have received a free meal (p < .01), textbook (p < .005), pocket text (p < .005), or trinket (p < .005) than were their preclinical colleagues. Most students (68.2%) had not discussed pharmaceutical marketing with an instructor or advisor; 59 (55.7%) clinical students as compared to 87 (80.6%) preclinical students recalled no such discussion (p < .005). CONCLUSION: Medical students have extensive exposure to pharmaceutical industry marketing during their early years of training. Given existing evidence that such exposure influences physicians' practice and prescribing patterns, the authors propose that medical school curricula include formal instruction to prepare students to critically assess these contacts.


OBJECTIVES: Promotion of prescription drugs represents a growing source of pharmaceutical marketing expenditures. This study was undertaken to identify the frequency of items containing pharmaceutical advertising in clinical emergency departments (EDs). METHODS: In this observational study, emergency physician on-site investigators quantified a variety of items containing pharmaceutical advertising present at specified representative times and days, in clinical EDs. RESULTS: Measurements were obtained by 65 on-site investigators, representing 22 states. Most EDs in this study were community EDs (87% community and 14% university or university affiliate), and most were in urban settings (50% urban, 38% suburban, and 13% rural). Investigators measured 42 items per ED (mean = 42; median = 31; interquartile range of 14-55) containing pharmaceutical advertising in the clinical area. The most commonly observed items included pens (mean 15 per ED; median 10), product brochures (mean 5; median 3), stethoscope labels (mean 4; median 2), drug samples (mean 3; median 0), books (mean 3.4), mugs (mean 2.4), and published literature (mean 3.1). EDs with a policy restricting pharmaceutical representatives in the ED had significantly fewer items containing pharmaceutical advertising (median 7.5; 95% CI = 0 to 27) than EDs without such a policy (median 35; 95% CI = 27 to 47, p = 0.005, nonparametric Wilcoxon two-sample test). There were no differences in quantities of pharmaceutical advertising for EDs in community compared with university settings (p = 0.5), rural compared with urban settings (p = 0.3), or annual ED volumes (p = 0.9). CONCLUSIONS: Numerous items containing pharmaceutical advertising are frequently observed in EDs. Policies restricting pharmaceutical representatives in the ED are associated with reduced pharmaceutical advertising.


Since the late 1800s, changes in the advertising and marketing of medicinal drugs have produced heated debates in the United States. With the emergence of the modern prescription drug between 1938 and 1951, concerns that once focused primarily on patients' use of over-the-counter drugs were broadened to include physicians and their "doctors' drugs" as well. The medical profession's growing control over their patients' drug choices inevitably heightened the scrutiny of their own performance as consumers. Although deeply divided over issues of the patient's role in medical decision making, consumer activists and physician reformers expressed similar concerns about the impact of aggressive pharmaceutical marketing and advertising on the doctor-patient relationship, and starting in the late 1950s they employed strikingly similar strategies to counter the new corporate "medicine show." Yet their efforts to promote a
more rational use of prescription drugs have usually been too little and too late to offset the effectiveness of pharmaceutical advertising and marketing activities.


Integrative review of literature on effectiveness of direct-to-physician marketing, principally on effects and durability of detailing


CONTEXT: Direct-to-consumer (DTC) advertising of prescription drugs in the United States is both ubiquitous and controversial. Critics charge that it leads to overprescribing, while proponents counter that it helps avert underuse of effective treatments, especially for conditions that are poorly recognized or stigmatized. OBJECTIVE: To ascertain the effects of patients' DTC-related requests on physicians' initial treatment decisions in patients with depressive symptoms. DESIGN: Randomized trial using standardized patients (SPs). Six SP roles were created by crossing 2 conditions (major depression or adjustment disorder with depressed mood) with 3 request types (brand-specific, general, or none). SETTING: Offices of primary care physicians in Sacramento, Calif; San Francisco, Calif; and Rochester, NY, between May 2003 and May 2004. PARTICIPANTS: One hundred fifty-two family physicians and general internists recruited from solo and group practices and health maintenance organizations; cooperation rates ranged from 53% to 61%. INTERVENTIONS: The SPs were randomly assigned to make 298 unannounced visits, with assignments constrained so physicians saw 1 SP with major depression and 1 with adjustment disorder. The SPs made a brand-specific drug request, a general drug request, or no request (control condition) in approximately one third of visits. MAIN OUTCOME MEASURES: Data on prescribing, mental health referral, and primary care follow-up obtained from SP written reports, visit audiorecordings, chart review, and analysis of written prescriptions and drug samples. The effects of request type on prescribing were evaluated using contingency tables and confirmed in generalized linear mixed models that accounted for clustering and adjusted for site, physician, and visit characteristics. RESULTS: Standardized patient role fidelity was excellent, and the suspicion rate that physicians had seen an SP was 13%. In major depression, rates of antidepressant prescribing were 53%, 76%, and 31% for SPs making brand-specific, general, and no requests, respectively (P<.001). In adjustment disorder, antidepressant prescribing rates were 55%, 39%, and 10%, respectively (P<.001). The results were confirmed in multivariate models. Minimally acceptable initial care (any combination of an antidepressant, mental health referral, or follow-up within 2 weeks) was offered to 98% of SPs in the major depression role making a general request, 90% of those making a brand-specific request, and 56% of those making no request (P<.001). CONCLUSIONS: Patients' requests have a profound effect on physician prescribing in major depression and adjustment disorder. Direct-to-consumer advertising may have competing effects on quality, potentially both averting underuse and promoting overuse.


OBJECTIVE: To assess the opinions and practice patterns of obstetrician-gynaecologists on acceptance and use of free drug samples and other incentive items from pharmaceutical representatives. METHODS: A questionnaire was mailed in March 2003 to 397 members of the American College of Obstetricians and Gynecologists who participate in the Collaborative Ambulatory Research Network. RESULTS: The response rate was 55%. Most respondents thought it proper to accept drug samples (92%), an informational lunch (77%), an anatomical model (75%) or a well-paid consultanship (53%) from pharmaceutical representatives. A third (33%) of the respondents thought that their own decision to prescribe a drug would probably be influenced by accepting drug samples. Respondents were more likely to think the average doctor's prescribing would be influenced by acceptance of the items than theirs would be (p<.002). Respondents who distributed drug samples to patients indicated doing so because of patients' financial need (94%) and for their convenience (76%) and less so as a result of knowledge of the efficacy of the sample product (63%). A third (34%) of respondents agreed that interactions with industry should be more strictly regulated. CONCLUSION: Obstetrician-gynaecologists largely indicated that they would act in accordance with what they think is proper regarding accepting incentive items from pharmaceutical representatives. Although accepting free drug samples was considered to be appropriate more often than any other item, samples were most commonly judged to be influential on prescribing practices. The widely accepted practice of receiving and distributing free drug samples needs to be examined more carefully.
The aim of this paper is to empirically analyse the responses by general practitioners to promotional activities for ethical drugs by pharmaceutical companies. Promotion can be beneficial as a means of providing information, but it can also be harmful in the sense that it lowers price sensitivity of doctors and merely is a means of maintaining market share, even when cheaper, therapeutically equivalent drugs are available. A model is estimated that includes interactions of promotion expenditures and prices and that explicitly exploits the panel structure of the data, allowing for drug specific effects and dynamic adjustments, or habit persistence. The data used are aggregate monthly GP prescriptions per drug together with monthly outlays on drug promotion for the period 1994-1999 for 11 therapeutic markets, covering more than half of the total prescription drug market in the Netherlands. Identification of price effects is aided by the introduction of the Pharmaceutical Prices Act, which established that Dutch drugs prices became a weighted average of the prices in surrounding countries after June 1996. We conclude that GP drug price sensitivity is small, but adversely affected by promotion.

PURPOSE: American television viewers see as many as 16 hours of prescription drug advertisements (ads) each year, yet no research has examined how television ads attempt to influence consumers. This information is important, because ads may not meet their educational potential, possibly prompting consumers to request prescriptions that are clinically inappropriate or more expensive than equally effective alternatives. METHODS: We coded ads shown during evening news and prime time hours for factual claims they make about the target condition, how they attempt to appeal to consumers, and how they portray the medication and lifestyle behaviors in the lives of ad characters. RESULTS: Most ads (82%) made some factual claims and made rational arguments (86%) for product use, but few described condition causes (26%), risk factors (26%), or prevalence (25%). Emotional appeals were almost universal (95%). No ads mentioned lifestyle change as an alternative to products, though some (19%) portrayed it as an adjunct to medication. Some ads (18%) portrayed lifestyle changes as insufficient for controlling a condition. The ads often framed medication use in terms of losing (58%) and regaining control (85%) over some aspect of life and as engendering social approval (78%). Products were frequently (58%) portrayed as a medical breakthrough. CONCLUSIONS: Despite claims that ads serve an educational purpose, they provide limited information about the causes of a disease or who may be at risk; they show characters that have lost control over their social, emotional, or physical lives without the medication; and they minimize the value of health promotion through lifestyle changes. The ads have limited educational value and may oversell the benefits of drugs in ways that might conflict with promoting population health.

OBJECTIVE: To assess the effect of pharmaceutical advertising embedded in clinical software on the prescribing behaviour of general practitioners. DESIGN, PARTICIPANTS AND SETTING: Secondary analysis of data from a random sample of 1336 Australian GPs who participated in Bettering the Evaluation and Supported in part by the Attorneys General Prescriber Education Grant Program
Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits
Harvard Medical School, Brigham & Woman’s Hospital,
Division of Pharmacoepidemiology and Pharmacoeconomics

Care of Health, a national continuous cross-sectional survey of general practice activity, between November 2003 and March 2005. The prescribing behaviour of participants who used the advertising software was compared with that of participants who did not, for seven pharmaceutical products advertised continually throughout the study period. MAIN OUTCOME MEASURES: Prescription for advertised product as a proportion (%) of prescriptions for all pharmaceutical products in the same generic class or group. RESULTS: GP age, practice location, accreditation status, patient bulk-billing status and hours worked were significantly associated (P < 0.05) with use of advertising software. We found no significant differences, either before or after adjustment for these confounders, in the prescribing rate of Lipitor (adjusted odds ratio [AOR], 0.90; P = 0.26); Micardis (AOR, 0.98; P = 0.91); Mobic (AOR, 1.02; P = 0.89); Norvasc (AOR, 1.02; P = 0.91); Natrilex (AOR, 0.80; P = 0.32); or Zanidip (AOR, 0.88; P = 0.47). GPs using advertising software prescribed Nexium significantly less often than those not using advertising software (AOR, 0.78; P = 0.02). When all advertised products were combined and compared with products that were not advertised, no difference in the overall prescribing behaviour was demonstrated (AOR, 0.96; P = 0.42). CONCLUSION: Exposure to advertisements in clinical software has little influence on the prescribing behaviour of GPs.


BACKGROUND: Journal advertising is one of the main sources of medicines information to doctors. Despite the availability of regulations and controls of drug promotion worldwide, information on medicines provided in journal advertising has been criticized in several studies for being of poor quality. However, no attempt has been made to systematically summarise this body of research. We designed this systematic review to assess all studies that have examined the quality of pharmaceutical advertisements for prescription products in medical and pharmacy journals. METHODS AND FINDINGS: Studies were identified via searching electronic databases, web library, search engine and reviewing citations (1950 - February 2006). Only articles published in English and examined the quality of information included in pharmaceutical advertisements for prescription products in medical or pharmacy journals were included. For each eligible article, a researcher independently extracted the data on the study methodology and outcomes. The data were then reviewed by a second researcher. Any disagreements were resolved by consensus. The data were analysed descriptively. The final analysis included 24 articles. The studies reviewed advertisements from 26 countries. The number of journals surveyed in each study ranged from four to 24 journals. Several outcome measures were examined including references and claims provided in advertisements, availability of product information, adherence to codes or guidelines and presentation of risk results. The majority of studies employed a convenience-sampling method. Brand name, generic name and indications were usually provided. Journal articles were commonly cited to support pharmaceutical claims. Less than 67% of the claims were supported by a systematic review, a meta-analysis or a randomised control trial. Studies that assessed misleading claims had at least one advertisement with a misleading claim. Two studies found that less than 28% of claims were unambiguous clinical claims. Most advertisements with quantitative information provided risk results as relative risk reduction. Studies were conducted in 26 countries only and then the generalizability of the results is limited. CONCLUSIONS: Evidence from this review indicates that low quality of journal advertising is a global issue. As information provided in journal advertising has the potential to change doctors' prescribing behaviour, ongoing efforts to increase education about drug promotion are crucial. The results from our review suggest the need for a global pro-active and effective regulatory system to ensure that information provided in medical journal advertising is supporting the quality use of medicines.


It is known that interaction between pharmaceutical companies and medical professionals may lead to corruption of professional values, irrational use of medicine, and negative effects on the patient-physician relationship. Medical students frequently interact with pharmaceutical company representatives and increasingly accept their gifts. Considering the move toward early clinical encounters and community-based education, which expose students early to pharmaceutical representatives, the influence of those gifts is becoming a matter of concern. This study examines the frequency and influence of student exposure to drug marketing in primary care settings, as well as student perceptions of physician-pharmaceutical company relationships. This was a two-phase study consisting of qualitative research followed by a cross-sectional survey. Clinical experience logbooks of 280 second-year students in one school were analysed, and the themes that emerged were used to develop a survey that was administered to 308 third-year students from two medical schools. Survey results showed a 91.2% exposure to any type of marketing, and 56.8% of students were exposed to all classes of marketing methods studied. Deliberate targeting of students by pharmaceutical representatives, in particular, was correlated with
being less sensitive to the negative effects of and having positive opinions about interactions with pharmaceutical companies. The vast majority of students are exposed to drug marketing in primary care settings, and may become more vulnerable to that strategy. Considering that medical students are vulnerable and are targeted deliberately by pharmaceutical companies, interventions aimed at developing skills in the rational use of medicines and in strategies for coping with drug marketing should be devised.

ATTITUDES AND BELIEFS


Describes educational intervention and attitudinal survey designed to assess medical student and nurse practitioner attitudes toward receiving gifts from the pharmaceutical industry


CONTEXT: Controversy exists over the fact that physicians have regular contact with the pharmaceutical industry and its sales representatives, who spend a large sum of money each year promoting to them by way of gifts, free meals, travel subsidies, sponsored teachings, and symposia. OBJECTIVE: To identify the extent of and attitudes toward the relationship between physicians and the pharmaceutical industry and its representatives and its impact on knowledge, attitudes, and behavior of physicians. DATA SOURCES: A MEDLINE search was conducted for English-language articles published from 1994 to present, with review of reference lists from retrieved articles; in addition, an Internet database was searched and 5 key informants were interviewed. STUDY SELECTION: A total of 538 studies that provided data on any of the study questions were targeted for retrieval, 29 of which were included in the analysis. DATA EXTRACTION: Data were extracted by 1 author. Articles using an analytic design were considered to be of higher methodological quality. DATA SYNTHESIS: Physician interactions with pharmaceutical representatives were generally endorsed, began in medical school, and continued at a rate of about 4 times per month. Meetings with pharmaceutical representatives were associated with requests by physicians for adding the drugs to the hospital formulary and changes in prescribing practice. Drug company-sponsored continuing medical education (CME) preferentially highlighted the sponsor's drug(s) compared with other CME programs. Attending sponsored CME events and accepting funding for travel or lodging for educational symposia were associated with increased prescription rates of the sponsor's medication. Attending presentations given by pharmaceutical representative speakers was also associated with nonrational prescribing. CONCLUSION: The present extent of physician–industry interactions appears to affect prescribing and professional behavior and should be further addressed at the level of policy and education.


Data were collected from physicians attending a medical conference. This exploratory study was primarily interested in two areas. First, the investigators were interested in better understanding physicians' responses to different promotional tactics typically used by the pharmaceutical industry. Pharmaceutical representatives were most useful, followed by drug samples and infomercials in medical journals. Direct mail, promotional faxes, and promotional products were used less by physicians. Second, the investigators were interested in learning what information sources influenced physicians' drug choices. Physicians were primarily influenced by their prior experience with a drug, then by drug compendiums, and journal articles. Physicians were also influenced by information provided by the industry and other factors, like the drug's price and their patients' financial situations. Managerial implications for marketing to physicians and ideas for future research are discussed.

Although there is increasing concern about inappropriate physician prescribing and how to devise programs to improve drug therapy decisions, little research has been published documenting the reasons for such misprescribing. We analyzed the motivations reported by 141 physicians who were part of a large multi-state randomized controlled trial of 'academic detailing.' The physicians were identified from state Medicaid prescribing records as moderate to high prescribers of cerebral or peripheral vasodilators, propoxyphene, or cephalixin, and were visited by clinical pharmacists serving as outreach educators in a medical school-based prescribing improvement program. Physicians' motivations for their prescribing patterns were discussed in an informal, interactive manner; all responses were recorded in detail by the pharmacists immediately following each visit. Of the 110 responses elicited, the most common reason offered by physicians for use of these medications was patient demand (51 statements, or 46%). Physicians also frequently attributed their prescribing of these drugs to intentional use of placebo effect (24%). An equally common reason was prescribers' assertion that their own clinical experience indicated that these drugs were actually therapies of choice in the conditions presented (26%), despite evidence from the research literature that this was not the case. Such indications included the use of the 'vasodilators' for senile dementia or peripheral vascular disease, cephalixin for viral upper respiratory infections, and propoxyphene instead of acetaminophen or aspirin for mild pain. Greater attention must be paid to physicians' attitudes and motivations concerning suboptimal prescribing if programs are to succeed in replacing these practices with more rational clinical decision-making.


We surveyed faculty and residents from seven hospitals affiliated with three academic internal medicine training programs about their perceptions of the informational and service benefits vs the risks of ethical compromise involved in interactions with pharmaceutical sales representatives. Questionnaires were returned by 467 (81%) of 575 physicians surveyed. Residents and faculty generally had somewhat negative attitudes toward the educational and informational value of detailing activities at their institutions but indicated that representatives supported important conferences and speakers. Residents were more likely than faculty to perceive contacts with sales representatives as potentially influencing physician decision making. Sixty-seven percent of faculty and 77% of residents indicated that physicians could be compromised by accepting gifts. More than half of the physicians who suggested that such compromise was possible indicated that acceptance of gifts worth more than +100 from drug companies would be likely to compromise a physician's independence and objectivity. A majority of both faculty and house staff favored eliminating presentations by pharmaceutical representatives at their hospitals. Only 10% thought they had had sufficient training during medical school and residency regarding professional interaction with sales representatives.


The American Medical Association (AMA) has recently published guidelines for the receipt of gifts from industry representatives. To examine faculty members' attitudes toward that AMA policy as it pertains to gifts from the pharmaceutical industry, the authors surveyed the faculty of the University of Kentucky College of Medicine in 1991. Of 462 faculty members, 248 (54%) completed the questionnaires. The faculty generally agreed with the AMA guidelines. A majority of the faculty believed that personal relationships had the potential to influence prescribing patterns but that gifts, in general, did not greatly influence prescribing behaviors. Compared with the 169 M.D. faculty, the 69 Ph.D. faculty significantly favored more restrictive policies (p less than .001). The authors discuss both the ethical considerations and the utility of guidelines for physician-industry interactions.


**BACKGROUND:** Concerns have been expressed about physicians' acceptance of gifts from pharmaceutical companies, but few studies have examined or attempted to change medical students' attitudes about accepting such gifts. METHODS: We used a questionnaire survey to measure attitudes about accepting such gifts. We then carried out a field experiment to compare changes in second-year medical students' attitudes, seven weeks after a one-hour lecture and discussion about the appropriateness of pharmaceutical gifts, to changes in first-year students who were not exposed to the program. RESULTS: Following the intervention, second-year students became less accepting of these marketing practices; first-year students showed no significant change. The difference between the groups after the intervention was statistically significant (P < .0001). CONCLUSIONS: If medical students' attitudes about accepting
gifts from pharmaceutical companies need to be changed, this study suggests that the process may be fostered with little investment of curricular time.


STUDY OBJECTIVES: To determine the extent and diversity of involvement of pharmaceutical representatives in emergency medicine residency programs and to assess chief residents' beliefs and attitudes concerning this activity. DESIGN AND PARTICIPANTS: A multi-item survey with cover letter was mailed to the chief resident at each of the 87 Accreditation Council on Graduate Medical Education-approved emergency medicine residency programs in the United States at the time of study conception. MEASUREMENTS AND MAIN RESULTS: Eighty-three percent (72 of 87) of the questionnaires were returned. Ninety-three percent (66 of 71) of responders reported the involvement of pharmaceutical representatives in their emergency medicine residency. The most frequent activities (90%, 63 of 70) were to distribute small gifts (pens, notepads) and to provide meals during department functions such as journal clubs (80%, 56 of 70). Only 32 of 70 responding chief residents (46%) were aware of any established guidelines in their institution or residency program concerning relationships with pharmaceutical representatives, and 14 respondents (20%) believed that accepting gifts from pharmaceutical companies could affect their own prescribing habits. A few stated that pharmaceutical representative-sponsored educational functions were inappropriate. CONCLUSION: The interaction of pharmaceutical representatives with emergency medicine residents and residencies is widespread. More than 50% of the institutions supporting emergency medicine residency programs have no formal guidelines with regard to the interaction of their residents with pharmaceutical representatives or their guidelines are not known to the person most responsible for approval and arrangement of the pharmaceutical representative interaction—the emergency medicine chief resident. While most chief residents believed that accepting small gifts was reasonable, they also believed that accepting gifts valued at $100 or more and pharmaceutical representative sponsorship of trips was inappropriate.


OBJECTIVE: To determine the effect on resident attitudes of policies regarding pharmaceutical representative interactions with residents. DESIGN: Cross-sectional survey. SETTING: National sample of U.S. family medicine residencies. PARTICIPANTS: Three hundred seventy-eight residents from 14 randomly selected programs. Seven programs had written policies and restrictions (restricted programs), and seven had no such restriction or guideline (free programs). MEASUREMENTS AND MAIN RESULTS: The authors assessed resident attitudes regarding the perception of benefit from pharmaceutical representative activities, the usefulness of various sources of drug information, and the appropriateness of accepting gifts from a pharmaceutical representative. There were 265/378 respondents (70% response rate). Residents from restricted programs reported fewer benefits from pharmaceutical representative interactions and were less likely to feel that acceptance of gifts was appropriate. The amount of exposure to pharmaceutical representatives was positively correlated with perceived benefit and negatively correlated with ratings of appropriateness of gift acceptance. CONCLUSION: Regulatory policies can influence resident attitudes and perceptions. Training programs should develop written policies to help guide resident-pharmaceutical representative interactions.


STUDY OBJECTIVES: To examine emergency medicine resident training and understanding of general bioethics and resident and faculty attitudes and behavior regarding professional interactions with the biomedical industry. DESIGN: Two companion questionnaire surveys. SETTING: Annual resident in-service examination and written director survey with telephone follow-up. PARTICIPANTS: Emergency medicine residents and program directors. INTERVENTIONS: chi 2 analysis was used for questions involving relationships among variables with dichotomous or categorical response. An analysis of variance or
Pearson Product Moment Correlation was calculated for questions with continuous variables.

MEASUREMENTS AND MAIN RESULTS: The surveys were completed by 1,385 of 1,836 (75%) residents and 80 of 81 (99%) residency directors. On average, residents receive eight hours of bioethical instruction per year but believe that they need 12 hours per year. Seventy-five percent of residents believe that company representatives sometimes cross ethical boundaries. The amount of resident understanding of bioethical concepts correlated with the number of hours of bioethics training they received. A sensitivity to bioethical conflicts index was correlated with the residents' behavior. CONCLUSION: There is wide variation in beliefs and practices regarding the interaction between emergency medicine residents and directors and the biomedical industry. Our results suggest that residents need training regarding conflicts of interest, accepted standards of practice, and dealing with potential conflicts with the biomedical industry.


Survey of physician and pharmacist attitudes on the ethics of pharmaceutical marketing


Physicians in northwestern Pennsylvania were surveyed to identify the factors that influenced their attitudes toward pharmaceutical sales representatives (PSRs). The results suggest that physicians’ attitudes were influenced by the information and educational support they received from PSRs, selling techniques used by the PSRs to promote their products, and the volume of patients they saw.


OBJECTIVE: To examine patient perceptions of professional appropriateness and the potential impact on health care of physician acceptance of gifts from the pharmaceutical industry. DESIGN: A random-digit dialing telephone survey. SETTING AND PARTICIPANTS: A sample of 649 adults (> or = 18 years old) living in Kentucky. MAIN OUTCOME MEASURES: Patient awareness of office-use gifts (eg, pens, notepads) and personal gifts to physicians from the pharmaceutical industry, patient exposure to office-use gifts, and attitudes toward physician acceptance of both office-use and personal gifts. RESULTS: The survey had a response rate of 55%. Eighty-two percent of the respondents were aware that physicians received office-use gifts, while 32% were aware that physicians received personal gifts. Seventy-five percent reported receiving free samples of medication from their physicians. Compared with office-use gifts, more respondents believed that personal gifts to physicians have a negative effect on both health care cost (42% vs 26%) and quality (23% vs 13%). After controlling for demographic variables, as well as awareness and exposure to physician gifts, individuals with at least a high school education were 2.4 times as likely to believe that personal gifts have a negative effect on the cost of health care and 2.3 times as likely to believe that personal gifts would have a negative effect on the quality of health care. CONCLUSIONS: These results suggest that the public is generally uninformed about personal gifts from pharmaceutical companies to physicians. If public perception regarding the objectivity of the medical profession is to serve as a guide, these findings suggest a reevaluation may be in order for guidelines regarding physician acceptance of gifts from the pharmaceutical industry.


Questionnaire of prescribing physicians in Kentucky gauging relationship between self-reported use of prescribing information from pharmaceutical industry sources and overall cost of prescription practice.

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OBJECTIVE: To determine the attitudes, knowledge and practices of family medicine residents relating to the pharmaceutical industry and to assess the effectiveness of existing guidelines on appropriate interactions with the pharmaceutical industry. DESIGN: Survey by mailed questionnaire. SETTING: Ontario. PARTICIPANTS: All 262 second-year family medicine residents in Ontario (seven centres); 226 (86.3%) responded. RESULTS: Fifty-two (23.0%) of the residents who responded stated that they had read the CMA policy statement on appropriate interactions between physicians and the pharmaceutical industry. A total of 124 (54.9%) stated that they would attend a private dinner paid for by a pharmaceutical representative; the proportion was not significantly reduced among those who had read the CMA guidelines, which prohibit the acceptance of personal gifts. In all, 186 (82.3%) reported that they would like the opportunity to interact with pharmaceutical representatives in an educational setting, even though several programs now discourage these interactions. Approximately three quarters (172/226 [76.1%]) of the residents indicated that they plan to see pharmaceutical representatives in their future practice. Residents at Centre 2 were significantly more critical of the pharmaceutical industry than those from the other centres. Overall, being aware of, and familiar with, departmental policy or CMA policy on interactions with the pharmaceutical industry did not affect the residents' attitudes or intended future practices. CONCLUSION: The presence of guidelines concerning physicians' interactions with the pharmaceutical industry does not appear to have a significant impact on family medicine residents in Ontario.


Objective: Our objective was to study the attitudes of Canadian physicians toward product presentations by pharmaceutical representatives (PRs), the use of inducements by the pharmaceutical industry, and methods to improve the quality of prescribing information provided to physicians. Design: We used a mailed survey. Participants: A random sample of 550 Canadian physicians in all settings was chosen. Outcome measures: The main outcome measure was the proportion of respondents agreeing with a series of statements. Results: The response rate was 262 of 525 deliverable surveys (50 per cent). Respondents had a mean of 4.2 interactions per week with PRs. Of the 262 respondents (5.8 per cent of data were incomplete), 193 (80 per cent) believed that PRs overemphasize their products' effectiveness, 108 (45 per cent) thought PRs do not present fairly the drugs' negative aspects, and 223 (92 per cent) felt that PRs have production promotion as a goal. Most, 175 (70 per cent), believe that drug-detailing affects physicians' prescribing behavior. Most, 210 (86 per cent), considered drug samples acceptable, but fewer agreed that other inducements were acceptable. Of the respondents, 183 (74 per cent) agreed that PRs should be required to use guidelines for standardized, comprehensive drug-detailing, and 165 (65 per cent) agreed that face-to-face drug-detailing by PRs using standardized guidelines would be an effective way to receive information. Conclusions: There is dissatisfaction among Canadian physicians about the quality of information provided by the pharmaceutical industry. Standardized, comprehensive guidelines would be accepted by physicians as one improvement.


PURPOSE: To assess the influence of pharmaceutical advertising (in the form of books) directed at medical students and also to examine students' attitudes toward pharmaceutical representatives after interacting with them. METHOD: Two groups of fourth-year medical students were surveyed: 166 residency applicants to the Department of Anesthesia and Critical Care between 1991 and 1993, who were questioned during their personal interviews with the department chair, and 39 fourth-year students from the University of Chicago Pritzker School of Medicine in 1994-95, who were surveyed by telephone. The students were asked if they had ever received a book from a pharmaceutical representative and, if so, to name the book. Then they were asked to name the book-giving company or a product associated with the company. Responses were compared using chi-square analysis. RESULTS: In all, 90% of the students had received one or more books and accurately recalled titles for 89% of them. However, only 25% of the named books were accurately associated with a pharmaceutical company or product. The Pritzker students, asked to recall interactions with pharmaceutical representatives, reported being skeptical of representatives who ignored them because they were students, but they rated as helpful and informative those who conversed with them or gave them gifts. CONCLUSION: Although gifts to medical students do not necessarily engender company or product recall, attention paid to medical students by pharmaceutical representatives engenders goodwill toward the representatives and their messages.
OBJECTIVE: To compare physicians' and their patients' attitudes toward pharmaceutical gifts. DESIGN: Survey of physicians and their patients. SETTING: Two tertiary-care medical centers, one military and one civilian. PARTICIPANTS: Two hundred sixty-eight of 392 consecutively surveyed physicians, 100 of 103 randomly selected patients at the military center, and 96 patients in a convenience sample at the civilian center completed the survey. MEASUREMENTS: Participants rated 10 pharmaceutical gifts on whether they were appropriate for physicians to accept and whether they were likely to influence prescribing. Patients found gifts less appropriate and more influential than did their physicians. About half of the patients were aware of such gifts; of those unaware, 24% responded that this knowledge altered their perception of the medical profession. Asked whether they thought their own physician accepted gifts, 27% said yes, 20% no, and 53% were unsure. For patients, feeling that gifts were inappropriate was best predicted by a belief that gifts might influence prescribing, while for physicians, the best predictor was knowledge of guidelines. CONCLUSIONS: Patients feel pharmaceutical gifts are more influential and less appropriate than do their physicians. Physicians may want to consider this in deciding whether to accept particular gifts. Broader dissemination of guidelines may be one means of changing physician behavior. At the same time, future guidelines should further consider the potentially different viewpoints of patients and physicians.


Pharmaceutical sales representatives (PSRs) are a key component of pharmaceutical companies' marketing strategies in that they are the link between the pharmaceutical company and the physician. PSRs provide various services in order to increase the physician's prescribing activity of their companies' products. Given the high cost of recruiting, training, and supporting a PSR, it is important for PSRs to understand the relative significance physicians ascribe to services provided. This study examined whether there is a gap in the perceptions of physicians and PSRs regarding the value of specific services provided by PSRs. Physicians and PSRs who attended medical meetings were surveyed. Results of the study indicated that there were significant differences in the perceived value between PSRs and physicians. Services which were perceived to be less important to physicians than to PSRs were new product detailing, old product detailing, providing product studies and research findings, PSRs serving as expert consultants, and recruiting physicians to participate in FDA approval drug studies. Services for which there were no significant differences of perceived value between the groups included free product samples and promotional luncheons and dinners.


CONTEXT: The long-term effect of policies restricting contact between residents and pharmaceutical company representatives (PCRs) during internal medicine training is unknown. The McMaster University Department of Medicine in Hamilton, Ontario, implemented a policy restricting PCR contact with trainees in 1992, whereas the Department of Medicine at the University of Toronto, Toronto, Ontario, has no such policy. OBJECTIVE: To determine if the presence of a restrictive policy and the frequency of contact with PCRs during internal medicine training predict attitudes and behavior several years after completion of training. DESIGN, SETTING, AND PARTICIPANTS: Retrospective analysis of the attitudes and behavior of 3 cohorts of physicians: University of Toronto trainees, prepolicy McMaster trainees, and postpolicy McMaster trainees. Surveys were mailed to 242 former University of Toronto and 57 former McMaster trainees who completed their internal medicine training between 1990 and 1996, with response rates of 163 (67%) and 42 (74%), respectively. MAIN OUTCOME MEASURES: Physician attitude, assessed by a question about the perceived helpfulness of PCR information, and behavior, assessed by whether physicians met with PCRs in the office and the frequency of contacts with PCRs (current contact score, consisting of conversations with PCRs, PCR-sponsored events attended, gifts, honoraria, and consulting fees received). RESULTS: In both the unadjusted and multiple regression analyses, postpolicy McMaster trainees were less likely to find information from PCRs beneficial in guiding their practice compared with Toronto and prepolicy McMaster trainees, with unadjusted odds ratios (ORs) of 0.44 (95% confidence interval [CI], 0.20-0.94) and 0.39 (95% CI, 0.13-1.22), respectively. All 3 groups were equally likely to report that they met with PCRs in their office in the past year (88%). Postpolicy McMaster trainees had a lower current contact score compared with Toronto (9.3 vs 10.9; P =.04) and prepolicy McMaster trainees (9.3 vs 10.8; P =.18). In multiple regression models, greater frequency of contact with PCRs during training was a predictor of increased perceived benefit of PCR information (OR, 1.29; 95% CI, 1.13-1.47)
and was positively correlated with the current contact score (partial $r = 0.49$; $P<.001$). Number of PCR-sponsored rounds attended during training was not a consistent predictor of attitudes or behavior.

CONCLUSIONS: Policies restricting PCR access to internal medicine trainees and the amount of contact during residency appear to affect future attitudes and behavior of physicians.


BACKGROUND: Pharmaceutical sales representatives and direct-to-consumer advertising may influence physician practices, particularly prescribing. Identifying the relevant knowledge and attitudes students possess about the pharmaceutical industry may help professional curricula address these influences.

PURPOSES: To assess knowledge and attitudes toward pharmaceutical industry marketing, ethical principles guiding drug company interactions, pharmaceutical sales representatives as a source of drug information, and confidence level in addressing consumers seeking a prescription from a direct-to-consumer advertisement among senior-level medical, PharmD, and nurse practitioner students.

METHODS: A cross-sectional survey design was used to assess student knowledge and attitudes of four domains associated with the pharmaceutical industry. RESULTS: Significant deficiencies were noted in student knowledge of pharmaceutical marketing expenditures, professional ethics regarding interactions with drug companies, and accuracy of drug information from sales representatives. CONCLUSIONS: Health professional students’ knowledge and attitudes toward the pharmaceutical industry are formed prior to graduation. Professional curricula must address the influences of sales representatives before postgraduate training.


The pharmaceutical industry affects physicians’ clinical decision-making, especially their prescribing behaviour. However, little is known of the interactions between medical students and the pharmaceutical industry. The purpose of the present study was to examine the extent and perceived influence of pharmaceutical promotion on Finnish medical students and students’ attitudes towards such promotion. Altogether 952 students (34%) responded to an anonymous questionnaire that was distributed to all Finnish medical students at varying levels of study. Students reported that they attended presentations by pharmaceutical company representatives on a frequent basis. A total of 44% attended at least twice a month. Students regarded the pharmaceutical industry as one of their most important sources of pharmaceutical information. The importance attached to pharmaceutical promotion as a source of pharmaceutical information and the intensity of pharmaceutical marketing increased over the course of medical studies. Although most students were not in favour of reducing promotion, the students largely believed that such activities would affect their future prescribing behaviour, and the awareness of this influence increased over the course of studies. The fact that medical students are commonly exposed to pharmaceutical promotion should be addressed in medical education.


PURPOSE: Hospital-based physicians are responsible for the purchase of expensive equipment. Little is known about the influence of gift giving on their behavior. We wanted to ascertain the prevalence of gift giving from the pharmaceutical industry and medical equipment manufacturers to radiation oncologists and determine whether or not the size of accepted gifts influences their opinions regarding gifts.

METHODS AND MATERIALS: A population-based survey of hospital-based physicians conducted between 2002 and 2003. The study population consisted of all radiation oncologists who were members of the American Society of Therapeutic Radiology and Oncology between 2000 and 2001. A random number generator was used to identify 20% of the population. This group was invited by e-mail and conventional mail to complete a Likert scale questionnaire. Those asked to complete the questionnaire electronically were directed to a specially designed web site. RESULTS: Of 640 individuals who were asked to participate, 241 (38%) completed the questionnaire. 96% admitted accepting gifts. The most commonly accepted low value gifts were: pen or pencil (78%), drug samples for patient’s use (70%), meal (66%), and a note pad (59%). The most commonly accepted high value gifts were trips to “equipment-users meetings” (15%), honoraria for speaking at a conference (10%), and participation in a conference call (9%). Only 5% of radiation oncologists agreed with the statement “my prescribing practices are affected” by gifts; however, 33% agreed with the statement “I believe that other physicians prescribing practices..."
are affected." Similarly, although only 4% felt that their recommendations concerning purchases of medical equipment are affected by gifts, 19% felt that other physicians would be influenced. A test of the hypothesis that physicians believe that their conduct is less affected than those of their colleagues (i.e., "I am not influenced by gifts but someone else is") was strongly affirmed by a correlation statistic (p < 0.0001). Of the radiation oncologists surveyed, 74% felt that they should be free to accept gifts of small value, 31% felt they should be free to accept meals or gifts of any type, 16% felt that residency programs should ban free meals provided by companies, 13% felt professional associations should discourage companies from hosting parties at the annual meeting, 17% felt that gift giving should stop, and 66% agreed that clinical information provided by companies provides a useful continuing medical education service. Those who accepted larger gifts were far more likely to disagree with statements such as "professional societies should actively discourage companies from hosting parties and providing free meals and giving gifts to physicians attending the annual meeting" (p = 0.0003) and "the practice of gift giving by companies should stop" (p = 0.0017); they were slightly more likely to agree with statements such as "clinical information provided to radiation oncologists by companies provides a useful continuing medical education service." CONCLUSIONS: To our knowledge, this study represents the first large-scale population based study of a hospital-based specialty in gift giving. This study demonstrates that: (1) Gift giving in radiation oncology is endemic. (2) Although each physician is likely to consider himself or herself immune from being influenced by gift giving, he or she is suspicious that the "next person" is influenced. (3) There is a correlation between the willingness of individual physician to accept gifts of high value and their sympathy toward this practice.


OBJECTIVES: To examine the beliefs and practices of emergency medicine program directors regarding interactions with the pharmaceutical industry. The authors also sought to study the prevalence of program policies and the desire for organizational policies. METHODS: The Board of the Council of Emergency Medicine Residency Directors (CORD) requested and approved a member survey. An institutional review board-approved, Web-based, 30-item survey was sent to all CORD members subscribed to the organization's listserv in May 2002 and was completed by June 2002. Program director respondents were surveyed as to their beliefs and practices regarding industry sponsorship of speakers, social events, drug samples, travel to conferences, and the educational value of marketing representatives. Subjects were queried about their awareness of existing guidelines and whether they desired policy development by CORD. RESULTS: Surveys were returned from 106 programs (85%). The majority of program directors (72%) "never" or "very rarely" allowed unrestricted interactions between pharmaceutical representatives and residents at work. However, only 52% of program directors said they "never" or "very rarely" allowed pharmaceutical representatives to give residents free drug samples at work. Only 46% said they "never" or "very rarely" allowed pharmaceutical representatives to teach residents. Two thirds of program directors desired CORD guidelines regarding interactions with the pharmaceutical industry. Program directors seeking guidelines were less likely to allow pharmaceutical representatives to teach residents (p = 0.001). They were also less likely to allow pharmaceutical representatives unrestricted interactions with residents (p = 0.05). CONCLUSIONS: A wide range of practices exist among emergency medicine residency program directors, and most desire organizational guidelines regarding interactions with the pharmaceutical industry.


PURPOSE: Little is known about the knowledge and skills internal medicine residents need to interact appropriately with pharmaceutical industry representatives. The authors conducted a needs assessment of current knowledge and preferences for potential components of a new educational initiative among residents. METHOD: In 2001, a two-page questionnaire using a five-point ordinal scale was mailed to all internal medicine residents and faculty at one institution. Analysis included use of Wilcoxon two-sample test. RESULTS: Response rates were 97% (85/88) for residents and 79% (86/109) for faculty. Residents and faculty's knowledge about formal position statements or literature on the impact of marketing strategies on prescribing patterns, drug marketing costs, or how pharmaceutical representatives are trained to interact with physicians was very limited. Most responders felt residents should learn to critically interpret promotional materials, recognize potential for conflict of interest, and consider how patients perceive the physician-pharmaceutical industry relationship. More faculty than residents valued including position statements (66% versus 39%, p < .001) and literature exploring the impact of marketing on prescribing patterns (70% versus 41%, p < .001) in education. Only one-half or fewer favored small-group discussions, lecture series, critical-reading skills seminars, or panel discussions. CONCLUSIONS: Internal medicine residents and faculty reported low levels of knowledge about physician-pharmaceutical industry relationships. Some consensus about educational components existed, but
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optimal educational formats remain uncertain. A six-hour curriculum to address this complex, emotionally charged topic was developed, implemented, and evaluated.


CONTEXT: While exposure to and attitudes about drug company interactions among residents have been studied extensively, relatively little is known about relationships between drug companies and medical students. OBJECTIVE: To measure third-year medical students' exposure to and attitudes about drug company interactions. DESIGN, SETTING, AND PARTICIPANTS: In 2003, we distributed a 64-item anonymous survey to 1143 third-year students at 8 US medical schools, exploring their exposure and response to drug company interactions. The schools' characteristics included a wide spectrum of ownership types, National Institutes of Health funding, and geographic locations. In 2005, we conducted a national survey of student affairs deans to measure the prevalence of school-wide policies on drug company-medical student interactions. MAIN OUTCOME MEASURES: Monthly frequency of students' exposure to various activities and gifts during clerkships, and attitudes about receiving gifts. RESULTS: Overall response rate was 826/1143 (72.3%), with range among schools of 30.9%-90.7%. Mean exposure for each student was 1 gift or sponsored activity per week. Of respondents, 762/818 (93.2%) were asked or required by a physician to attend at least 1 sponsored lunch. Regarding attitudes, 556/808 (68.8%) believed gifts would not influence their practices and 464/804 (57.7%) believed gifts would not affect colleagues' practices. Of the students, 553/604 (80.3%) believed that they were entitled to gifts. Of 183 students who thought a gift valued at less than $50 was inappropriate, 158 (86.3%) had accepted one. The number of students who simultaneously believed that sponsored grand rounds are educationally helpful and are likely to be biased was 452/758 (59.6%). Students at 1 school who had attended a seminar about drug company-physician relationships were no more likely than the nonattending classmates to show skepticism. Of the respondents, 704/822 (85.6%) did not know if their school had a policy on these relationships. In a national survey of student affairs deans, among the 99 who knew their policy status, only 10 (10.1%) reported having school-wide policies about these interactions. CONCLUSIONS: Student experiences and attitudes suggest that as a group they are at risk for unrecognized influence by marketing efforts. Research should focus on evaluating methods to limit these experiences and affect the development of students' attitudes to ensure that physicians' decisions are based solely on helping each patient achieve the greatest possible benefit.


OBJECTIVE: The authors sought to determine the effect of an educational seminar on interactions with pharmaceutical representatives on residents' attitudes and behavior. METHOD: A controlled trial of an educational intervention was conducted. Residents at a university-affiliated residency program (N=32) were divided into two groups: one group (N=18) received a 1-hour educational intervention, while the other group (N=14) served as a control. Both groups completed a 33-item survey before the intervention and 2 months after the intervention. RESULTS: Residents interacted substantially with pharmaceutical representatives. The majority of residents found the interactions and gifts useful and believed their prescribing practices were not influenced. Compared to the comparison group, the intervention group significantly decreased the reported number of office supplies and noneducational gifts, but showed no change in attitude toward pharmaceutical representatives and their gifts. CONCLUSION: One-time educational interventions may have significant impact on psychiatric residents' targeted gift-accepting behavior but little effect on attitudes.


OBJECTIVE: Medical school and residency are formative years in establishing patterns of prescribing. We aimed to review the literature regarding the extent of pharmaceutical industry contact with trainees, attitudes about these interactions, and effects on trainee prescribing behavior, with an emphasis on points of potential intervention and policy formation. DESIGN: We searched MEDLINE from 1966 until May 2004 for English language articles. All original articles were included if the abstract reported content relevant to medical training and the pharmaceutical industry. Editorials, guidelines, and policy recommendations were excluded. MEASUREMENTS AND MAIN RESULTS: Contact with pharmaceutical representatives was common among residents. The majority of trainees felt that the interactions were appropriate. A minority felt that their own prescribing could be influenced by contact or gifts, but were more likely to believe that
others’ prescribing could be influenced. Resident prescribing was associated with pharmaceutical representative visits and the availability of samples. A variety of policy and educational interventions appear to influence resident attitudes toward interactions with industry, although data on the long-term effects of these interventions are limited. Overall, residents reported insufficient training in this area.

CONCLUSIONS: The pharmaceutical industry has a significant presence during residency training, has gained the overall acceptance of trainees, and appears to influence prescribing behavior. Training programs can benefit from policies and curricula that teach residents about industry influence and ways in which to critically evaluate information that they are given. Recommendations for local and national approaches are discussed.


Industry and medicine share a complicated relationship that engenders a considerable degree of controversy. Although they share a relationship, industry and medicine have different perspectives toward their involvement with each other. Industry conceives of medicine as one aspect of the "drug pipeline", a larger set of relationships that is necessary for producing and marketing products. In contrast, select physicians refer to medicine's relationship with industry as "dancing with the porcupine", an inherently difficult and dangerous activity. This paper compares the "pipeline" and "porcupine" metaphors, and draws upon ethnographic data from fieldwork conducted among clinical neuroscientists at a Canadian medical school to further elucidate the perspectives of physicians toward industry and the nature of the physician-industry relationship. The paper argues that the physician-industry relationship is akin to a type of gift-exchange known as a total prestation, and that this form of total prestation is part of a strategy of capital reconversion.


PURPOSE: To describe change in residents' attitudes toward gifts from and interactions with industry and to measure the effects of a formal educational workshop on changes in perceptions. METHOD: At the University of Chicago, 118 internal medicine residents completed an observational survey and took part in a controlled intervention across three years (2001-2004) of residency. Four cohorts of residents completing the program in 2004-2007 participated. The intervention was an interactive educational workshop, including reviews of literature and guidelines, and three videos demonstrating routine resident interactions with pharmaceutical representatives. Residents graduating in 2005 were the intervention group and residents graduating in 2004 the comparison group. Analysis of variance and linear regression models were used to determine the relationship between variables. RESULTS: Residents perceived "lunch sponsored at noon conference" and "pharmaceutical representative brief talk at noon conference" as increasingly appropriate over their training period (p < .02). Residents perceived "pens, notepads, pocket antibiotic guides" as increasingly appropriate and "tickets to sporting events," "round of golf," and "travel/registration for national conference" as increasingly inappropriate (p < .05). The intervention group was more likely to rate only one item, "lunch at noon conference," as less appropriate (p = .042). CONCLUSIONS: Residents' perceptions toward industry gifts and interactions changed modestly during their training to reflect institutional policy. "Appropriate" gifts of minimal value were generally perceived as increasingly appropriate, whereas "inappropriate" gifts were perceived as increasingly inappropriate over time. An educational workshop alone may not significantly alter residents' perceptions toward industry without the implementation of broad and consistent institutional policy.


BACKGROUND: Commercial sources of information are known to have greater influence than scientific sources on general practitioners’ (GPs) prescribing behavior in under developed and developing countries. The study aimed to determine the self-reported impact of pharmaceutical promotion on the decision-making process of prescription of GPs in Eastern Turkey. METHODS: A cross-sectional, exploratory survey was performed among 152 GPs working in the primary health centers and hospitals in Erzurum province of Eastern Turkey in 2006. A self-administered structured questionnaire was used. The questionnaire included questions regarding sociodemographics, number of patients per day, time per patient, frequency of sales representative visits to GPs, participation of GPs in training courses on prescribing (in-service training, drug companies), factors affecting prescribing decision, reference sources concerning prescribing and self-reported and self-rated effect of the activities of sales representatives on GPs prescribing behaviors.
decisions. RESULTS: Of 152 subjects, 53.3% were male and 65.8% were working at primary health care centers, respectively. Mean patient per day was 58.3 +/- 28.8 patients per GP. For majority of the GPs (73.7%), the most frequent resource used in case of any problems in prescribing process was drug guides of pharmaceutical companies. According to self-report of the GPs, their prescribing decisions were affected by participation in any training activity of drug companies, frequent visits by drug representatives, high number of patient examinations per day and low year of practice (p < 0.05 for all). CONCLUSION: The results of this study suggest that for the majority of the GPs, primary reference sources concerning prescribing was commercial information provided by sales representatives of pharmaceutical companies, which were reported to be highly influential on their decision-making process of prescribing by GPs. Since this study was based on self-report, the influence reported by the GPs may have been underestimated.


PURPOSE: To evaluate the behavior and attitudes among ophthalmology trainees toward pharmaceutical promotions. DESIGN: Questionnaire survey. METHODS: A questionnaire on behavior and attitudes toward interactions with pharmaceutical representatives was distributed to 110 ophthalmology residency programs in the United States. Responses were collected and analyzed. RESULTS: One hundred and twenty-two responses were received. Most (87%) respondents reported seeing pharmaceutical representatives visiting their program at least once every 1 to 2 months. Most respondents reported having accepted gifts from them. Although only 26% of trainees have changed prescribing behavior based on information provided by pharmaceutical representatives, 77% did so because of available medicine samples. Trainees tended to consider their peers more susceptible than themselves to the influence of pharmaceutical promotions. When asked to rate their agreement to questionnaire statements, with 5 meaning strongly agree and 1 meaning strongly disagree, the average score for "Pharmaceutical representatives influence my prescribing" was only 2.72, compared with 3.67 for "Pharmaceutical representatives influence other physicians' prescribing" (P < .0001). Although half of the trainees (51%) acknowledged that their programs have guidelines or policies regarding interactions with the pharmaceutical industry, only 28% reported having received training in this area. CONCLUSIONS: Ophthalmology trainees have frequent encounters with pharmaceutical representatives. The trainees tend to consider their peers more susceptible than themselves to the influence of pharmaceutical promotions. Pharmaceutical representatives seem able to change prescribing practices among trainees they contact by providing information or leaving drug samples. Many trainees have not received any education in this area from their programs.


BACKGROUND: Few studies have reported the attitudes of both individual doctors and members of the public toward the appropriateness of 'gifts' from pharmaceutical companies.AIMS: To investigate the attitudes of both doctors and members of the public toward the appropriateness of receiving particular 'gifts' from pharmaceutical companies, and to consider whether public acceptability is a suitable criterion for determining the ethical appropriateness of 'gifts'. METHODS: A survey questionnaire of medical specialists in Australia and a survey questionnaire of members of the public itemized 23 'gifts' (valued between AU$10 and AU$2500) and asked whether or not each was appropriate. RESULTS: Both medical specialists and members of the public believe certain 'gifts' from pharmaceutical companies are appropriate but not others. There was a tendency for members of the public to be more permissive than medical specialists. CONCLUSION: Although some professional guidelines place importance on the attitudes of the general public to 'gift' giving, and other guidelines give importance to a need for transparency and public accountability, we question whether public acceptability is a suitable criterion for determining the ethical appropriateness of 'gifts'. We suggest that more weight be given to the need for independence of clinical decision making, with empirical evidence indicating that even small 'gifts' can bias clinicians' judgments, and to important values such as the primacy of patient welfare, autonomy and social justice. We conclude that it is time to eliminate giving and receiving of promotional items between the pharmaceutical industry and members of health professions.


PURPOSE: Medical students are at-risk to the influence of pharmaceutical company (Pharma) marketing. As interactions with the industry come under increasing scrutiny and regulation, previous studies on student-Pharma relations no longer may be accurate. This study assessed students' attitudes toward and
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interactions with Pharmas at the University of Wisconsin School of Medicine and Public Health (UWSMPH).

**METHOD:** A modified questionnaire based on a previously administered national survey was completed by students in April and May 2009. The survey was analyzed to disclose the frequency of student-Pharma interactions, where interactions took place, and differences between preclinical and clinical students.

**RESULTS:** The overall response rate was 53.6% (348/649). Most student-Pharma interactions took place at locations remote from the main campus, with free lunches (70.2%), snacks (66.9%), and small, non-educational items (55.8%) representing the most common gifts. Many clinical students had discussed medical personnel-Pharma interactions with a physician or friend. Of those surveyed, 78% felt they had received limited instruction from the school on how to interact with Pharma representatives. Preclinical students expressed greater uncertainty about using Pharmas as educational resources and were more reluctant to accept Pharma gifts than clinical students. **DISCUSSION:** Student attitudes toward interactions with Pharmas reveal the need for further education and guidance-particularly on the risks of using Pharmas as educational resources. Pharma exposures remote from the main campus account for a high proportion of all interactions, which further highlights the need to educate students on conflicts of interest during their preclinical training.

**BOOKS**  (6)


Critique of the influence of the pharmaceutical industry over health politics


Angell, the former editor-in-chief of the New England Journal of Medicine, provides an indictment of deceptive practices in the pharmaceutical industry


Abramson, a family physician on the faculty of Harvard Medical School, produces a critique of the influence of the pharmaceutical industry on American medical practice


Account of the professional, industrial, political, regulatory, and economic forces shaping the overutilization, underutilization, and misutilization of pharmaceutical agents, with suggestions for the role of pharmacoepidemiology as a means towards more rational use of medications.


Critique of ethics of complicity between pharmaceutical and device manufacturers and physician organizations, academic medical centers, and individual physicians by a former editor of the New England Journal of Medicine


Ethical critique of relationship between physicians and the pharmaceutical industry

Supported in part by the Attorneys General Prescriber Education Grant Program
CONFLICT OF INTEREST


Because of recent concerns about conflicts of interest and published research, the author analyzed 107 controlled clinical trials. Studies were classified as favoring either a new therapy or a traditional therapy, and as being supported by a pharmaceutical manufacturer or as being generally supported. Seventy-one per cent of the trials favored new therapies; 43% of these were funded by pharmaceutical firms. Of the 31 trials favoring traditional therapy, only four (13%) were supported by a pharmaceutical firm. There was a statistically significant association between the source of funding and the outcome of the study (p = 0.002). Few trials supported by pharmaceutical manufacturers favored traditional therapy; some reasons for this finding may include selection of drugs likely to be proven efficacious, Type II errors (false-negative studies), and fear of discontinuation of funding should such studies be submitted. Important clinical information may be lost if negative studies are not published.


We surveyed faculty and residents from seven hospitals affiliated with three academic internal medicine training programs about their perceptions of the informational and service benefits vs the risks of ethical compromise involved in interactions with pharmaceutical sales representatives. Questionnaires were returned by 467 (81%) of 575 physicians surveyed. Residents and faculty generally had somewhat negative attitudes toward the educational and informational value of detailing activities at their institutions but indicated that representatives supported important conferences and speakers. Residents were more likely than faculty to perceive contacts with sales representatives as potentially influencing physician decision making. Sixty-seven percent of faculty and 77% of residents indicated that physicians could be compromised by accepting gifts. More than half of the physicians who suggested that such compromise was possible indicated that acceptance of gifts worth more than $100 from drug companies would be likely to compromise a physician's independence and objectivity. A majority of both faculty and house staff favored eliminating presentations by pharmaceutical representatives at their hospitals. Only 10% thought they had had sufficient training during medical school and residency regarding professional interaction with sales representatives.


We examined the impact on physician prescribing patterns of pharmaceutical firms offering all-expenses-paid trips to popular sunbelt vacation sites to attend symposia sponsored by a pharmaceutical company. The impact was assessed by tracking the pharmacy inventory usage reports for two drugs before and after the symposia. Both drugs were available only as intravenous preparations and could be used only on hospitalized patients. The usage patterns were tracked for 22 months preceding each symposium and for 17 months after each symposium. Ten physicians invited to each symposium were interviewed about the likelihood that such an enticement would affect their prescribing patterns. A significant increase in the prescribing pattern of both drugs occurred following the symposia. The usage of drug A increased from a mean of 81 +/- 44 units before the symposium to a mean of 272 +/- 117 after the symposium (p less than 0.001). The usage of drug B changed from 34 +/- 30 units before the symposium to 87 +/- 24 units (p less than 0.001) after the symposium. These changed prescribing patterns were also significantly different from the national usage patterns of the two drugs by hospitals with more than 500 beds and major medical centers over the same period of time. These alterations in prescribing patterns occurred even though the majority of physicians who attended the symposia believed that such enticements would not alter their prescribing patterns.


The American Medical Association (AMA) has recently published guidelines for the receipt of gifts from industry representatives. To examine faculty members' attitudes toward that AMA policy as it pertains to...
gifts from the pharmaceutical industry, the authors surveyed the faculty of the University of Kentucky College of Medicine in 1991. Of 462 faculty members, 248 (54%) completed the questionnaires. The faculty generally agreed with the AMA guidelines. A majority of the faculty believed that personal relationships had the potential to influence prescribing patterns but that gifts, in general, did not greatly influence prescribing behaviors. Compared with the 169 M.D. faculty, the 69 Ph.D. faculty significantly favored more restrictive policies (p less than .001). The authors discuss both the ethical considerations and the utility of guidelines for physician-industry interactions.


We have responded on an individual basis to many requests for interpretations of grey areas in the opinion on gifts from industry since its release in December 1990, and many physicians and companies asked for a detailed list of these interpretations. While the council agrees with the concerns several individuals have expressed about additional rules, it authorized this revised list of questions and answers which replaces the earlier draft. It also established three main principles for future implementation: 1. The key principles of the guidelines should be carefully observed by physicians, and the AMA will remain active in attempting to secure compliance by its members. The overriding rule is that individual physicians should not accept substantial gifts from industry, even if the gift has an educational or patient benefit. It is important that the profession set clear and enforceable standards in this regard. 2. Professional associations should make their own interpretations of the appropriateness of gifts to them from industry. Under appropriate conditions, associations of physicians may, of course, receive gifts from industry. 3. Neither the council nor its staff will attempt to regulate minor issues or minute details of compliance. For many situations there are no yes or no answers. Some black letter rules are necessary so that conduct that should be changed is changed. In addition, they aid companies which want to comply with the spirit as well as the letter of the guidelines without putting themselves at a competitive disadvantage. The six points of the Opinion cover most situations and compliance to date has been good.(ABSTRACT TRUNCATED AT 250 WORDS)


STUDY OBJECTIVES: To examine emergency medicine resident training and understanding of general bioethics and resident and faculty attitudes and behavior regarding professional interactions with the biomedical industry. DESIGN: Two companion questionnaire surveys. SETTING: Annual resident in-service examination and written director survey with telephone follow-up. PARTICIPANTS: Emergency medicine residents and program directors. INTERVENTIONS: chi 2 analysis was used for questions involving relationships among variables with dichotomous or categorical response. An analysis of variance or Pearson Product Moment Correlation was calculated for questions with continuous variables. MEASUREMENTS AND MAIN RESULTS: The surveys were completed by 1,385 of 1,836 (75%) residents and 80 of 81 (99%) residency directors. On average, residents receive eight hours of bioethical instruction per year but believe that they need 12 hours per year. Seventy-five percent of residents believe that company representatives sometimes cross ethical boundaries. The amount of resident understanding of bioethical concepts correlated with the number of hours of bioethics training they received. A sensitivity to bioethical conflicts index was correlated with the residents' behavior. CONCLUSION: There is wide variation in beliefs and practices regarding the interaction between emergency medicine residents and directors and the biomedical industry. Our results suggest that residents need training regarding conflicts of interest, accepted standards of practice, and dealing with potential conflicts with the biomedical industry.


OBJECTIVE: It is controversial whether physicians' interactions with drug companies affect their behavior. To test the null hypothesis, that such interactions are not associated with physician behavior, we studied
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one behavior: requesting that a drug be added to a hospital formulary. DESIGN: Nested case-control study. SETTING: University hospital. PARTICIPANTS: Full-time attending physicians. Case physicians were all 40 physicians who requested a formulary addition from January 1989 through October 1990. Control physicians were 80 randomly selected physicians who had not made requests. MAIN EXPOSURE MEASURE: Physician interactions with drug companies, as determined by survey of physicians (response rate, 88% [105/120]). RESULTS: Physicians who had requested that drugs be added to the formulary interacted with drug companies more often than other physicians; for example, they were more likely to have accepted money from companies to attend or speak at educational symposia or to perform research (odds ratio [OR], 5.1; 95% confidence interval [CI], 2.0 to 13.2). Furthermore, physicians were more likely than other physicians to have requested that drugs manufactured by specific companies be added to the formulary if they had met with pharmaceutical representatives from those companies (OR, 13.2; 95% CI, 4.8 to 36.3) or had accepted money from those companies (OR, 9.2; 95% CI, 2.3 to 156.9). These associations were consistent in multivariable analyses controlling for potentially confounding factors. Moreover, physicians were more likely to have requested formulary additions made by the companies whose pharmaceutical representatives they had met (OR, 4.9; 95% CI, 3.2 to 7.4) or from whom they had accepted money (OR, 1.7; 95% CI, 1.0 to 2.7) than they were to have requested drugs made by other companies. CONCLUSION: Requests by physicians that drugs be added to a hospital formulary were strongly and specifically associated with the physicians' interactions with the companies manufacturing the drugs.


Survey of physician and pharmacist attitudes on the ethics of pharmaceutical marketing


Survey of patient understanding of gift giving between pharmaceutical industry and physicians


OBJECTIVE: To examine patient perceptions of professional appropriateness and the potential impact on health care of physician acceptance of gifts from the pharmaceutical industry. DESIGN: A random-digit dialing telephone survey. SETTING AND PARTICIPANTS: A sample of 649 adults (> or = 18 years old) living in Kentucky. MAIN OUTCOME MEASURES: Patient awareness of office-use gifts (eg, pens, notepads) and personal gifts to physicians from the pharmaceutical industry, patient exposure to office-use gifts, and attitudes toward physician acceptance of both office-use and personal gifts. RESULTS: The survey had a response rate of 55%. Eighty-two percent of the respondents were aware that physicians received office-use gifts, while 32% were aware that physicians received personal gifts. Seventy-five percent reported receiving free samples of medication from their physicians. Compared with office-use gifts, more respondents believed that personal gifts to physicians have a negative effect on both health care cost (42% vs 26%) and quality (23% vs 13%). After controlling for demographic variables, as well as awareness and exposure to physician gifts, individuals with at least a high school education were 2.4 times as likely to believe that personal gifts have a negative effect on the cost of health care and 2.3 times as likely to believe that personal gifts would have a negative effect on the quality of health care. CONCLUSIONS: These results suggest that the public is generally uninformed about personal gifts from pharmaceutical companies to physicians. If public perception regarding the objectivity of the medical profession is to serve as a guide, these findings suggest a reevaluation may be in order for guidelines regarding physician acceptance of gifts from the pharmaceutical industry.

Differences between faculty and resident opinions were seen in two areas. Faculty were more likely than other physicians' prescribing patterns could be negatively influenced through the acceptance of gifts (p < .01), that marketing gifts with no patient benefit may be inappropriate (p = .05), and that PRs sometimes use unethical marketing practices (p < .05) and that the amount of personal correspondence compared with the other locations (p < .001 for both). Of the drugs publicized, 10% were substantial improvements over other therapeutic choices. Forty-two percent of the items failed to comply with at least one of three FDA regulations assessed, including 17 items that discussed unapproved uses for drugs. Advertisements, as well as items that were not obviously promotional, contained promotional characteristics. Thirty-nine percent of the items offered scientific support for their claims. CONCLUSIONS: Little of the material distributed by pharmaceutical companies to physicians conveys information about important therapeutic breakthroughs; some of it fails to comply with FDA regulations. The material contains both educational and promotional characteristics.

To assess primary care resident and faculty knowledge and attitudes concerning interactions between physicians and pharmaceutical representatives (PRs) and to measure changes in residents' knowledge and attitudes after an educational intervention, we conducted preintervention and postintervention surveys with a causal-comparative group in a university-based primary care residency program. All primary care internal medicine and internal medicine-pediatrics residents and faculty were given the voluntary survey. In general, residents and faculty demonstrated similar responses for the preintervention survey. Differences between faculty and resident opinions were seen in two areas. Faculty were more likely than residents to believe that PRs sometimes use unethical marketing practices (p < .05) and that the amount of contact with PRs in the outpatient clinic is excessive (p < .01). The postintervention survey of residents demonstrated significant differences between the control and intervention groups for three attitude scales. After the intervention, residents showed an increased belief that PRs may use unethical marketing practices (p < .01), that marketing gifts with no patient benefit may be inappropriate (p = .05), and that other physicians' prescribing patterns could be negatively influenced through the acceptance of gifts (p < .05). A brief educational intervention can change resident attitudes concerning physician interactions with PRs.

BACKGROUND: Physicians' financial relationships with the pharmaceutical industry are controversial because such relationships may pose a conflict of interest. It is unknown to what extent industry support of medical education and research influences the opinions and behavior of clinicians and researchers. The recent debate over the safety of calcium-channel antagonists provided an opportunity to examine the effect of financial conflicts of interest. METHODS: We searched the English-language medical literature published from March 1995 through September 1996 for articles examining the controversy about the safety of calcium-channel antagonists. Articles were reviewed and classified as being supportive, neutral, or critical with respect to the use of calcium-channel antagonists. The authors of the articles were asked about their financial relationships with both manufacturers of calcium-channel antagonists and manufacturers of competing products (i.e., beta-blockers, angiotensin-converting-enzyme inhibitors, diuretics, and nitrates). We examined the authors' published positions on the safety of calcium-channel antagonists according to their financial relationships with pharmaceutical companies. RESULTS: Authors who supported the use of calcium-channel antagonists were significantly more likely than neutral or critical authors to have financial relationships with manufacturers of calcium-channel antagonists (96
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percent, vs. 60 percent and 37 percent, respectively; \( P<0.001 \). Supportive authors were also more likely than neutral or critical authors to have financial relationships with any pharmaceutical manufacturer, irrespective of the product (100 percent, vs. 67 percent and 43 percent, respectively; \( P<0.001 \)).

CONCLUSIONS: Our results demonstrate a strong association between authors' published positions on the safety of calcium-channel antagonists and their financial relationships with pharmaceutical manufacturers. The medical profession needs to develop a more effective policy on conflict of interest. We support complete disclosure of relationships with pharmaceutical manufacturers for clinicians and researchers who write articles examining pharmaceutical products.


PURPOSE: Little is known about the factors that influence housestaff attitudes toward pharmaceutical industry promotions or, how such attitudes correlate with physician behaviors. We studied these attitudes and practices among internal medicine housestaff. SUBJECTS AND METHODS: Confidential surveys about attitudes and behaviors toward industry gifts were distributed to 1st- and 2nd-year residents at a university-based internal medicine residency program. RESULTS: Ninety percent of the residents (105 of 117) completed the survey. A majority of respondents considered seven of nine types of promotions appropriate. Residents judged the appropriateness of promotions on the basis of their cost (median percentage of items considered appropriate 100% for inexpensive items vs. 60% for expensive ones) more than on the basis of their educational value (80% for educational items vs.75% for noneducational ones; \( P < .001 \) for comparison of appropriateness based on cost vs. educational value). Behaviors were often inconsistent with attitudes; every resident who considered conference lunches (\( n=13 \)) and pens (\( n=18 \)) inappropriate had accepted these gifts. Most respondents (61%) stated that industry promotions and contacts did not influence their own prescribing, but only 16% believed other physicians were similarly unaffected (\( P< .0001 \)). Nonetheless, more than two thirds of residents agreed that it is appropriate for a medical institution to have rules on industry interactions with residents and faculty. CONCLUSIONS: Residents hold generally positive attitudes toward gifts from industry, believe they are not influenced by them, and report behaviors that are often inconsistent with their attitudes. Thoughtful education and policy programs may help residents learn to critically appraise these gifts.


CONTEXT: Increasing contact has been reported between physicians and the pharmaceutical industry, although no data exist in the literature regarding potential financial conflicts of interest for authors of clinical practice guidelines (CPGs). These interactions may be particularly relevant since CPGs are designed to influence the practice of a large number of physicians. OBJECTIVE: To quantify the extent and nature of interactions between authors of CPGs and the pharmaceutical industry. DESIGN, SETTING, AND PARTICIPANTS: Cross-sectional survey of 192 authors of 44 CPGs endorsed by North American and European societies on common adult diseases published between 1991 and July 1999. One hundred authors (52%) provided usable responses representing 37 of 44 different CPGs that we identified. MAIN OUTCOME MEASURES: Nature and extent of interactions of authors with drug manufacturers; disclosure of relationships in published guidelines; prior discussion among authors regarding relationships; beliefs regarding whether authors’ own relationships or those of their colleagues influenced treatment recommendations in guidelines. RESULTS: Eighty-seven percent of authors had some form of interaction with the pharmaceutical industry. Fifty-eight percent had received financial support to perform research and 38% had served as employees or consultants for a pharmaceutical company. On average, CPG authors interacted with 10.5 different companies. Overall, an average of 81% (95% confidence interval, 70%-92%) of authors per CPG had interactions. Similarly, all of the CPGs for 7 of the 10 diseases included in our study had at least 1 author who had some interaction. Fifty-nine percent had relationships with companies whose drugs were considered in the guideline they authored, and of these authors, 96% had relationships that predated the guideline creation process. Fifty-five percent of respondents indicated that

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the guideline process with which they were involved had no formal process for declaring these relationships. In published versions of the CPGs, specific declarations regarding the personal financial interactions of individual authors with the pharmaceutical industry were made in only 2 cases. Seven percent thought that their own relationships with the pharmaceutical industry influenced the recommendations and 19% thought that their coauthors' recommendations were influenced by their relationships. CONCLUSIONS: Although the response rate for this survey was low, there appears to be considerable interaction between CPG authors and the pharmaceutical industry. Our study highlights the need for appropriate disclosure of financial conflicts of interest for authors of CPGs and a formal process for discussing these conflicts prior to CPG development.


BACKGROUND: Personalized pharmaceutical marketing to physicians, including the provision of gifts and sponsorship of educational and recreational activities, raises ethical issues. We sought to determine the degree to which physicians regarded common pharmaceutical marketing activities as ethically problematic, and to compare the views of experienced physicians and physicians-in-training. METHODS: A questionnaire that included 18 scenarios portraying interactions between physicians and the pharmaceutical industry was distributed to residents and faculty members at a US medical school. RESULTS: Most marketing activities were not thought to pose major ethical problems. Respondents tended to make distinctions about the ethical appropriateness of gifts on the basis of the monetary value and type of gift. Some respondents' views would be in violation of recent professional guidelines that address interactions between physicians and pharmaceutical companies. However, some respondents were troubled by activities that are permitted by professional guidelines. The responses of residents and faculty physicians were similar. CONCLUSIONS: Despite the recent publicity about ethical problems in relationships between physicians and the pharmaceutical industry, inexperienced and experienced physicians at a single institution continue to have a rather permissive view about a variety of marketing activities.


Editorial regarding limits of guidelines in conflict of interest between industry and clinical practice


BACKGROUND: Pharmaceutical sales representatives and direct-to-consumer advertising may influence physician practices, particularly prescribing. Identifying the relevant knowledge and attitudes students possess about the pharmaceutical industry may help professional curricula address these influences. PURPOSES: To assess knowledge and attitudes toward pharmaceutical industry marketing, ethical principles guiding drug company interactions, pharmaceutical sales representatives as a source of drug information, and confidence level in addressing consumers seeking a prescription from a direct-to-consumer advertisement among senior-level medical, PharmD, and nurse practitioner students. METHODS: A cross-sectional survey design was used to assess student knowledge and attitudes of four domains associated with the pharmaceutical industry. RESULTS: Significant deficiencies were noted in student knowledge of pharmaceutical marketing expenditures, professional ethics regarding interactions with drug companies, and accuracy of drug information from sales representatives. CONCLUSIONS: Health professional students' knowledge and attitudes toward the pharmaceutical industry are formed prior to graduation. Professional curricula must address the influences of sales representatives before postgraduate training.


When pharmaceutical companies market their products to, and through, healthcare professionals in hospitals and private practice, healthcare professionals face ethical dilemmas in their practice and their organizations. Pharmaceutical companies target nurse practitioners with prescribing privileges. The author describes the ethical dilemma faced by healthcare professionals when friendly salespeople offer tempting gifts. The article outlines cultural responses to gift giving and ethical issues surrounding healthcare professionals' responses to pharmaceutical marketing strategies. Nurse administrators need to
acknowledge a growing threat to nursing integrity. Nurse administrators have the power to make and enforce ethical policies that prevent proprietary influences from clouding nursing judgment and contributing to the escalating costs of prescription medications.


A research-informed understanding of conflict of interest has important implications for policy. Specifically, the interventions mentioned earlier—limiting gift size, educational initiatives, and mandatory disclosure—are unlikely to eliminate bias because they rest on a faulty model of human behavior. The finding that individuals are not aware of their bias, even when taught about it, suggests that the problem cannot be dealt with effectively through training. For example, even if ethical conduct is clearly illustrated through case studies, few conflict of interest situations that the physician will actually encounter are likely to replicate these cases so closely as to preclude potential mitigating circumstances, thus opening the door for a self-serving interpretation of whether one's own behavior is improper.


PURPOSE: Hospital-based physicians are responsible for the purchase of expensive equipment. Little is known about the influence of gift giving on their behavior. We wanted to ascertain the prevalence of gift giving from the pharmaceutical industry and medical equipment manufacturers to radiation oncologists and determine whether or not the size of accepted gifts influences their opinions regarding gifts.

METHODS AND MATERIALS: A population-based survey of hospital-based physicians conducted between 2002 and 2003. The study population consisted of all radiation oncologists who were members of the American Society of Therapeutic Radiology and Oncology between 2000 and 2001. A random number generator was used to identify 20% of the population. This group was invited by e-mail and conventional mail to complete a Likert scale questionnaire. Those asked to complete the questionnaire electronically were directed to a specially designed web site. RESULTS: Of 640 individuals who were asked to participate, 241 (38%) completed the questionnaire. 96% admitted accepting gifts. The most commonly accepted low value gifts were: pen or pencil (78%), drug samples for patient's use (70%), meal (66%), and a note pad (59%). The most commonly accepted high value gifts were trips to "equipment-users meetings" (15%), honoraria for speaking at a conference (10%), and participation in a conference call (9%). Only 5% of radiation oncologists agreed with the statement "my prescribing practices are affected" by gifts; however, 33% agreed with the statement "I believe that other physicians prescribing practices are affected." Similarly, although only 4% felt that their recommendations concerning purchases of medical equipment are affected by gifts, 19% felt that other physicians would be influenced. A test of the hypothesis that physicians believe that their conduct is less affected than those of their colleagues (i.e., "I am not influenced by gifts but someone else is") was strongly affirmed by a correlation statistic (p < 0.0001). Of the radiation oncologists surveyed, 74% felt that they should be free to accept gifts of small value, 31% felt they should be free to accept meals or gifts of any type, 16% felt that residency programs should ban free meals provided by companies, 13% felt professional associations should discourage companies from hosting parties at the annual meeting, 17% felt that gift giving should stop, and 66% agreed that clinical information provided by companies provides a useful continuing medical education service. Those who accepted larger gifts were far more likely to disagree with statements such as "professional societies should actively discourage companies from hosting parties and providing free meals and giving gifts to physicians attending the annual meeting" (p = 0.0003) and "the practice of gift giving by companies should stop" (p = 0.0017); they were slightly more likely to agree with statements such as "clinical information provided to radiation oncologists by companies provides a useful continuing medical education service." CONCLUSIONS: To our knowledge, this study represents the first large-scale population based study of a hospital-based specialty and gift giving. This study demonstrates that: (1) Gift giving in radiation oncology is endemic. (2) Although each physician is likely to consider himself or herself immune from being influenced by gift giving, he or she is suspicious that the "next person" is influenced. (3) There is a correlation between the willingness of individual physician to accept gifts of high value and their sympathy toward this practice.


Position paper on physician-industry interactions.

OBJECTIVES: To examine the beliefs and practices of emergency medicine program directors regarding interactions with the pharmaceutical industry. The authors also sought to study the prevalence of program policies and the desire for organizational policies. METHODS: The Board of the Council of Emergency Medicine Residency Directors (CORD) requested and approved a member survey. An institutional review board-approved, Web-based, 30-item survey was sent to all CORD members subscribed to the organization's listserv in May 2002 and was completed by June 2002. Program director respondents were surveyed as to their beliefs and practices regarding industry sponsorship of speakers, social events, drug samples, travel to conferences, and the educational value of marketing representatives. Subjects were queried about their awareness of existing guidelines and whether they desired policy development by CORD. RESULTS: Surveys were returned from 106 programs (85%). The majority of program directors (72%) "never" or "very rarely" allowed unrestricted interactions between pharmaceutical representatives and residents at work. However, only 52% of program directors said they "never" or "very rarely" allowed pharmaceutical representatives to give residents free drug samples at work. Only 46% said they "never" or "very rarely" allowed pharmaceutical representatives to teach residents. Two thirds of program directors desired CORD guidelines regarding interactions with the pharmaceutical industry. Program directors seeking guidelines were less likely to allow pharmaceutical representatives to teach residents (p = 0.001). They were also less likely to allow pharmaceutical representatives unrestricted interactions with residents (p = 0.05). CONCLUSIONS: A wide range of practices exist among emergency medicine residency program directors, and most desire organizational guidelines regarding interactions with the pharmaceutical industry.


BACKGROUND: Conflicting reports exist in the medical literature regarding the association between industry funding and published research findings. In this study, we examine the association between industry funding and the statistical significance of results in recently published medical and surgical trials. METHODS: We examined a consecutive series of 332 randomized trials published between January 1999 and June 2001 in 8 leading surgical journals and 5 medical journals. Each eligible study was independently reviewed for methodological quality using a 21-point index with 5 domains: randomization, outcomes, eligibility criteria, interventions and statistical issues. Our primary analysis included studies that explicitly identified the primary outcome and reported it as statistically significant. For studies that did not explicitly identify a primary outcome, we defined a "positive" study as one with at least 1 statistically significant outcome measure. We used multivariable regression analysis to determine whether there was an association between reported industry funding and trial results, while controlling for study quality and sample size. RESULTS: Among the 332 randomized trials, there were 158 drug trials, 87 surgical trials and 87 trials of other therapies. In 122 (37%) of the trials, authors declared industry funding. An unadjusted analysis of this sample of trials revealed that industry funding was associated with a statistically significant result in favour of the new industry product (odds ratio [OR] 1.9, 95% confidence interval [CI] 1.3-3.5). The association remained significant after adjustment for study quality and sample size (adjusted OR 1.8, 95% CI 1.1-3.0). There was a nonsignificant difference between surgical trials (OR 8.0, 95% CI 1.1-53.2) and drug trials (OR 1.6, 95% CI 1.1-2.8), both of which were likely to have a pro-industry result (relative OR 5.0, 95% CI 0.7-37.5, p = 0.14). INTERPRETATION: Industry-funded trials are more likely to be associated with statistically significant pro-industry findings, both in medical trials and surgical interventions.


PURPOSE: To increase nurse practitioners’ (NPs) awareness of the conflict of interest that exists between the NPs’ primary goal of making the best medication choices for patients and the potentially negative impact that the pharmaceutical industry’s marketing strategies have on these choices. DATA SOURCES: Selected healthcare professional, philosophical, and bioethical literature was reviewed. CONCLUSIONS: Healthcare professionals are given gifts, dinners, and other inducements in the drug industry’s effort to increase consumerism and drug sales. The current method of drug promotion increases sales but also increases healthcare expenses. Research also indicates that the pharmaceutical marketing strategies influence the judgments that NPs and other healthcare professionals make about patient care and drug

Industry and medicine share a complicated relationship that engenders a considerable degree of controversy. Although they share a relationship, industry and medicine have different perspectives toward their involvement with each other. Industry conceives of medicine as one aspect of the "drug pipeline," a larger set of relationships that is necessary for producing and marketing products. In contrast, select physicians refer to medicine's relationship with industry as "dancing with the porcupine," an inherently difficult and dangerous activity. This paper compares the "pipeline" and "porcupine" metaphors, and draws upon ethnographic data from fieldwork conducted among clinical neuroscientists at a Canadian medical school to further elucidate the perspectives of physicians toward industry and the nature of the physician-industry relationship. The paper argues that the physician-industry relationship is akin to a type of gift-exchange known as a total prestation, and that this form of total prestation is part of a strategy of capital reconversion.


The physician interface with the pharmaceutical industry stands at the forefront of a debate about the effect this relationship has on the behavior of both researchers and clinicians. The authors explore the basis for this conflict of interest and show how it affects physician judgment and behavior. These effects lead to negative consequences for patients and threaten the professional status that society accords physicians. In view of the potential for ethical compromise, physicians should refrain from contact with pharmaceutical marketing representatives.


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PURPOSE: To describe change in residents’ attitudes toward gifts from and interactions with industry and to measure the effects of a formal educational workshop on changes in perceptions. METHOD: At the University of Chicago, 118 internal medicine residents completed an observational survey and took part in a controlled intervention across three years (2001-2004) of residency. Four cohorts of residents completing the program in 2004-2007 participated. The intervention was an interactive educational workshop, including reviews of literature and guidelines, and three videos demonstrating routine resident interactions with pharmaceutical representatives. Residents graduating in 2005 were the intervention group and residents graduating in 2004 the comparison group. Analysis of variance and linear regression models were used to determine the relationship between variables. RESULTS: Residents perceived “lunch sponsored at noon conference” and “pharmaceutical representative brief talk at noon conference” as increasingly appropriate over their training period (p < .02). Residents perceived “pens, notepads, pocket antibiotic guides” as increasingly appropriate and “tickets to sporting events,” “round of golf,” and “travel/registration for national conference” as increasingly inappropriate (p < .05). The intervention group was more likely to report only one item, “lunch at noon conference,” as less appropriate (p = .042). CONCLUSIONS: Residents’ perceptions toward industry gifts and interactions changed modestly during their training to reflect institutional policy. “Appropriate” gifts of minimal value were generally perceived as increasingly appropriate, whereas “inappropriate” gifts were perceived as increasingly inappropriate over time. An educational workshop alone may not significantly alter residents’ perceptions toward industry without the implementation of broad and consistent institutional policy.


BACKGROUND: Financial conflict of interest has been associated with an increased likelihood that authors will report positive study outcomes. The purpose of this study was to investigate the association between types of declared conflict of interest and reported study outcomes in orthopaedic research. METHODS: The abstracts of all podium presentations given at the 2001 and 2002 Annual Meetings of the American Academy of Orthopaedic Surgeons were analyzed by three orthopaedic surgeons with advanced training in clinical epidemiology. The findings reported in each abstract were graded as positive, negative, neutral, or not applicable. Self-reported conflict of interest was recorded and classified. RESULTS: Conflicts of interest were reported in 40.8% (212) of 519 abstracts. The interobserver reliability of the grading of the study findings was acceptable (intraclass correlation coefficient, 0.725). Rates of conflict of interest related to royalties, stock options, or consultant or employee status varied significantly by subspecialty field (p < 0.001). The overall rate of positive study findings was 84.0% (436 of the 519 abstracts). Positive findings were more common in studies authored by individuals with a conflict of interest related to royalties (98.4% [sixty of sixty-one] compared with 88.0% [381 of 433] for studies authored by individuals without a conflict of interest related to royalties; relative risk = 1.1 [95% confidence interval = 1.0 to 1.1]; p = 0.02), in studies authored by individuals with a conflict of interest related to stock options (100.0% [twenty-nine of twenty-nine] compared with 84.7% [394 of 465]; relative risk = 1.2 [95% confidence interval = 1.0 to 1.3]; p = 0.04), and in studies authored by individuals with a conflict of interest related to consultant or employee status (97.8% [ninety-one of ninety-three] compared with 89.0% [357 of 401]; relative risk = 1.1 [95% confidence interval = 1.0 to 1.2]; p = 0.01). Positive findings were not more common in studies authored by individuals with a conflict of interest related to research or institutional funding (93.5% [143 of 153] compared with 91.8% [313 of 341]; relative risk = 1.0 [95% confidence interval = 0.95 to 1.1]; p = 0.65). In the multivariate analysis, the factors that remained significant predictors of positive outcomes were royalties (p = 0.002) and consultant or employee status (p = 0.038). CONCLUSIONS: Self-reported conflicts of interest are common in orthopaedic research, particularly in the subspecialty fields of adult reconstruction of the knee, adult reconstruction of the hip, and spine. Presentations authored by individuals with a conflict of interest related to royalties, stock options, or consulting or employee status were significantly more likely to describe positive findings. While there may be distinct benefits associated with industry support of orthopaedic research, safeguards must be established to maintain public trust in the medical research establishment.


BACKGROUND: Relationships between physicians and pharmaceutical, medical device, and other medically related industries have received considerable attention in recent years. We surveyed physicians to collect information about their financial associations with industry and the factors that predict those associations. METHODS: We conducted a national survey of 3167 physicians in six specialties (anesthesiology, cardiology, family practice, general surgery, internal medicine, and pediatrics) in late 2003 and early 2004. The raw response rate for this probability sample was 52%, and the weighted response rate was 58%. RESULTS: Most physicians (94%) reported some type of relationship with the pharmaceutical industry without the implementation of broad and consistent institutional policy.
industry, and most of these relationships involved receiving food in the workplace (83%) or receiving drug samples (78%). More than one third of the respondents (35%) received reimbursement for costs associated with professional meetings or continuing medical education, and more than one quarter (28%) received payments for consulting, giving lectures, or enrolling patients in trials. Cardiologists were more than twice as likely as family practitioners to receive payments. Family practitioners met more frequently with industry representatives than did physicians in other specialties, and physicians in solo, two-person, or group practices met more frequently with industry representatives than did physicians practicing in hospitals and clinics. CONCLUSIONS: The results of this national survey indicate that relationships between physicians and industry are common and underscore the variation among such relationships according to specialty, practice type, and professional activities.


BACKGROUND: Interactions between physicians and drug representatives are common, even though research shows that physicians understand the conflict of interest between marketing and patient care. Little is known about how physicians resolve this contradiction. OBJECTIVE: To determine physicians' techniques for managing cognitive inconsistencies within their relationships with drug representatives. DESIGN, SETTING, AND PARTICIPANTS: Six focus groups were conducted with 32 academic and community physicians in San Diego, Atlanta, and Chicago. MEASUREMENTS: Qualitative analysis of focus group transcripts to determine physicians' attitudes towards conflict of interest and detailing, their beliefs about the quality of information conveyed and the impact on prescribing, and their resolution of the conflict between detailers' desire to sell product and patient care. RESULTS: Physicians understood the concept of conflict of interest and applied it to relationships with detailers. However, they maintained favorable views of physician-detailer exchanges. Holding these mutually contradictory attitudes, physicians were in a position of cognitive dissonance. To resolve the dissonance, they used a variety of denials and rationalizations: They avoided thinking about the conflict of interest, they disagreed that industry relationships affected physician behavior, they denied responsibility for the problem, they enumerated techniques for remaining impartial, and they reasoned that meetings with detailers were educational and benefited patients. CONCLUSIONS: Although physicians understood the concept of conflict of interest, relationships with detailers set up psychological dynamics that influenced their reasoning. Our findings suggest that voluntary guidelines, like those proposed by most major medical societies, are inadequate. It may be that only the prohibition of physician-detailer interactions will be effective.


INTRODUCTION: The pharmaceutical industry, by funding over 60% of programs in the United States and Canada, plays a major role in continuing medical education (CME), but there are concerns about bias in such CME programs. Bias is difficult to define, and currently no tool is available to measure it. METHODS: Representatives from industry and academia collaborated to develop a tool to illuminate and measure bias in CME. The tool involved the rating of 14 statements (1 = strongly disagree, 4 = strongly agree) and was used to evaluate 17 live CME events. Cronbach's alpha was used to assess the internal consistency of the scale. RESULTS: Cronbach's alpha for the total score was 0.82, indicating excellent internal consistency. Incomplete or biased data, data presented in an unbalanced manner, and experience not integrated with evidence-based medicine were found to correlate strongly with the total score. Use of trade names showed a low correlation with the total, and nondeclaration of conflict of interest correlated negatively with the total. These associations suggest that whereas sponsor companies may declare conflicts of interest, such a declaration may not ensure an unbiased presentation. DISCUSSION: The tool and the data from this study can be used to raise awareness about bias in CME. Policymakers can use this tool to ensure that CME providers meet the standards for education, and CME providers can use the tool for conducting random audits of events they have accredited.

CONTENT ANALYSIS (23)


OBJECTIVES: Promotion of prescription drugs represents a growing source of pharmaceutical marketing expenditures. This study was undertaken to identify the frequency of items containing pharmaceutical advertising in clinical emergency departments (EDs). METHODS: In this observational study, emergency physician on-site investigators quantified a variety of items containing pharmaceutical advertising present at specified representative times and days, in clinical EDs. RESULTS: Measurements were obtained by 65 on-site investigators, representing 22 states. Most EDs in this study were community EDs (87% community and 14% university or university affiliate), and most were in urban settings (50% urban, 38% suburban, and 13% rural). Investigators measured 42 items per ED (mean = 42; median = 31; interquartile range of 14-55) containing pharmaceutical advertising in the clinical area. The most commonly observed items included pens (mean 15 per ED; median 10), product brochures (mean 5; median 3), stethoscope labels (mean 4; median 2), drug samples (mean 3; median 0), books (mean 3.4), mugs (mean 2.4), and published literature (mean 3.1). EDs with a policy restricting pharmaceutical representatives in the ED had significantly fewer items containing pharmaceutical advertising (median 7.5; 95% CI = 0 to 27) than EDs without such a policy (median 35; 95% CI = 27 to 47, p = 0.005, nonparametric Wilcoxon two-sample test). There were no differences in quantities of pharmaceutical advertising for EDs in community compared with university settings (p = 0.5), rural compared with urban settings (p = 0.3), or annual ED volumes (p = 0.9). CONCLUSIONS: Numerous items containing pharmaceutical advertising are frequently observed in EDs. Policies restricting pharmaceutical representatives in the ED are associated with reduced pharmaceutical advertising.


this report describes a study made on drug presentations to groups of doctors in Helsinki. The method was silent observation of presentations given by medical representatives. Analysis of the content of the presentations revealed that side-effects and contraindications were often neglected; the drug presented was always recommended as the drug of choice; other forms of treatment were seldom mentioned. References to Finnish doctors doing clinical trials with the drugs were often made.


Because of recent concerns about conflicts of interest and published research, the author analyzed 107 controlled clinical trials. Studies were classified as favoring either a new therapy or a traditional therapy, and as being supported by a pharmaceutical manufacturer or as being generally supported. Seventy-one percent of the trials favored new therapies; 43% of these were funded by pharmaceutical firms. Of the 31 trials favoring traditional therapy, only four (13%) were supported by a pharmaceutical firm. There was a statistically significant association between the source of funding and the outcome of the study (p = 0.002). Few trials supported by pharmaceutical manufacturers favored traditional therapy; some reasons for this finding may include selection of drugs likely to be proven efficacious, Type II errors (false-negative...
OBJECTIVE: To assess both the accuracy of scientific data presented in print pharmaceutical advertisements and the compliance of these advertisements with current Food and Drug Administration (FDA) standards. DESIGN: Cross-sectional survey. MEASUREMENTS: Each full-page pharmaceutical advertisement (n = 109) appearing in 10 leading medical journals, along with all available references cited in the advertisement (82% of the references cited were available) were sent to three reviewers: two physicians in the relevant clinical area who were experienced in peer review and one academic clinical pharmacist. Reviewers, 95% of whom responded, were asked to evaluate the advertisements using criteria based on FDA guidelines, to judge the educational value and overall quality of the advertisements, and to make a recommendation regarding publication. RESULTS: In 30% of cases, two or more reviewers disagreed with the advertisers' claim that the drug was the "drug of choice." Reviewers felt that information on efficacy was balanced with that on side effects and contraindications in 49% of advertisements but was not balanced in 40%. Reviewers agreed with advertisements' claims that the drug was safe in 86% of the cases but judged that headlines in 32% of the advertisements containing headlines misled the reader about efficacy. In 44% of cases, reviewers felt that the advertisement would lead to improper prescribing if a physician had no other information about the drug other than that contained in the advertisement. Fifty-seven percent of advertisements were judged by two or more reviewers to have little or no educational value. Overall, reviewers would not have recommended publication of 28% of the advertisements and would have required major revisions in 34% before publication. CONCLUSION: In the opinion of the reviewers, many advertisements contained deficiencies in areas in which the FDA has established explicit standards of quality. New strategies are needed to ensure that advertisements comply with standards intended to promote proper use of the products and to protect the consumer.


BACKGROUND. An increasing proportion of spending by the pharmaceutical industry has gone to funding symposiums that are published by peer-reviewed medical journals. This study tests the hypothesis that such sponsorship, particularly by a single pharmaceutical company, is associated with a promotional orientation of the symposium and a distortion of the peer-review process. METHODS. We counted the symposiums published in 58 journals of clinical medicine and surveyed the journal editors regarding their policies for symposium issues. We analyzed the symposium issues that appeared in the 11 journals that published the most symposiums in order to determine the sponsor or sponsors, the topics, whether the titles were misleading, whether brand names were used, and whether the featured drugs were classified by the Food and Drug Administration as innovative or approved. RESULTS. The number of symposiums published per year increased steadily from 1966 through 1989. Forty-two percent of those analyzed (262 of 625) had a single pharmaceutical company as the sponsor. These symposiums were more likely than those with other sponsors to have misleading titles (P less than 0.001) and to use brand names (P less than 0.001), and less likely to be peer-reviewed in the same manner as other articles in the parent journal (P less than 0.001). Of the 161 symposiums that focused on a single drug, 51 percent concerned unapproved therapies; 14 percent concerned drugs classified as bringing important therapeutic gains. CONCLUSIONS: Symposums sponsored by drug companies often have promotional attributes and are not peer-reviewed. Financial relations among symposium participants, sponsors, and journals should be completely disclosed, symposiums should be clearly identified, and journal editors should maintain editorial control over contributions from symposiums.


OBJECTIVE: To evaluate the methodologic quality and relevance of references in pharmaceutical advertisements in the Canadian Medical Association Journal (CMAJ). DESIGN: Analytic study. DATA SOURCE: All 114 references cited in the first 22 distinct pharmaceutical advertisements in volume 146 of CMAJ. MAIN OUTCOME MEASURES: Mean methodologic quality score (modified from the 6-point scale used to assess articles in the American College of Physicians' Journal Club) and mean relevance score (based on a new 5-point scale) for all references in each advertisement. MAIN RESULTS: Twenty of the 22 companies responded, sending 78 (90%) of the 87 references requested. The mean methodologic quality score was 58% (95% confidence limits [CL] 51% and 65%) and the mean relevance score 76% (95% CL
The two mean scores were statistically lower than the acceptable score of 80% (p < 0.05), and the methodologic quality score was outside the preset clinically significant difference of 15%. The poor rating for methodologic quality was primarily because of the citation of references to low-quality review articles and "other" sources (i.e., other than reports of clinical trials). Half of the advertisements had a methodologic quality score of less than 65%, but only five had a relevance score of less than 65%.

CONCLUSIONS: Although the relevance of most of the references was within minimal acceptable limits, the methodologic quality was often unacceptable. Because advertisements are an important part of pharmaceutical marketing and education, we suggest that companies develop written standards for their advertisements and monitor their advertisements for adherence to these standards. We also suggest that the Pharmaceutical Advertising Advisory Board develop more stringent guidelines for advertising and that it enforce these guidelines in a consistent, rigorous fashion.


OBJECTIVES--To determine the relationship between the quality of articles and whether they were published in a supplement or in the parent journal. DATA SOURCES AND STUDY SELECTION--All randomized control trials of drug therapies in adults published in the American Journal of Cardiology, the American Journal of Medicine and the American Heart Journal from January 1990 and obtained in November 1992 by means of a MEDLINE search. A total of 318 abstracts appeared to meet our inclusion criteria, and these articles were obtained and reviewed in further detail. An additional 76 were excluded.

DATA EXTRACTION--Three reviewers who were "blinded" and thus unaware of supplement status independently assessed the quality of each of the remaining 242 articles according to a standard quality scoring system. DATA SYNTHESIS--Overall, 67 (27.7%) of the articles were published in journal supplements. Article quality scores ranged from 4.2% to 87.5%, with a mean (+/- SD) score of 37.2% +/- 13.1%. Quality scores were lower in articles published in journal supplements than in those published in the parent journal (t[240] = 2.61, P = .01). The mean quality score for articles published in journal supplements was 33.6% +/- 12.8% compared with a score of 38.5% +/- 13.1% for articles published in the parent journal. Supplement articles included in their final analysis a smaller proportion of the patients initially randomized (t[75] = 2.8, P = .007). CONCLUSION--Our findings suggest that randomized control trials published in journal supplements are generally of inferior quality compared with articles published in the parent journal. The review process surrounding the publication of journal supplements should be consistent with that of the parent journal.


Editorial on discerning helpful vs. deceptive promotional practices in the pharmaceutical industry


OBJECTIVE--To provide quantitative data about the accuracy of the information about drugs presented to physicians by pharmaceutical sales representatives. DESIGN--One hundred six statements about drugs made during 13 presentations by pharmaceutical representatives were analyzed for accuracy. Statements were rated inaccurate if they contradicted the 1993 Physicians' Desk Reference or material quoted or handed out by the sales representative. SETTING--University teaching hospital. RESULTS--Twelve (11%) of 106 statements about drugs were inaccurate. All 12 inaccurate statements were favorable toward the promoted drug, whereas 39 (49%) of 79 accurate statements were favorable (P = .005). None of 15 statements about competitors' drugs were favorable, but all were accurate, significantly P < .001 differing from statements about promoted drugs. In a survey of 27 physicians who attended these presentations, seven (26%) recalled any false statement made by a pharmaceutical representative, and 10 (37%) said information from the representatives influenced the way they prescribed drugs. CONCLUSIONS--Eleven percent of the statements made by pharmaceutical representatives about drugs contradicted information readily available to them. Physicians generally failed to recognize the inaccurate statements.

OBJECTIVES: To describe material distributed to physicians by pharmaceutical companies; to describe characteristics of the drugs discussed in the material; to determine whether the material complies with Food and Drug Administration (FDA) regulations and whether it contains promotional and educational characteristics. DESIGN: Cross-sectional study. SETTING: An academic internal medicine residency program, a private internist’s office, and a health maintenance organization (HMO). PATIENTS/PARTICIPANTS: A consecutive sample of 486 items, excluding gifts and drug samples, distributed by drug companies between August 11, 1993 and March 1, 1994. MEASUREMENTS AND MAIN RESULTS: Of the 486 items collected, 207 were reprints, 196 were advertisements, 51 were general information, and 32 were other. Reprints were delivered to residents significantly more often than to the HMO (p < .001) or to the private internist's office (p < .001). By contrast, the internist’s office received a greater proportion of personal correspondence compared with the other locations (p < .001 for both). Of the drugs publicized, 10% were substantial improvements over other therapeutic choices. Forty-two percent of the items failed to comply with at least one of three FDA regulations assessed, including 17 items that discussed unapproved uses for drugs. Advertisements, as well as items that were not obviously promotional, contained promotional characteristics. Thirty-nine percent of the items offered scientific support for their claims. CONCLUSIONS: Little of the material distributed by pharmaceutical companies to physicians conveys information about important therapeutic breakthroughs; some of it fails to comply with FDA regulations. The material contains both educational and promotional characteristics.


OBJECTIVE: To compare the quality, relevance, and structure of drug studies published in symposium proceedings that are sponsored by drug companies with 1) articles from symposia with other sponsors and 2) articles in the peer-reviewed parent journals of symposium proceedings; and to study the relation between drug company sponsorship and study outcome. DESIGN: Cross-sectional studies of clinical drug studies published in symposium proceedings or their parent medical journals. MEASUREMENTS: The proportion of articles with no methods sections (which are necessary to assess quality); methodologic quality and clinical relevance scores; and the proportion of articles with outcomes favoring the drug of interest. RESULTS: Symposia sponsored by single drug companies had more articles without methods sections (10%; 108 of 1064) than did symposia that had other sponsors (3%; 58 of 2314) or symposia that had no mentioned sponsor (2%; 29 of 1663) (P < 0.001). The mean methodologic quality and clinical relevance scores of articles were similar both by type of sponsorship and between articles published in symposia sponsored by single drug companies and articles from the parent journals. Significantly more articles with drug company support were in symposia (98%; 39 of 40) than without drug company support (79%; 89 of 112) had outcomes favoring the drug of interest (P = 0.01). CONCLUSIONS: Articles in symposia sponsored by single drug companies were similar in quality and clinical relevance to articles with other sponsors and to articles published in the parent journals. Articles with drug company support are more likely than articles without drug company support to have outcomes favoring the drug of interest.


Review of observational studies between physician and sales representative contacts reporting results on the quality of information obtained. Concluding that representatives present biased information about their products.


PURPOSE: To determine whether declines in pharmaceutical industry advertising have been greater for family medicine research journals than for journals in other disciplines. METHOD: Three family medicine research journals and eight randomly selected journals in other disciplines were chosen for this study. The number of advertising pages from the first issue of each journal from 1990 through 1995 were calculated by manually counting every journal page that contained all or part of an advertisement for a pharmaceutical product. Data were compared using Student's t-test. RESULTS: Overall, the mean number of pages of pharmaceutical advertising in all of the journals fell 41%, from 34 pages in 1990-1991 to 21 pages in 1994-1995. For the three family medicine journals the drop over the same six-year period was 55% (from 30 to 14, p = .01), compared with a 35% drop for the eight other journals (from 36 to 23, p < .001). CONCLUSION: Although advertising in medical research journals has dropped in all disciplines, it would appear that the decline for family medicine journals has been disproportionately large. The potential
BACKGROUND: Physicians' financial relationships with the pharmaceutical industry are controversial because such relationships may pose a conflict of interest. It is unknown to what extent industry support of medical education and research influences the opinions and behavior of clinicians and researchers. The recent debate over the safety of calcium-channel antagonists provided an opportunity to examine the effect of financial conflicts of interest. METHODS: We searched the English-language medical literature published from March 1995 through September 1996 for articles examining the controversy about the safety of calcium-channel antagonists. Articles were reviewed and classified as being supportive, neutral, or critical with respect to the use of calcium-channel antagonists. The authors of the articles were asked about their financial relationships with both manufacturers of calcium-channel antagonists and manufacturers of competing products (i.e., beta-blockers, angiotensin-converting-enzyme inhibitors, diuretics, and nitrates). We examined the authors' published positions on the safety of calcium-channel antagonists according to their financial relationships with pharmaceutical companies. RESULTS: Authors who supported the use of calcium-channel antagonists were significantly more likely than neutral or critical authors to have financial relationships with manufacturers of calcium-channel antagonists (96 percent, vs. 60 percent and 37 percent, respectively; P<0.001). Supportive authors were also more likely than neutral or critical authors to have financial relationships with any pharmaceutical manufacturer, irrespective of the product (100 percent, vs. 67 percent and 43 percent, respectively; P<0.001). CONCLUSIONS: Our results demonstrate a strong association between authors' published positions on the safety of calcium-channel antagonists and their financial relationships with pharmaceutical manufacturers. The medical profession needs to develop a more effective policy on conflict of interest. We support complete disclosure of relationships with pharmaceutical manufacturers for clinicians and researchers who write articles examining pharmaceutical products.


Direct-to-consumer drug advertising is a useful medium for educating people and disseminating product information. Consumers make product purchase decisions based on the information gained from advertisements. If advertisements are misleading, consumers may not have adequate drug knowledge to detect this misinformation. The objective of this study was to evaluate print advertisements for over-the-counter (OTC) products. Five clinical pharmacists evaluated print advertisements appearing in three consumer periodicals. Advertisements were selected over a nine month period beginning January 1994. Accuracy of information on OTC advertisements was determined based on federal guidelines. Additionally, reviewers identified deficiencies in advertisements that may mislead consumers. According to reviewers, around 50% of advertisements lacked accurate statements. Side effects were indicated on only one advertisement. All advertisements were indicated by reviewers to be more promotional than educational. Reviewers indicated that more than 50% of advertisements lacked information essential for consumers to make an informed choice during self-medication decisions. This study indicates that OTC drug advertisements lack information necessary for consumers to make informed purchase decisions. Inaccurate information and lack of information on side effects could mislead consumers causing harmful adverse events.


PURPOSE: The effects of advertising on urological practice are controversial. We studied patterns of pharmaceutical and medical device marketing in peer reviewed urological journals in 1975 and 2000. MATERIALS AND METHODS: Pharmaceutical and medical device advertising in 1 European and 2 American peer reviewed urological journals were evaluated in 4 randomly selected issues of each journal published in 1975 and 2000, respectively. Advertising quantity and the qualitative characteristics of each advertisement were analyzed. RESULTS: We analyzed 574 advertisements in 24 issues. Advertising decreased between 1975 and 2000 based on the number of pages per issue (55.3 to 31.9, p = 0.04), number of advertisements per issue (30.4 to 17.4, p = 0.0098) and the ratio of advertising-to-scientific pages (0.399 to 0.151, p = 0.0016). Mean advertisement length was stable at 1.8 pages. The top 3 advertisers in 1975 were Eaton, Roche and Warner compared with Pfizer, AstraZeneca and Merck in 2000. Advertising for antibiotics comprised 70.3% of all pharmaceutical advertisements in 1975 but only 15.2%
in 2000 (p = 0.0001), while advertising for benign prostatic hyperplasia, erectile dysfunction and hormonal therapy increased sharply. Nutritional supplement marketing increased from 0.5% of all advertisements in 1975 to 4.3% in 2000 (p = 0.0026). The incidence of advertisements citing peer reviewed literature increased from 16.7% to 33% (p = 0.0001) with a greater increase in the European than in the American journals. CONCLUSIONS: Advertising in peer reviewed urological journals has decreased since 1975 and fewer companies now market more products. Few advertisements cite the scientific literature. Better understanding of pharmaceutical marketing patterns may improve awareness of these efforts to influence physician practice.


PURPOSE: Little is known about the factors that influence housestaff attitudes toward pharmaceutical industry promotions or, how such attitudes correlate with physician behaviors. We studied these attitudes and practices among internal medicine housestaff. SUBJECTS AND METHODS: Confidential surveys about attitudes and behaviors toward industry gifts were distributed to 1st- and 2nd-year residents at a university-based internal medicine residency program. RESULTS: Ninety percent of the residents (105 of 117) completed the survey. A majority of respondents considered seven of nine types of promotions appropriate. Residents judged the appropriateness of promotions on the basis of their cost (median percentage of items considered appropriate 100% for inexpensive items vs. 60% for expensive ones) more than on the basis of their educational value (80% for educational items vs. 75% for noneducational ones; P < .001 for comparison of appropriateness based on cost vs. educational value). Behaviors were often inconsistent with attitudes; every resident who considered conference lunches (n = 13) and pens (n = 18) inappropriate had accepted these gifts. Most respondents (61%) stated that industry promotions and contacts did not influence their own prescribing, but only 16% believed other physicians were similarly unaffected (P< .0001). Nonetheless, more than two thirds of residents agreed that it is appropriate for a medical institution to have rules on industry interactions with residents and faculty. CONCLUSIONS: Residents hold generally positive attitudes toward gifts from industry, believe they are not influenced by them, and report behaviors that are often inconsistent with their attitudes. Thoughtful education and policy programs may help residents learn to critically appraise these gifts.


We characterized the quantity and quality of graphs in all pharmaceutical advertisements, in the 10 U.S. medical journals. Four hundred eighty-four unique advertisements (of 3,185 total advertisements) contained 836 glossy and 455 small-print pages. Forty-nine percent of glossy page area was nonscientific figures/images, 0.4% tables, and 1.6% scientific graphs (74 graphs in 64 advertisements). All 74 graphs were univariate displays, 4% were distributions, and 4% contained confidence intervals for summary measures. Extraneous decoration (66%) and redundancy (46%) were common. Fifty-eight percent of graphs presented an outcome relevant to the drug’s indication. Numeric distortion, specifically prohibited by FDA regulations, occurred in 36% of graphs.


BACKGROUND: Because of the effect of the ever-growing evidence-based medicine movement on prescribing behaviour of doctors, the pharmaceutical industry incorporates bibliographical references to clinical trials that endorse their products in their advertisements. We aimed to assess whether the references about efficacy, safety, convenience, or cost of antihypertensive and lipid-lowering drugs included in advertisements supported the promotional claims. METHODS: We assessed all advertisements for antihypertensive and lipid-lowering drugs published in six Spanish medical journals in 1997 that had at least one bibliographical reference. Two pairs of investigators independently reviewed the advertisements to see whether the studies quoted to endorse the advertising messages supported the corresponding claims. FINDINGS: We identified 264 different advertisements for antihypertensive drugs and 23 different advertisements for lipid-lowering drugs. We recorded at least one reference in 31 advertisements in the antihypertensive group and at least one reference in every seven advertisements in the lipid-lowering group, providing a total of 125 promotional claims with references. We could not retrieve 23 (18%) references from monographic works and non-published data on file. 79 (63%) of the 125 references were from journals with a high impact factor; 84 (82%) of the 102 references retrieved were from randomised clinical trials. In 45 claims (44.1%; 95% CI 34.3-54.3) the promotional statement was not supported by...
the reference, most frequently because the slogan recommended the drug in a patient group other than that assessed in the study. INTERPRETATION: Doctors should be cautious in assessment of advertisements that claim a drug has greater efficacy, safety, or convenience, even though these claims are accompanied by bibliographical references to randomised clinical trials published in reputable medical journals and seem to be evidence-based.


BACKGROUND: Conflicting reports exist in the medical literature regarding the association between industry funding and published research findings. In this study, we examine the association between industry funding and the statistical significance of results in recently published medical and surgical trials.

METHODS: We examined a consecutive series of 332 randomized trials published between January 1999 and June 2001 in 8 leading surgical journals and 5 medical journals. Each eligible study was independently reviewed for methodological quality using a 21-point index with 5 domains: randomization, outcomes, eligibility criteria, interventions and statistical issues. Our primary analysis included studies that explicitly identified the primary outcome and reported it as statistically significant. For studies that did not explicitly identify a primary outcome, we defined a “positive” study as one with at least 1 statistically significant outcome measure. We used multivariable regression analysis to determine whether there was an association between reported industry funding and trial results, while controlling for study quality and sample size. RESULTS: Among the 332 randomized trials, there were 158 drug trials, 87 surgical trials and 87 trials of other therapies. In 122 (37%) of the trials, authors declared industry funding. An unadjusted analysis of this sample of trials revealed that industry funding was associated with a statistically significant result in favour of the new industry product (odds ratio [OR] 1.9, 95% confidence interval [CI] 1.3-3.5). The association remained significant after adjustment for study quality and sample size (adjusted OR 1.8, 95% CI 1.1-3.0). There was a nonsignificant difference between surgical trials (OR 8.0, 95% CI 1.1-53.2) and drug trials (OR 1.6, 95% CI 1.1-2.8), both of which were likely to have a pro-industry result (relative OR 5.0, 95% CI 0.7-37.5, p = 0.14). INTERPRETATION: Industry-funded trials are more likely to be associated with statistically significant pro-industry findings, both in medical trials and surgical interventions.


PURPOSE: American television viewers see as many as 16 hours of prescription drug advertisements (ads) each year, yet no research has examined how television ads attempt to influence consumers. This information is important, because ads may not meet their educational potential, possibly prompting consumers to request prescriptions that are clinically inappropriate or more expensive than equally effective alternatives. METHODS: We coded ads shown during evening news and prime time hours for factual claims they make about the target condition, how they attempt to appeal to consumers, and how they portray the medication and lifestyle behaviors in the lives of ad characters. RESULTS: Most ads (82%) made some factual claims and made rational arguments (86%) for product use, but few described condition causes (26%), risk factors (26%), or prevalence (25%). Emotional appeals were almost universal (95%). No ads mentioned lifestyle change as an alternative to products, though some (19%) portrayed it as an adjunct to medication. Some ads (18%) portrayed lifestyle changes as insufficient for controlling a condition. The ads often framed medication use in terms of losing (58%) and regaining control (85%) over some aspect of life and as engendering social approval (78%). Products were frequently (58%) portrayed as a medical breakthrough. CONCLUSIONS: Despite claims that ads serve an educational purpose, they provide limited information about the causes of a disease or who may be at risk; they show characters that have lost control over their social, emotional, or physical lives without the medication; and they minimize the value of health promotion through lifestyle changes. The ads have limited educational value and may oversell the benefits of drugs in ways that might conflict with promoting population health.


INTRODUCTION: The pharmaceutical industry, by funding over 60% of programs in the United States and Canada, plays a major role in continuing medical education (CME), but there are concerns about bias in...
Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits
Harvard Medical School, Brigham & Woman’s Hospital,
Division of Pharmacoepidemiology and Pharmacoeconomics

such CME programs. Bias is difficult to define, and currently no tool is available to measure it. METHODS:
Representatives from industry and academia collaborated to develop a tool to illuminate and measure bias
in CME. The tool involved the rating of 14 statements (1 = strongly disagree, 4 = strongly agree) and was
used to evaluate 17 live CME events. Cronbach's alpha was used to assess the internal consistency of the
scale. RESULTS: Cronbach's alpha for the total score was 0.82, indicating excellent internal consistency.
Incomplete or biased data, data presented in an unbalanced manner, and experience not integrated with
evidence-based medicine were found to correlate strongly with the total score. Use of trade names
showed a low correlation with the total, and nondeclaration of conflict of interest correlated negatively
with the total. These associations suggest that whereas sponsor companies may declare conflicts of
interest, such a declaration may not ensure an unbiased presentation. DISCUSSION: The tool and the
data from this study can be used to raise awareness about bias in CME. Policymakers can use this tool to
ensure that CME providers meet the standards for education, and CME providers can use the tool for
conducting random audits of events they have accredited.

CONTINUING MEDICAL EDUCATION (11)

Curtis McLaughlin, and Ray Penchansky, "Diffusion of Innovation in Medicine: A Problem of

Discusses the problem of educating physicians regarding the increasing numbers of new pharmaceutical
products, and the need for formalized continuing medical education. "Every year, greater and greater
efforts are made in medical research and the results pour out in a multitude of books, journals, meetings,
special reports, and drug company announcements. While the public expects immediate benefits from this
vast effort, professionals in the medical world express growing concern over the need to keep the
practicing physician abreast of the important developments in medical research...Yet the quality of
medical care depends in part of the rapidity and soundness
crowth which practicing physicians adjust their management of medical problems in the light of new
knowledge. Indeed, one might go even further and hypothesize that one rough measure of a physician's
competence is his knowledge of recent research findings and his willingness to adopt those which may be
applicable to his own practice."

Elina Hemminki, "Content Analysis of Drug-Detailing by Pharmaceutical Representatives,"

this report describes a study made on drug presentations to groups of doctors in Helsinki. The method
was silent observation of presentations given by medical representatives. Analysis of the content of the
presentations revealed that side-effects and contraindications were often neglected; the drug presented
was always recommended as the drug of choice; other forms of treatment were seldom mentioned.
References to Finnish doctors doing clinical trials with the drugs were often made.

F. Haayer, "Rational Prescribing and Sources of Information," Social Science & Medicine, 1982
16: 2017-23.

The hypothesis that prescribing rationality is related to physician rather than patient characteristics
was investigated and the relationship between prescribing rationality and the use of different
sources of drug information and age of the General Practitioner was examined. Prescribing rationality was
assessed by a panel of experts with the case-history method. Data on the use of different sources of
information were collected in a follow-up interview. One hundred sixteen (116) General Practitioners in
Twente (a region in the east of the Netherlands) cooperated in the study. It was found that prescribing
rationality is a physician characteristic. Younger General Practitioners prescribe in a more rational way
than their older colleagues and this is partly reflected in the patterns of obtaining information. None of
the studied professional sources of information seemed to have a great
impact on prescribing rationality, with the exception of reliance on general medical journals instead of on
drug oriented journals as a source of drug-information. This was negatively associated with prescribing
rationality as well as reliance on the information of drug firms.

S. B. Soumerai, and J. Avorn, "Economic and Policy Analysis of University-Based Drug
The cost-effectiveness of quality assurance programs is often poorly documented, especially for innovative approaches. The authors analyzed the economic effects of an experimental educational outreach program designed to reduce inappropriate drug prescribing, based on a four-state randomized controlled trial (N = 435 physicians). Primary care physicians randomized into the face-to-face group were offered two individualized educational sessions with clinical pharmacists, lasting an average of 18 minutes each, concerning optimal use of three drug groups that are often used inappropriately. After the program, expenditures for target drugs prescribed by these physicians to Medicaid patients decreased by 13%, compared with controls (P = 0.002); this effect was stable over three quarters. Implementation of this program for 10,000 physicians would lead to projected drug savings (to Medicaid only) of $2,050,000, compared with resource costs of $940,000. Net savings remain high, even after adjustment for use of substitution medications. Although there was a ninefold difference in average preintervention prescribing levels between the highest and lowest thirds of the sample, all groups reduced target drug expenditures at the same rate. Targeting of higher-volume prescribers would thus further raise the observed benefit-to-cost ratio from approximately 1.8 to at least 3.0. Net benefits would also increase further if non-Medicaid savings were added, or if the analysis included quality-of-care considerations. Although print materials alone may be marginally cost-effective, print plus face-to-face approaches offer greater net benefits. The authors conclude that a program of brief, face-to-face "detailing" visits conducted by academic rather than commercial sources can be a highly cost-effective method for improving drug therapy decisions. Such an approach makes possible the enhancement of physicians' clinical expertise without relying on restriction of drug choices.


In order to determine the impact of commercial company funding of continuing medical education (CME) courses, a survey was undertaken. Drug prescribing rates for drugs related to course content were determined by self-report survey of physician attendees (374 in number) for three different CME courses. The survey was performed immediately before and six months after the courses. A single, though different, drug company provided the majority of the funding for each course. Courses I and III were related to calcium channel blockers and Course II to beta blockers. The return rate before Course I was 73.0 percent; after, 54.0 percent (unmatched). The return rate for Course II was 49.4 percent before and 42.9 percent after (unmatched). There were 121 (61.4%) matched returns for Course III. While the rates for prescribing some of the related drugs increased after the courses, overall the sponsoring drug company's products were favored. Although physicians attending CME and accredited sponsors of CME need to be aware of this potential influence, the final burden of adequate evaluation of drugs remains with the physician prescriber. Further studies should be done to substantiate the findings and elucidate the mechanism(s) of the increase in sponsoring company's drug prescriptions.


Data were collected from physicians attending a medical conference. This exploratory study was primarily interested in two areas. First, the investigators were interested in better understanding physicians' responses to different promotional tactics typically used by the pharmaceutical industry. Pharmaceutical representatives were most useful, followed by drug samples and infomercials in medical journals. Direct mail, promotional faxes, and promotional products were used less by physicians. Second, the investigators were interested in learning what information sources influenced physicians' drug choices. Physicians were primarily influenced by their prior experience with a drug, then by drug compendiums, and journal articles. Physicians were also influenced by information provided by the industry and other factors, like the drug's price and their patients' financial situations. Managerial implications for marketing to physicians and ideas for future research are discussed.

Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits
Harvard Medical School, Brigham & Woman's Hospital, Division of Pharmacoepidemiology and Pharmacoeconomics


Editorial regarding limits of guidelines in conflict of intereste between industry and clinical practice


This paper provides an in-depth, qualitative analysis of the physicians’ decision process for drug prescription. Drugs in the considered therapeutic classes are mainly prescribed by specialists, treating patients with obligatory medical insurance, for a prolonged period of time. The research approach is specifically designed to capture the full complexity and sensitive nature of the physician's choice behavior, which appears to be more hybrid and less rational in nature than is often assumed in quantitative, model-based analyses of prescription behavior. Several interesting findings emerge from the analysis: (i) non-compensatory decision rules seem to dominate the decision process, (ii) consideration sets are typically small and change-resistant, (iii) drug cost is not a major issue for most physicians, (iv) detailing remains one of the most powerful pharmaceutical marketing instruments and is highly appreciated as a valuable and quick source of information, and (v) certain types of non-medical marketing incentives (such as free conference participation) may in some situations also influence drug choices.


As the continuing medical education (CME) enterprise evolved over the last half century, a variety of rules, national and state regulations, and reporting requirements developed, with a resultant substantial variation in what is required of a physician. That CME needs fundamental reform is not news to those who read the literature. Yet many of the physicians who are served by the current CME system are comfortable with it. Following an initial report of the Council of Medical Specialty Societies, representatives of major stakeholders in CME met voluntarily over 3 years to explore, agree on, and finally propose changes to the present CME system. Their belief in the need for change and their recommendations achieved a collegial outcome; fundamental systemwide changes must occur in CME. This involves educational methods and physician performance, particularly in self-assessment. It also involves the leadership of organized medicine in accreditation, certification, credentialing, licensure, and credit recording, reporting, and funding. The multiple parties involved who control various aspects of CME agreed to focus on the physician end user and to create a revised CME system that would allow simplified and identical reporting of the CME experience and credits for individual physicians. The system also would offer a simplified and more rational approach to credit. Recommendations and action plans to accomplish the objectives were agreed on and have been assigned to organizations according to commitment and relevant historical interest.


Editorial discussing role of academic detailing in continuing medical education


ABSTRACT: BACKGROUND: The efficacy of academic detailing in changing physicians knowledge and practice has been the subject of many primary research publications and systematic reviews. However, there is little written about the features of academic detailing that physicians find valuable or that affect their use of it. The goal of our project was to explore family physicians (FPs) perceptions of academic detailing and the factors that affect their use of it. METHODS: We used 2 methods to collect data, a questionnaire and semi-structured telephone interviews. We mailed questionnaires to all FPs in the Dalhousie Office of Continuing Medical Education database and analyzed responses of non-users and users of academic detailing. After a preliminary analysis of questionnaire data, we conducted semi-structured interviews with 7 FPs who did not use academic detailing and 17 who did use it. RESULTS: Overall response rate to the questionnaire was 33% (289/869). Response rate of non-users of academic detailing was 15% (60/393), of users was 48% (229/476). The 3 factors that most encouraged use of academic detailing were the topics selected, the evidence-based approach adopted, and the handout material. The 3 factors that most discouraged the use of academic detailing were spending office time doing CME.
scheduling time to see the academic detailer, and having CME provided by a non-physician. Users of academic detailing rated it as being more valuable than other forms of CME. Generally, interview data confirmed questionnaire data with the exception that interview informants did not view having CME provided by a non-physician as a barrier. Interview informants mentioned that the evidence-based approach adopted by academic detailing had led them to more critically evaluate information from other CME programs, pharmaceutical representatives, and journal articles, but not advice from specialists.

CONCLUSIONS: Users of academic detailing highly value its educational value and tend to view information from other sources more critically because of its evidence-based approach. Non-users are unlikely to adopt academic detailing despite its high educational value because they find using office time for CME too much of a barrier. To reach these physicians with academic detailing messages, we will have to find other CME formats.


INTRODUCTION: The pharmaceutical industry, by funding over 60% of programs in the United States and Canada, plays a major role in continuing medical education (CME), but there are concerns about bias in such CME programs. Bias is difficult to define, and currently no tool is available to measure it. METHODS: Representatives from industry and academia collaborated to develop a tool to illuminate and measure bias in CME. The tool involved the rating of 14 statements (1 = strongly disagree, 4 = strongly agree) and was used to evaluate 17 live CME events. Cronbach's alpha was used to assess the internal consistency of the scale. RESULTS: Cronbach's alpha for the total score was 0.82, indicating excellent internal consistency. Incomplete or biased data, data presented in an unbalanced manner, and experience not integrated with evidence-based medicine were found to correlate strongly with the total score. Use of trade names showed a low correlation with the total, and nondeclaration of conflict of interest correlated negatively with the total. These associations suggest that whereas sponsor companies may declare conflicts of interest, such a declaration may not ensure an unbiased presentation. DISCUSSION: The tool and the data from this study can be used to raise awareness about bias in CME. Policymakers can use this tool to ensure that CME providers meet the standards for education, and CME providers can use the tool for conducting random audits of events they have accredited.

CROSS-SECTIONAL STUDIES


BACKGROUND. Residents frequently interact with pharmaceutical representatives during their training. The purpose of this study was to determine the prevalence of policies restricting or regulating the interactions of pharmaceutical representatives with family medicine residents. METHODS. A descriptive, cross-sectional survey was sent to all 386 accredited family practice residency programs. Programs were surveyed for the presence of restrictions or policies regarding the following circumstances and activities through which pharmaceutical representative-resident interactions could occur: (1) contact during working hours, (2) clinic drug samples, (3) personal samples for residents, (4) displays, (5) distribution of literature, (6) gifts and outings, and (7) group presentations. RESULTS. Overall, residency programs tended to allow most of these activities and had only informal guidelines regarding pharmaceutical representative interaction. Written policies were present in 58% of the programs. Prohibitions of some type were present in 41% of the programs. A higher prevalence of written policies was noted in military programs, larger programs, and programs located in hospitals with only family practice residents. CONCLUSIONS. There are wide variations among family practice residency programs regarding the regulation of pharmaceutical representative-resident interactions. In view of the educational mission of residency training programs and the recent concern over the ethics of the relationship between the medical profession and the pharmaceutical industry, it would be prudent for all residencies to develop written policies addressing the activities of pharmaceutical representatives in training sites.


OBJECTIVE: To assess both the accuracy of scientific data presented in print pharmaceutical advertisements and the compliance of these advertisements with current Food and Drug Administration...
OBJECTIVES: To describe material distributed to physicians by pharmaceutical companies; to describe characteristics of the drugs discussed in the material; to determine whether the material complies with Food and Drug Administration (FDA) regulations and whether it contains promotional and educational characteristics. DESIGN: Cross-sectional study. SETTING: An academic internal medicine residency program, a private internist's office, and a health maintenance organization (HMO). PATIENTS/PARTICIPANTS: A consecutive sample of 486 items, excluding gifts and drug samples, distributed by drug companies between August 11, 1993 and March 1, 1994. MEASUREMENTS AND MAIN RESULTS: Of the 486 items collected, 207 were reprints, 196 were advertisements, 51 were general information, and 32 were other. Reprints were delivered to residents significantly more often than to the HMO (p < .001) or to the private internist's office (p < .001). By contrast, the internist's office received a greater proportion of personal correspondence compared with the other locations (p < .001 for both). Of the drugs publicized, 10] were substantial improvements over other therapeutic choices. Forty-two percent of the items failed to comply with at least one of three FDA regulations assessed, including 17 in part by the Attorneys General Prescriber Education Grant Program.

CONCLUSIONS: Little of the material distributed by pharmaceutical companies to physicians conveys information about important therapeutic breakthroughs; some of it fails to comply with FDA regulations. The material contains both educational and promotional characteristics.


OBJECTIVE: To determine the effect on resident attitudes of policies regarding pharmaceutical representative interactions with residents. DESIGN: Cross-sectional survey. SETTING: National sample of U.S. family medicine residencies. PARTICIPANTS: Three hundred seventy-eight residents from 14 randomly selected programs. Seven programs had written policies and restrictions (restricted programs), and seven had no such restriction or guideline (free programs). MEASUREMENTS AND MAIN RESULTS: The authors assessed resident attitudes regarding the perception of benefit from pharmaceutical representative activities, the usefulness of various sources of drug information, and the appropriateness of accepting gifts from a pharmaceutical representative. There were 265/378 respondents (70% response rate). Residents from restricted programs reported fewer benefits from pharmaceutical representative interactions and were less likely to feel that acceptance of gifts was appropriate. The amount of exposure to pharmaceutical representatives was positively correlated with perceived benefit and negatively correlated with ratings of appropriateness of gift acceptance. CONCLUSION: Regulatory policies can influence resident attitudes and perceptions. Training programs should develop written policies to help guide resident-pharmaceutical representative interactions.


OBJECTIVES: To describe material distributed to physicians by pharmaceutical companies; to describe characteristics of the drugs discussed in the material; to determine whether the material complies with FDA regulations and whether it contains promotional and educational characteristics. DESIGN: Cross-sectional study. SETTING: An academic internal medicine residency program, a private internist's office, and a health maintenance organization (HMO). PATIENTS/PARTICIPANTS: A consecutive sample of 486 items, excluding gifts and drug samples, distributed by drug companies between August 11, 1993 and March 1, 1994. MEASUREMENTS AND MAIN RESULTS: Of the 486 items collected, 207 were reprints, 196 were advertisements, 51 were general information, and 32 were other. Reprints were delivered to residents significantly more often than to the HMO (p < .001) or to the private internist's office (p < .001). By contrast, the internist's office received a greater proportion of personal correspondence compared with the other locations (p < .001 for both). Of the drugs publicized, 10] were substantial improvements over other therapeutic choices. Forty-two percent of the items failed to comply with at least one of three FDA regulations assessed, including 17 items that discussed unapproved uses for drugs. Advertisements, as well as items that were not obviously promotional, contained promotional characteristics. Thirty-nine percent of the items offered scientific support for their claims. CONCLUSIONS: Little of the material distributed by pharmaceutical companies to physicians conveys information about important therapeutic breakthroughs; some of it fails to comply with FDA regulations. The material contains both educational and promotional characteristics.

OBJECTIVE: To compare the quality, relevance, and structure of drug studies published in symposium proceedings that are sponsored by drug companies with 1) articles from symposia with other sponsors and 2) articles in the peer-reviewed parent journals of symposium proceedings; and to study the relation between drug company sponsorship and study outcome. DESIGN: Cross-sectional studies of clinical drug studies published in symposium proceedings or their parent medical journals. MEASUREMENTS: The proportion of articles with no methods sections (which are necessary to assess quality); methodologic quality and clinical relevance scores; and the proportion of articles with outcomes favoring the drug of interest. RESULTS: Symposia sponsored by single drug companies had more articles without methods sections (10%; 108 of 1064) than did symposia that had other sponsors (3%; 58 of 2314) or symposia that had no mentioned sponsor (2%; 29 of 1663) (P < 0.001). The mean methodologic quality and relevance scores of articles were similar both by type of sponsorship and between articles published in symposia sponsored by single drug companies and articles from the parent journals. Significantly more articles with drug company support (98%; 39 of 40) than without drug company support (79%; 89 of 112) had outcomes favoring the drug of interest (P = 0.01). CONCLUSIONS: Articles in symposia sponsored by single drug companies were similar in quality and clinical relevance to articles with other sponsors and to articles published in the parent journals. Articles with drug company support are more likely than articles without drug company support to have outcomes favoring the drug of interest.


BACKGROUND: In the last few years we have witnessed many publicly-financed health services reaching a crisis point. Thus, drug expenditure is nowadays one of the main concerns of health managers, and its containment one of the first goals of health authorities in western countries. The objective of this study is to identify the effect of the perceived quality stated in commercial information, its uses, and how physicians perceive the influence it has on prescription amounts. METHODS: A cross-sectional study of 405 primary care physicians was conducted in Galicia (north-west Spain). The independent variables physician's education and specialty, physician's perception of the quality of available drug information sources, type of practice, and number of patients were collected, through a postal questionnaire. Environmental characteristics of the practice were obtained from secondary sources. Multiple regression models were constructed using as dependent variables two indicators of prescription volume. RESULTS: The response rate was 75.2%. Prescription amounts was found to be associated with perceived credibility of information provided by medical visitors, regulated physician training, and environmental characteristics of the practice (primary care team practice, urban environment). CONCLUSIONS: The study results suggest that in order to decrease prescription amounts it is necessary to limit the role of pharmaceutical companies in physician training, improve physician education and training, and emphasize more objective sources of information.


CONTEXT: Increasing contact has been reported between physicians and the pharmaceutical industry, although no data exist in the literature regarding potential financial conflicts of interest for authors of clinical practice guidelines (CPGs). These interactions may be particularly relevant since CPGs are designed to influence the practice of a large number of physicians. OBJECTIVE: To quantify the extent and nature of interactions between authors of CPGs and the pharmaceutical industry. DESIGN, SETTING, AND PARTICIPANTS: Cross-sectional survey of 192 authors of 44 CPGs endorsed by North American and European societies on common adult diseases published between 1991 and July 1999. One hundred authors (52%) provided usable responses representing 37 of 44 different CPGs that we identified. MAIN OUTCOME MEASURES: Nature and extent of interactions of authors with drug manufacturers; disclosure of relationships in published guidelines; prior discussion among authors regarding relationships; beliefs regarding whether authors' own relationships or those of their colleagues influenced treatment recommendations in guidelines. RESULTS: Eighty-seven percent of authors had some form of interaction with the pharmaceutical industry. Fifty-eight percent had received financial support to perform research and 38% had served as employees or consultants for a pharmaceutical company. On average, CPG authors interacted with 10.5 different companies. Overall, an average of 81% (95% confidence interval, 70%-92%) of authors per CPG had interactions. Similarly, all of the CPGs for 7 of the 10 diseases included in our study had at least 1 author who had some interaction. Fifty-nine percent had some form of interaction with companies whose drugs were considered in the guideline they authored, and of these authors, 96% had relationships that predated the guideline creation process. Fifty-five percent of respondents indicated that the guideline process with which they were involved had no formal process for declaring these relationships. In published versions of the CPGs, specific declarations regarding the personal financial relationships of individual authors with the pharmaceutical industry were made in only 2 cases. Seven percent thought that their own relationships with the pharmaceutical industry influenced the
recommendations and 19% thought that their coauthors' recommendations were influenced by their relationships. CONCLUSIONS: Although the response rate for this survey was low, there appears to be considerable interaction between CPG authors and the pharmaceutical industry. Our study highlights the need for appropriate disclosure of financial conflicts of interest for authors of CPGs and a formal process for discussing these conflicts prior to CPG development.


OBJECTIVES: To examine the beliefs and practices of emergency medicine program directors regarding interactions with the pharmaceutical industry. The authors also sought to study the prevalence of program policies and the desire for organizational policies. METHODS: The Board of the Council of Emergency Medicine Residency Directors (CORD) requested and approved a member survey. An institutional review board-approved, Web-based, 30-item survey was sent to all CORD members subscribed to the organization's listserv in May 2002 and was completed by June 2002. Program director respondents were surveyed as to their beliefs and practices regarding industry sponsorship of speakers, social events, drug samples, travel to conferences, and the educational value of marketing representatives. Subjects were queried about their awareness of existing guidelines and whether they desired policy development by CORD. RESULTS: Surveys were returned from 106 programs (85%). The majority of program directors (72%) "never" or "very rarely" allowed unrestricted interactions between pharmaceutical representatives and residents at work. However, only 52% of program directors said they "never" or "very rarely" allowed pharmaceutical representatives to give residents free drug samples at work. Only 46% said they "never" or "very rarely" allowed pharmaceutical representatives to teach residents. Two thirds of program directors desired CORD guidelines regarding interactions with the pharmaceutical industry. Program directors seeking guidelines were less likely to allow pharmaceutical representatives to teach residents (p = 0.001). They were also less likely to allow pharmaceutical representatives unrestricted interactions with residents (p = 0.05). CONCLUSIONS: A wide range of practices exist among emergency medicine residency program directors, and most desire organizational guidelines regarding interactions with the pharmaceutical industry.


OBJECTIVE: To determine the nature, frequency and effects of internal medicine housestaff and faculty contacts with pharmaceutical representatives (PRs). DESIGN AND SETTING: The authors surveyed internal medicine faculty at seven midwest teaching hospitals and housestaff from two of the teaching programs. The survey asked about type and frequency of contacts with PRs and behavior that might be related to these contacts. T-tests and logistic regression were used to estimate the relationship between reported physician contacts and behavioral changes. PARTICIPANTS: Two hundred forty faculty (78%) and 131 house officers (75%) responded to the survey. RESULTS: Faculty and housestaff averaged 1.5 brief contacts per month with PRs. Housestaff averaged more than one meal/month at pharmaceutical company expense. Twenty-five percent of faculty and 32% of residents reported changing their practices at least once based on PR contact. Independent predictors of faculty change in practice were brief or extended conversations and receipt of honoraria or research support. Only brief conversations independently predicted housestaff changes in practice. CONCLUSION: Academic housestaff and faculty have frequent PR contact; such contact is related to changes in behavior. The potential for influence of PRs in academic medical centers should be recognized, and their activities should be evaluated accordingly.


OBJECTIVE: Pharmaceutical companies often use drug samples as a marketing strategy in the ambulatory care setting. Little is known about how the availability of drug samples affects physicians' prescribing practices. Our goal was to assess: (1) under what circumstances and why physicians dispense drug samples, (2) if drug samples lead physicians to use medications other than their preferred drug choice, and (3) the physician characteristics that are associated with drug sample use. DESIGN: Cross-sectional survey. SETTING: University-based clinics at one academic medical center. PARTICIPANTS: 154 general medicine and family physicians. MEASUREMENTS AND MAIN RESULTS: Physicians' self-reported prescribing patterns for 3 clinical scenarios, including their preferred drug choice, whether they would use...
a drug sample and subsequently prescribe the sampled medication, and the importance of factors involved in the decision to dispense a drug sample. A total of 131 (85%) of 154 physicians responded. When presented with an insured woman with an uncomplicated lower urinary tract infection, 22 (17%) respondents reported that they would dispense a drug sample; 21 (95%) of 22 sample users stated that they would dispense a drug sample that differed from their preferred drug choice. For an uninsured woman with hypertension, 35 (27%) respondents reported that they would dispense a drug sample; 32 (91%) of 35 sample users indicated that they would dispense a drug sample instead of their preferred drug choice. For an uninsured man with hypertension, 35 (27%) respondents reported that they would dispense a drug sample; 21 (95%) of 22 sample users stated that they would dispense a drug sample that differed from their preferred drug choice. Avoiding cost to the patient was the most consistent motivator for dispensing a drug sample for all 3 scenarios. For 2 scenarios, residents were more likely to report using drug samples than attendings (P < .05). When respondents who chose a drug sample for 2 or 3 scenarios were compared to those who never chose to use a drug sample, or chose a drug sample for only one scenario, only younger age was independently associated with drug sample use. CONCLUSION: In self-reports, the availability of drug samples led physicians to dispense and subsequently prescribe drugs that differ from their preferred drug choice. Physicians most often report using drug samples to avoid cost to the patient.


BACKGROUND: Pharmaceutical sales representatives and direct-to-consumer advertising may influence physician practices, particularly prescribing. Identifying the relevant knowledge and attitudes students possess about the pharmaceutical industry may help professional curricula address these influences. PURPOSES: To assess knowledge and attitudes toward pharmaceutical industry marketing, ethical principles guiding drug company interactions, pharmaceutical sales representatives as a source of drug information, and confidence level in addressing consumers seeking a prescription from a direct-to-consumer advertisement among senior-level medical, PharmD, and nurse practitioner students. METHODS: A cross-sectional survey design was used to assess student knowledge and attitudes of four domains associated with the pharmaceutical industry. RESULTS: Significant deficiencies were noted in student knowledge of pharmaceutical marketing expenditures, professional ethics regarding interactions with drug companies, and accuracy of drug information from sales representatives. CONCLUSIONS: Health professional students’ knowledge and attitudes toward the pharmaceutical industry are formed prior to graduation. Professional curricula must address the influences of sales representatives before postgraduate training.


The pharmaceutical industry affects physicians’ clinical decision-making, especially their prescribing behaviour. However, little is known of the interactions between medical students and the pharmaceutical industry. The purpose of the present study was to examine the extent and perceived influence of pharmaceutical promotion on Finnish medical students and students’ attitudes towards such promotion. Altogether 952 students (34%) responded to an anonymous questionnaire that was distributed to all Finnish medical students at varying levels of study. Students reported that they attended presentations by pharmaceutical company representatives on a frequent basis. A total of 44% attended at least twice a month. Students regarded the pharmaceutical industry as one of their most important sources of pharmaceutical information. The importance attached to pharmaceutical promotion as a source of pharmaceutical information and the intensity of pharmaceutical marketing increased over the course of medical studies. Although most students were not in favour of reducing promotion, the students largely believed that such activities would affect their future prescribing behaviour, and the awareness of this influence increased over the course of studies. The fact that medical students are commonly exposed to pharmaceutical promotion should be addressed in medical education.


OBJECTIVES: Promotion of prescription drugs represents a growing source of pharmaceutical marketing expenditures. This study was undertaken to identify the frequency of items containing pharmaceutical advertising in clinical emergency departments (EDs). METHODS: In this observational study, emergency physician on-site investigators quantified a variety of items containing pharmaceutical advertising present

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at specified representative times and days, in clinical EDs. RESULTS: Measurements were obtained by 65 on-site investigators, representing 22 states. Most EDs in this study were community EDs (87% community and 14% university or university affiliate), and most were in urban settings (50% urban, 38% suburban, and 13% rural). Investigators measured 42 items per ED (mean = 42; median = 31; interquartile range of 14-55) containing pharmaceutical advertising in the clinical area. The most commonly observed items included pens (mean 15 per ED; median 10), product brochures (mean 5; median 3), stethoscope labels (mean 4; median 2), drug samples (mean 3; median 0), books (mean 3.4), mugs (mean 2.4), and published literature (mean 3.1). EDs with a policy restricting pharmaceutical representatives in the ED had significantly fewer items containing pharmaceutical advertising (median 7.5; 95% CI = 0 to 27) than EDs without such a policy (median 35; 95% CI = 27 to 47, p = 0.005, nonparametric Wilcoxon two-sample test). There were no differences in quantities of pharmaceutical advertising for EDs in community compared with university settings (p = 0.5), rural compared with urban settings (p = 0.3), or annual ED volumes (p = 0.9). CONCLUSIONS: Numerous items containing pharmaceutical advertising are frequently observed in EDs. Policies restricting pharmaceutical representatives in the ED are associated with reduced pharmaceutical advertising.


Background. Community pharmacists, pharmaceutical industry and differences in prescribing between GPs. Objective. To explore the role of the pharmacists and pharmaceutical industry representatives. Methods. A cross-sectional survey was undertaken of 1434 GPs in The Netherlands in 2001. Prescribing indicators based on general practice guidelines were used to assess the quality of prescribing. Three constructs, based on survey questions, were used as possible determinants for the quality of prescribing: cooperation with the pharmacist; quality of the Pharmacotherapeutic audit meeting (PTAM); and the GP's attitude towards the pharmacist's role. Data were collected about the frequency of visits by pharmaceutical industry representatives. Responses from 324 solo GPs were analysed using multiple linear regression. Results. Response rate: 71%. For the 324 solo GPs the average score for the 20 prescribing indicators was 64% (SD 3.7). For the non-solo GPs this score was 65% (SD 3.8, P < 0.05). The differences between solo and group practices were: the number of visits from pharmaceutical industry representatives (5.7 versus 3.8 visits per month), full time GPs (93% versus 50%), the number of patients per GP (2151, SD 693 versus 1506, SD 742), and the presence of a GP trainer (21 versus 38%). Of the solo GPs, 4.6% are female, compared with 26% of the GPs in non-solo practices. The quality of prescribing in solo practices was not correlated with the GP's attitude towards the pharmacist's role, the way in which GPs cooperated with pharmacists or the quality of the PTAM. More frequent visits from pharmaceutical industry representatives was associated with a lower quality of prescribing. Conclusion. There was a negative correlation between quality of prescribing by solo GPs and frequency of visits by pharmaceutical industry representatives. In day-to-day practice, no measurable effects of the cooperation with solo GP and pharmacist on the quality of prescribing were observed. (copyright) The Author (2005). Published by Oxford University Press. All rights reserved.


This descriptive cross-sectional survey was conducted at University of Ilorin Teaching Hospital to examine the influence of drug promotion by drug companies on the prescription habits of doctors in the hospital. Self-administered questionnaires were used to collect information from 137 doctors selected across all the clinical and laboratory departments using proportionate sampling. Majority (89.0%) of the doctors had attended drug promotion forum and were exposed to 64 different branded drugs within 6 months to this study. Fifty percent of the doctors had prescribed promoted drugs for the first time within 6 months to this study and over two-thirds agreed that drug promotion materials served as incentives to prescribe promoted drugs in preference to their alternatives. More than two-thirds of the doctors did not prescribe in generic names, thus making them susceptible to prescribing promoted branded drugs. Drug promotion by drug companies influenced prescription habits of doctors in this teaching hospital. This finding though beneficial to the drug companies may not necessarily be cost-effective and to the benefit of the patients. Further studies and attention on this issue in developing countries is necessary with the ultimate aim of protecting the interest of patients in the face of rising cost of pharmaceuticals.

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Harvard Medical School, Brigham & Woman’s Hospital,
Division of Pharmacoepidemiology and Pharmacoeconomics

CONTEXT: Recent legislation in 5 states and the District of Columbia mandated state disclosure of payments made to physicians by pharmaceutical companies. In 2 of these states, Vermont and Minnesota, payment disclosures are publicly available. OBJECTIVES: To determine the accessibility and quality of the data available in Vermont and Minnesota and to describe the prevalence and magnitude of disclosed payments. DESIGN AND SETTING: Cross-sectional analysis of publicly available data from July 1, 2002, through June 30, 2004, in Vermont and from January 1, 2002, through December 31, 2004, in Minnesota. MAIN OUTCOME MEASURES: Accessibility and quality of disclosure data and the number, value, and type of payments of $100 or more to physicians. RESULTS: Access to payment data required extensive negotiation with the Office of the Vermont Attorney General and manual photocopying of individual disclosure forms at Minnesota’s State Board of Pharmacy. In Vermont, 61% of payments were not released to the public because pharmaceutical companies designated them as trade secrets and 75% of publicly disclosed payments were missing information necessary to identify the recipient. In Minnesota, 25% of companies reported in each of the 3 years. In Vermont, among 12,227 payments totaling $2.18 million publicly disclosed, there were 2416 payments of $100 or more to physicians; total, $1.01 million; median payment, $177 (range, $100-$20,000). In Minnesota, among 6946 payments totaling $30.96 million publicly disclosed, there were 6238 payments of $100 or more; total, $22.39 million; median payment, $1000 (range, $100-$922,239). Physician-specific analyses were possible only in Minnesota, identifying 2388 distinct physicians who received payment of $100 or more; median number of payments received, 1 (range, 1-88) and the median amount received, $1000 (range, $100-$1,178,203). CONCLUSIONS: The Vermont and Minnesota laws requiring disclosure of payments do not provide easy access to payment information for the public and are of limited quality once accessed. However, substantial numbers of payments of $100 or more were made to physicians by pharmaceutical companies.


BACKGROUND: Antihypertensive medications are widely prescribed by doctors and heavily promoted by the pharmaceutical industry. Despite strong evidence of the effectiveness and cost-effectiveness of thiazide diuretics, trends in both promotion and prescription of antihypertensive drugs favour newer, less cost-effective agents. Observational evidence shows correlations between exposure to pharmaceutical promotion and less ideal prescribing. Our study therefore aimed to determine whether print advertisements for antihypertensive medications promote quality prescribing in hypertension. METHODS: We performed a cross-sectional study of 113 advertisements for antihypertensive drugs from 4 general practice-oriented Australian medical publications in 2004. Advertisements were evaluated using a quality checklist based on a review of hypertension management guidelines. Main outcome measures included: frequency with which antihypertensive classes were advertised, promotion of thiazide class drugs as first line agents, use of statistical claims in advertisements, mention of harms and prices in the advertisements, promotion of assessment and treatment of cardiovascular risk, promotion of lifestyle modification, and targeting of particular patient subgroups. RESULTS: Thiazides were the most frequently advertised drug class (48.7% of advertisements), but were largely promoted in combination preparations. The only thiazide advertised as a single agent was the most expensive, indapamide. No advertisement specifically promoted any thiazide as a better first-line drug. Statistics in the advertisements tended to be expressed in relative rather than absolute terms. Drug costs were often reported, but without cost comparisons between drugs. Adverse effects were usually reported but largely confined to the advertisements’ small print. Other than mentioning drug interactions with alcohol and salt, no advertisements promoted lifestyle modification. Few advertisements (2.7%) promoted the assessment of cardiovascular risk. CONCLUSION: Print advertisements for antihypertensive medications in Australia provide some, but not all, of the key messages required for guideline-concordant care. These results have implications for the regulation of drug advertising and the continuing education of doctors.


Background: The pharmaceutical industry spends billions of dollars annually to encourage clinicians to prescribe their medications. Small studies have demonstrated that one of the marketing strategies, the distribution of free sample medications, is associated with increased use of brand name medication over generic medication. Objectives: To determine the relationship between the presence of drug samples in primary care clinics and prescription of preferred drug treatments. Design: Cross-sectional survey. Participants: Primary care prescribers in the state of Vermont. Main Measurement: Prescribers were presented with two clinical vignettes and asked to provide the name of the medication they would prescribe in each case. We compared the responses of prescribers with and without samples in their

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clinics. Key Results: Two hundred six prescribers out of the total population of 631 returned the survey and met the eligibility criteria. Seventy-two percent of prescribers had sample closets in their clinics. Seventy percent of clinicians with samples would prescribe a thiazide diuretic for hypertension compared to 91% in those without samples (P<0.01). For managing depression 91% of prescribers with samples would have provided a generic medication in a patient with no health insurance, compared to 100% of those without samples in their clinic (P=0.02). Conclusions: Clinicians with samples in their clinics were less likely to prescribe preferred medications for hypertension and depression. (copyright) 2010 Society of General Internal Medicine.

DIRECT-TO-CONSUMER ADVERTISING


In this paper we examine empirically the role of information in facilitating and explaining growth of the overall antiulcer drug market, as well as in shaping the changing market shares of the four patented products. The dissemination of information is due largely to the use of marketing channels, such as visits by manufacturers' representatives to physicians (called "detailing"), advertising in medical journals, and most recently, by direct-to-consumer advertising. We examine these and also explore pricing policies, product differentiation, and order-of-entry effects.


The relationships between direct-to-consumer advertising expenditures and the monthly frequencies of diagnoses and prescriptions written associated with the products advertised are examined. The analyses utilized quasi-experimental time-series techniques. Data from the National Ambulatory Medical Care Survey and Competitive Media Reporting were used to calculate monthly levels of the dependent and independent variables. The dependent variables included monthly frequencies of diagnoses for the products' FDA-approved indications, medications prescribed within the advertised pharmaceutical class, and medications prescribed for the specific advertised agent. The independent variables included monthly expenditures for advertising each pharmaceutical class and each specific agent. Several significant monthly relationships were found. The diagnoses of hyperlipidemia (p = 0.008) and the number of prescriptions written for antilipemics (p = 0.003) were positively associated with the advertising expenditure for antilipemics. The number of prescriptions written for Claritin (p = 0.004) and Zocor (p < 0.001) was positively related to the advertising expenditure for their respective pharmaceutical classes; the amount of prescriptions written for Hismanal (p = 0.007), Seldane (p < 0.001), and Zantac (p = 0.004) was negatively related to the advertising expenditure for their respective pharmaceutical classes. The number of prescriptions written for Claritin (p = 0.005) and Zocor (p < 0.001) was positively related to the advertising expenditure for each specific product; the amount of prescriptions written for Hismanal (p = 0.049) was negatively associated with the amount of money spent specifically advertising the agent. No significant associations were found in antihypertensive drugs and drugs to treat benign prostatic hypertrophy. The results of the analyses suggest that the direct-to-consumer advertising expenditure is associated with physician diagnosing and physician prescribing for certain drugs and drug classes.


Integrative review of literature on effectiveness of direct-to-physician marketing, principally on effects and durability of detailing

CONTEXT: Direct-to-consumer (DTC) advertising of prescription drugs in the United States is both ubiquitous and controversial. Critics charge that it leads to overprescribing, while proponents counter that it helps avert underuse of effective treatments, especially for conditions that are poorly recognized or stigmatized. OBJECTIVE: To ascertain the effects of patients’ DTC-related requests on physicians’ initial treatment decisions in patients with depressive symptoms. DESIGN: Randomized trial using standardized patients (SPs). Six SP roles were created by crossing 2 conditions (major depression or adjustment disorder with depressed mood) with 3 request types (brand-specific, general, or none). SETTING: Offices of primary care physicians in Sacramento, Calif; San Francisco, Calif; and Rochester, NY, between May 2003 and May 2004. PARTICIPANTS: One hundred fifty-two family physicians and general internists recruited from solo and group practices and health maintenance organizations; cooperation rates ranged from 53% to 61%. INTERVENTIONS: The SPs were randomly assigned to make 298 unannounced visits, with assignments constrained so physicians saw 1 SP with major depression and 1 with adjustment disorder. The SPs made a brand-specific drug request, a general drug request, or no request (control condition) in approximately one third of visits. MAIN OUTCOME MEASURES: Data on prescribing, mental health referral, and primary care follow-up obtained from SP written reports, visit audiorecordings, chart review, and analysis of written prescriptions and drug samples. The effects of request type on prescribing were evaluated using contingency tables and confirmed in generalized linear mixed models that accounted for clustering and adjusted for site, physician, and visit characteristics. RESULTS: Standardized patient role fidelity was excellent, and the suspicion rate that physicians had seen an SP was 13%. In major depression, rates of antidepressant prescribing were 53%, 76%, and 31% for SPs making brand-specific, general, and no requests, respectively (P<.001). In adjustment disorder, antidepressant prescribing rates were 55%, 39%, and 10%, respectively (P<.001). The results were confirmed in multivariate models. Minimally acceptable initial care (any combination of an antidepressant, mental health referral, or follow-up within 2 weeks) was offered to 98% of SPs in the major depression role making a general request, 90% of those making a brand-specific request, and 56% of those making no request (P<.001). CONCLUSIONS: Patients’ requests have a profound effect on physician prescribing in major depression and adjustment disorder. Direct-to-consumer advertising may have competing effects on quality, potentially both averting underuse and promoting overuse.


PURPOSE: American television viewers see as many as 16 hours of prescription drug advertisements (ads) each year, yet no research has examined how television ads attempt to influence consumers. This information is important, because ads may not meet their educational potential, possibly prompting consumers to request prescriptions that are clinically inappropriate or more expensive than equally effective alternatives. METHODS: We coded ads shown during evening news and prime time hours for factual claims they make about the target condition, how they attempt to appeal to consumers, and how they portray the medication and lifestyle behaviors in the lives of ad characters. RESULTS: Most ads (82%) made some factual claims and made rational arguments (86%) for product use, but few described condition causes (26%), risk factors (26%), or prevalence (25%). Emotional appeals were almost universal (95%). No ads mentioned lifestyle change as an alternative to products, though some (19%) portrayed it as an adjunct to medication. Some ads (18%) portrayed lifestyle changes as insufficient for controlling a condition. The ads often framed medication use in terms of losing (58%) and regaining control (85%) over some aspect of life and as engendering social approval (78%). Products were frequently (58%) portrayed as a medical breakthrough. CONCLUSIONS: Despite claims that ads serve an educational purpose, they provide limited information about the causes of a disease or who may be at risk; they show characters that have lost control over their social, emotional, or physical lives without the medication; and they minimize the value of health promotion through lifestyle changes. The ads have limited educational value and may oversell the benefits of drugs in ways that might conflict with promoting population health.


Since the US Food and Drug Administration (FDA) released new guidelines on broadcast direct-to-consumer advertising in 1997, the prevalence of direct-to-consumer advertising of prescription drugs has increased exponentially. The impact on providers, patients, and the health care system is varied and dynamic, and the rapid changes in the last several years have markedly altered the health care landscape. To continue providing optimal medical care, physicians and other health care providers must be able to manage this influence on their practice, and a more thorough understanding of this phenomenon is an integral step toward this goal. This review will summarize the history of direct-to-consumer drug
advertisements and the current regulations governing them. It will summarize the evidence concerning the impact of direct-to-consumer advertising on the public, providers, and the health care system, and conclude with observations regarding the future of direct-to-consumer advertising.

**DRUG UTILIZATION DATA** (22)


This report describes a study made on drug presentations to groups of doctors in Helsinki. The method was silent observation of presentations given by medical representatives. Analysis of the content of the presentations revealed that side-effects and contraindications were often neglected; the drug presented was always recommended as the drug of choice; other forms of treatment were seldom mentioned. References to Finnish doctors doing clinical trials with the drugs were often made.


The hypothesis that prescribing rationality is related to physician rather than patient characteristics was investigated and the relationship between prescribing rationality and the use of different sources of drug information and age of the General Practitioner was examined. Prescribing rationality was assessed by a panel of experts with the case-history method. Data on the use of different sources of information were collected in a follow-up interview. One hundred sixteen (116) General Practitioners in Twente (a region in the east of the Netherlands) cooperated in the study. It was found that prescribing rationality is a physician characteristic. Younger General Practitioners prescribe in a more rational way than their older colleagues and this is partly reflected in the patterns of obtaining information. None of the studied professional sources of information seemed to have a great impact on prescribing rationality, with the exception of reliance on general medical journals instead of on drug-oriented journals as a source of drug-information. This was negatively associated with prescribing rationality as well as reliance on the information of drug firms.


The cost-effectiveness of quality assurance programs is often poorly documented, especially for innovative approaches. The authors analyzed the economic effects of an experimental educational outreach program designed to reduce inappropriate drug prescribing, based on a four-state randomized controlled trial (N = 435 physicians). Primary care physicians randomized into the face-to-face group were offered two individualized educational sessions with clinical pharmacists, lasting an average of 18 minutes each, concerning optimal use of three drug groups that are often used inappropriately. After the program, expenditures for target drugs prescribed by these physicians to Medicaid patients decreased by 13%, compared with controls (P = 0.002); this effect was stable over three quarters. Implementation of this program for 10,000 physicians would lead to projected drug savings (to Medicaid only) of $2,050,000, compared with resource costs of $940,000. Net savings remain high, even after adjustment for use of substitution medications. Although there was a ninefold difference in average preintervention prescribing levels between the highest and lowest thirds of the sample, all groups reduced target drug expenditures at the same rate. Targeting of higher-volume prescribers would thus further raise the observed benefit-to-cost ratio from approximately 1.8 to at least 3.0. Net benefits would also increase further if non-Medicaid savings were added, or if the analysis included quality-of-care considerations. Although print materials alone may be marginally cost-effective, print plus face-to-face approaches offer greater net benefits. The authors conclude that a program of brief, face-to-face "detailing" visits conducted by academic rather than commercial sources can be a highly cost-effective method for improving drug therapy decisions. Such an approach makes possible the enhancement of physicians’ clinical expertise without relying on restriction of drug choices.

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Although there is increasing concern about inappropriate physician prescribing and how to devise programs to improve drug therapy decisions, little research has been published documenting the reasons for such misprescribing. We analyzed the motivations reported by 141 physicians who were part of a large multi-state randomized controlled trial of ‘academic detailing.’ The physicians were identified from state Medicaid prescribing records as moderate to high prescribers of cerebral or peripheral vasodilators, propoxyphene, or cephalexin, and were visited by clinical pharmacists serving as outreach educators in a medical school-based prescribing improvement program. Physicians’ motivations for their prescribing patterns were discussed in an informal, interactive manner; all responses were recorded in detail by the pharmacists immediately following each visit. Of the 110 responses elicited, the most common reason offered by physicians for use of these medications was patient demand (51 statements, or 46%). Physicians also frequently attributed their prescribing of these drugs to intentional use of placebo effect (24%). An equally common reason was prescribers’ assertion that their own clinical experience indicated that these drugs were actually therapies of choice in the conditions presented (26%), despite evidence from the research literature that this was not the case. Such indications included the use of the ‘vasodilators’ for senile dementia or peripheral vascular disease, cephalexin for viral upper respiratory infections, and propoxyphene instead of acetaminophen or aspirin for mild pain. Greater attention must be paid to physicians’ attitudes and motivations concerning suboptimal prescribing if programs are to succeed in replacing these practices with more rational clinical decision-making.


We examined the impact on physician prescribing patterns of pharmaceutical firms offering all-expenses-paid trips to popular sunbelt vacation sites to attend symposia sponsored by a pharmaceutical company. The impact was assessed by tracking the pharmacy inventory usage reports for two drugs before and after the symposia. Both drugs were available only as intravenous preparations and could be used only on hospitalized patients. The usage patterns were tracked for 22 months preceding each symposium and for 17 months after each symposium. Ten physicians invited to each symposium were interviewed about the likelihood that such an enticement would affect their prescribing patterns. A significant increase in the prescribing pattern of both drugs occurred following the symposia. The usage of drug A increased from a mean of 81 +/- 44 units before the symposium to a mean of 272 +/- 117 after the symposium (p less than 0.001). The usage of drug B changed from 34 +/- 30 units before the symposium to 87 +/- 24 units (p less than 0.001) after the symposium. These changed prescribing patterns were also significantly different from the national usage patterns of the two drugs by hospitals with more than 500 beds and major medical centers over the same period of time. These alterations in prescribing patterns occurred even though the majority of physicians who attended the symposia believed that such enticements would not alter their prescribing patterns.


There is an informational void about pharmaceuticals in the training of most doctors, despite the importance of the prescription in medical care. The writing of the prescription is the final common pathway in therapeutic decision making, which involves such diverse forces and disciplines as anthropology, decision science, health economics, ethics, and politics, as well as pharmacology and clinical medicine. Programs to improve the precision and cost-effectiveness of doctors’ prescribing must consider all of these factors if pharmacotherapeutics are to be used optimally.


Questionnaire of prescribing physicians in Kentucky gauging relationship between self-reported use of prescribing information from pharmaceutical industry sources and overall cost of prescription practice.

OBJECTIVES: To describe material distributed to physicians by pharmaceutical companies; to describe characteristics of the drugs discussed in the material; to determine whether the material complies with Food and Drug Administration (FDA) regulations and whether it contains promotional and educational characteristics. DESIGN: Cross-sectional study. SETTING: An academic internal medicine residency program, a private internist's office, and a health maintenance organization (HMO).

PATIENTS/PARTICIPANTS: A consecutive sample of 486 items, excluding gifts and drug samples, distributed by drug companies between August 11, 1993 and March 1, 1994. MEASUREMENTS AND MAIN RESULTS: Of the 486 items collected, 207 were reprints, 196 were advertisements, 51 were general information, and 32 were other. Reprints were delivered to residents significantly more often than to the HMO (p < .001) or to the private internist's office (p < .001). By contrast, the internist's office received a greater proportion of personal correspondence compared with the other locations (p < .001 for both). Of the drugs publicized, 10 were substantial improvements over other therapeutic choices. Forty-two percent of the items failed to comply with at least one of three FDA regulations assessed, including 17 items that discussed unapproved uses for drugs. Advertisements, as well as items that were not obviously promotional, contained promotional characteristics. Thirty-nine percent of the items offered scientific support for their claims. CONCLUSIONS: Little of the material distributed by pharmaceutical companies to physicians conveys information about important therapeutic breakthroughs; some of it fails to comply with FDA regulations. The material contains both educational and promotional characteristics.


Editorial on appropriateness of marketing materials handed out in clinical settings


Review of observational studies between physician and sales representative contacts reporting results on the quality of information obtained. Concluding that representatives present biased information about their products.


Physician prescribing practices were the focus of a recent 1-day conference in Toronto. A BC hospital pharmacist outlined a successful initiative that provides physicians with impartial prescribing advice, saying it has resulted in considerable savings and improved prescribing practices in North Vancouver. Drugs of Choice author Dr. Joel Lexchin says such initiatives, called academic detailing, along with peer feedback, are cost-effective ways to improve prescribing habits.


OBJECTIVE: The purpose of this article is to discuss the principles of academic detailing, or educational outreach, in primary care and review the evidence of its effectiveness in, and potential for improving, mental health care. METHODS: The general educational research literature on improving physician performance was reviewed along with studies that were designed to test academic detailing. Four rigorous studies have tested this approach specifically on mental health care. These studies are reviewed in detail. RESULTS: Measuring pre-intervention performance to target those with increased educational needs and identifying barriers to change are associated with substantially improved program effectiveness. To change strongly held beliefs or to overcome patient demands, person-to-person contact with credible experts who provide structured alternatives is necessary. Brief reinforcement visits increase success rates and targeting programs to physicians at greatest need improves the cost effectiveness of educational interventions. CONCLUSIONS: Academic detailing is one of the few educational interventions that has consistently demonstrated improved physician performance. Educational outreach methods to improve mental health practices in primary care are in need of much additional research. Improving the detection of mental disorders and underuse of mental health treatment may prove to be more difficult than reducing the overuse of unnecessary medications.
Pharmaceutical sales representatives (PSRs) are a key component of pharmaceutical companies' marketing strategies in that they are the link between the pharmaceutical company and the physician. PSRs provide various services in order to increase the physician's prescribing activity of their companies' products. Given the high cost of recruiting, training, and supporting a PSR, it is important for PSRs to understand the relative significance physicians ascribe to services provided. This study examined whether there is a gap in the perceptions of physicians and PSRs regarding the value of specific services provided by PSRs. Physicians and PSRs who attended medical meetings were surveyed. Results of the study indicated that there were significant differences in the perceived value between PSRs and physicians. Services which were perceived to be less important to physicians than to PSRs were new product detailing, old product detailing, providing product studies and research findings, PSRs serving as expert consultants, promotional luncheons and dinners.


OBJECTIVE: Pharmaceutical companies often use drug samples as a marketing strategy in the ambulatory care setting. Little is known about how the availability of drug samples affects physicians' prescribing practices. Our goal was to assess: (1) under what circumstances and why physicians dispense drug samples, (2) if drug samples lead physicians to use medications other than their preferred drug choice, and (3) the physician characteristics that are associated with drug sample use. DESIGN: Cross-sectional survey. SETTING: University-based clinics at one academic medical center. PARTICIPANTS: 154 general medicine and family physicians. MEASUREMENTS AND MAIN RESULTS: Physicians' self-reported prescribing patterns for 3 clinical scenarios, including their preferred drug choice, whether they would use a drug sample and subsequently prescribe the sampled medication, and the importance of factors involved in the decision to dispense a drug sample. A total of 131 (85%) of 154 physicians responded. When presented with an insured woman with an uncomplicated lower urinary tract infection, 22 (17%) respondents reported that they would dispense a drug sample; 21 (95%) of 22 sample users stated that they would dispense a drug sample that differed from their preferred drug choice. For an uninsured man with hypertension, 35 (27%) respondents reported that they would dispense a drug sample; 32 (91%) of 35 sample users indicated that they would dispense a drug sample instead of their preferred drug choice. For an uninsured woman with depression, 108 (82%) respondents reported that they would dispense a drug sample; 53 (49%) of 108 sample users indicated that they would dispense a drug sample that differed from their preferred drug choice. Avoiding cost to the patient was the most consistent motivator for dispensing a drug sample for all 3 scenarios. For 2 scenarios, residents were more likely to report using drug samples than attendings (P <.05). When respondents who chose a drug sample for 2 or 3 scenarios were compared to those who never chose to use a drug sample, or chose a drug sample for only one scenario, only younger age was independently associated with drug sample use. CONCLUSION: In self-reports, the availability of drug samples led physicians to dispense and subsequently prescribe drugs that differ from their preferred drug choice. Physicians most often report using drug samples to avoid cost to the patient.


The use of antibiotics in both ambulatory and inpatient settings is heavily shaped by cultural and economic factors as well as by microbiological considerations. These nonpharmacologic factors are relevant to clinicians and policymakers because of the clinical and fiscal toll of inappropriate antibiotic prescribing, including excessive use, preventable adverse effects, and the increasing prevalence of resistant organisms. An understanding of the determinants of antibiotic consumption is critical to explain current patterns of use and to devise programs to reduce inappropriate use. Patient motivations include the desire for a tangible product of the clinical encounter coupled with incorrect perceptions of the effectiveness of antibiotics, particularly in viral infections. Physician behavior can be explained by such factors as lack of information, a desire to satisfy patient demand, and pressure from managed care organizations to speed throughput. Marketing campaigns directed at both physicians and patients further serve to increase demand, especially for newer, costlier products. Studies of antibiotic use patterns in inpatient and outpatient care consistently demonstrate considerable inappropriate prescribing, which is likely to exacerbate the emergence of resistant organisms. Several approaches have been shown to improve the
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reasons of antibiotic use. Computer-based algorithms or reminders can prompt physicians to improve antibiotic choices at the time of prescribing; paper-based order entry forms can achieve the same goal. Interactive educational outreach (“academic detailing”) is a practical implementation of social marketing principles to improve antibiotic use. Public education programs directed at consumers can help to reduce the inappropriate patient demand that helps to drive much improper antibiotic prescribing.


The relationships between direct-to-consumer advertising expenditures and the monthly frequencies of diagnoses and prescriptions written associated with the products advertised are examined. The analyses utilized quasi-experimental time-series techniques. Data from the National Ambulatory Medical Care Survey and Competitive Media Reporting were used to calculate monthly levels of the dependent and independent variables. The dependent variables included monthly frequencies of diagnoses for the products’ FDA-approved indications, medications prescribed within the advertised pharmaceutical class, and medications prescribed for the specific advertised agent. The independent variables included monthly expenditures for advertising each pharmaceutical class and each specific agent. Several significant monthly relationships were found. The diagnoses of hyperlipidemia (p = 0.008) and the number of prescriptions written for antilipemics (p = 0.003) were positively associated with the advertising expenditure for antilipemics. The number of prescriptions written for Claritin (p = 0.004) and Zocor (p < 0.001) was positively related to the advertising expenditure for their respective pharmaceutical classes; the amount of prescriptions written for Hismanal (p = 0.007), Seldane (p < 0.001), and Zantac (p = 0.004) was negatively related to the advertising expenditure for their respective pharmaceutical classes. The number of prescriptions written for Hismanal (p = 0.007), Seldane (p < 0.001), and Zantac (p = 0.004) was negatively related to the advertising expenditure for their respective pharmaceutical classes. The number of prescriptions written for Claritin (p = 0.005) and Zocor (p < 0.001) was positively related to the advertising expenditure for each specific product; the amount of prescriptions written for Hismanal (p = 0.049) was negatively associated with the amount of money spent specifically advertising the agent. No significant associations were found in antihypertensive drugs and drugs to treat benign prostatic hypertrophy. The results of the analyses suggest that the direct-to-consumer advertising expenditure is associated with physician diagnosing and physician prescribing for certain drugs and drug classes.


This paper provides an in-depth, qualitative analysis of the physicians’ decision process for drug prescription. Drugs in the considered therapeutic classes are mainly prescribed by specialists, treating patients with obligatory medical insurance, for a prolonged period of time. The research approach is specifically designed to capture the full complexity and sensitive nature of the physician's choice behavior, which appears to be more hybrid and less rational in nature than is often assumed in quantitative, model-based analyses of prescription behavior. Several interesting findings emerge from the analysis: (i) non-compensatory decision rules seem to dominate the decision process, (ii) consideration sets are typically small and change-resistant, (iii) drug cost is not a major issue for most physicians, (iv) detailing remains one of the most powerful pharmaceutical marketing instruments and is highly appreciated as a valuable and quick source of information, and (v) certain types of non-medical marketing incentives (such as free conference participation) may in some situations also influence drug choices.


In this article the authors deal with issues of drug utilisation from a clinical and policy perspective. They address the difficulties of managing drug therapy on a population level, which is known among professionals, as the problem of rational use of medicines. Various definitions and interpretations are presented and compared. This is followed by a presentation of the concerns associated with pharmaceutical marketing from a policy perspective, including the fear that the dominance of information produced by industry may lead to irrational drug use. Next, the authors review the tools for policy making including educational, managerial, and regulatory interventions. The (often overlapping) concepts of medicines management, clinical pharmacy and pharmaceutical care are then discussed to show how professionals, sometimes in collaboration with policymakers, have tackled the problem of nonrational use of medicines. The authors address the question as to whether the rational use of medicines a universal concept, whether it can be and whether it should be? They argue that, as with most concepts, the rational use of medicines must always be viewed in context. They conclude that pharmacy needs to adapt its way of thinking to include the issue of context. They point out that clinical pharmacists today already adapt
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their decisions to each patient and patient group. Policy-makers are encouraged to adopt a similar approach because populations as well as particular market situations vary and therefore policy solutions cannot be considered universal.


BACKGROUND: Pharmaceutical company representatives (PCRs) influence the prescribing habits and professional behaviour of physicians. However, the skills for interacting with PCRs are not taught in the traditional medical school curriculum. We examined whether an innovative, mandatory workshop for third year medical students had immediate effects on knowledge and attitudes regarding interactions with PCRs. METHODS: Surveys issued before and after the workshop intervention solicited opinions (five point Likert scales) from third year students (n = 75) about the degree of bias in PCR information, the influence of PCRs on prescribing habits, the acceptability of specific gifts, and the educational value of PCR information for both practicing physicians and students. Two faculty members and one PCR led the workshop, which highlighted typical physician-PCR interactions, the use of samples and gifts, the validity and legal boundaries of PCR information, and associated ethical issues. Role plays with the PCR demonstrated appropriate and inappropriate strategies for interacting with PCRs. RESULTS: The majority of third year students (56%, 42/75) had experienced more than three personal conversations with a PCR about a drug product since starting medical school. Five percent (4/75) claimed no previous personal experience with PCRs. Most students (57.3%, 43/75) were not aware of available guidelines regarding PCR interactions. Twenty-eight percent of students (21/75) thought that none of the named activities/gifts (lunch access, free stethoscope, textbooks, educational CD-ROMS, sporting events) should be restricted, while 24.0% (8/75) thought that students should be restricted only from sporting events. The perceived educational value of PCR information to both practicing physicians and students increased after the workshop intervention from 17.7% to 43.2% (chi square, p = .0001), and 22.1% to 40.5% (p = .0007), respectively. Student perceptions of the degree of bias of PCR information decreased from 84.1% to 72.9% (p = .065), but the perceived degree of influence on prescribing increased (44.2% to 62.1% (p = .02)). CONCLUSIONS: Students have exposure to PCRs early in their medical training. A single workshop intervention may influence student attitudes toward interactions with PCRs. Students were more likely to acknowledge the educational value of PCR interactions and their impact on prescribing after the workshop intervention.


PURPOSE: To compare group versus individual academic detailing to increase diuretic or beta-blocker use in hypertension. METHODS: We conducted a cluster-randomized controlled trial in a large health maintenance organization. Subjects (N=9820) were patients with newly treated hypertension in the year preceding the intervention (N=3692), the 9 months following the intervention (N=3556), and the second year following intervention (N=2572). We randomly allocated 3 practice sites to group detailing (N=227 prescribers), 3 to individual detailing (N=235 prescribers), and 3 to usual care (N=319 prescribers).

Individual detailing entailed a physician-educator meeting individually with clinicians to address barriers to prescribing guideline-recommended medications. The group detailing intervention incorporated the same marketing principles in small groups of clinicians. RESULTS: In the first year following the intervention, the rates of diuretic or beta-blocker use increased by 13.2% in the group detailing practices, 12.5% in the individual detailing practices, and 6.2% in the usual care practices. As compared with usual care practices, diuretic or beta-blocker use was more likely in group detailing practices (adjusted odds ratio (OR), 1.40; 95% confidence interval (CI), 1.11 - 1.76) and individual detailing practices (adjusted OR, 1.30; 95% CI, 0.95 - 1.79). Neither intervention affected blood pressure control. Two years following this single-visit intervention, there was still a trend suggesting a persistent effect of individual (OR, 1.22; 95% CI, 0.92 - 1.62), but not group, detailing (OR, 1.06; 95% CI, 0.80 - 1.39), as compared with usual care. CONCLUSION: Both group and individual academic detailing improved antihypertensive prescribing over and above usual care but may require reinforcement to sustain improvements.

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ABSTRACT: BACKGROUND: With the use of medicines being a broad and extensive part of health management, mechanisms to ensure quality use of medicines are essential. Drug usage evaluation (DUE) is an evidence-based quality improvement methodology, designed to improve the quality, safety and cost-effectiveness of drug use. The purpose of this paper is to describe a national DUE methodology used to improve health care delivery across the continuum through multi-faceted interventions involving audit and feedback, academic detailing and system change, and a qualitative assessment of the methodology, as illustrated by the Acute Postoperative Pain Management (APOP) project. METHODS: An established methodology, consisting of a baseline audit of inpatient medical records, structured patient interviews and general practitioner surveys, followed by an educational intervention and follow-up audit, is used. Australian hospitals, including private, public, metropolitan and regional, are invited to participate on a voluntary basis. De-identified data collected by hospitals are collated and evaluated nationally to provide descriptive comparative analyses. Hospitals benchmark their practices against state and national results to facilitate change. The educational intervention consists of academic detailing, group education, audit and feedback, point-of-prescribing prompts and system changes. A repeat data collection is undertaken to assess changes in practice. An online qualitative survey was undertaken to evaluate the APOP program. Qualitative assessment of hospitals’ perceptions of the effectiveness of the overall DUE methodology and changes in procedure/prescribing/policy/clinical practice which resulted from participation were elicited. RESULTS: 62 hospitals participated in the APOP project. Among 23 respondents to the evaluation survey, 18 (78%) reported improvements in the documentation of pain scores at their hospital. 15 (65%) strongly agreed or agreed that participation in APOP directly resulted in increased prescribing of multimodal analgesia for pain relief in postoperative patients. CONCLUSIONS: This national DUE program has facilitated the engagement and participation of a number of acute health care facilities to address issues relating to quality use of medicine. This approach has been perceived to be effective in helping them achieve improvements in patient care.

EDITORIALS (16)


Seminal article critiquing the role of pharmaceutical promotion in medical education, this piece emerged during the Kefauver Hearings and was subsequently referred to repeatedly throughout the Nelson Hearings. Sample quote: The traditional independence of physicians and the welfare of the public are being threatened by the new vogue among drug manufacturers to promote their products by assuming an aggressive role in the "education" of doctors...Is it prudent for physicians to become greatly dependent upon pharmaceutical manufacturers for support of scientific journals and medical societies, for entertainment, and now also for a large part of their education?"


Holland provides a defense of pharmaceutical representatives and pharmaceutical advertisements as "the most important sources of medical information to the National Health Service" of the United Kingdom.


Pharmaceutical marketing is the last element of an information continuum, where research concepts are transformed into practical therapeutic tools and where information is progressively layered and made more useful to the health care system. Thus, transfer of information to physicians through marketing is a crucial element of pharmaceutical innovation. By providing an informed choice of carefully characterized agents, marketing assists physicians in matching drug therapy to individual patient needs. Pharmaceutical
marketing is presently the most organized and comprehensive information system for updating physicians about the availability, safety, efficacy, hazards, and techniques of using medicines. The costs of pharmaceutical marketing are substantial, but they are typical of high-technology industries that must communicate important and complex information to sophisticated users. These costs are offset by savings resulting from proper use of medicines and from lower drug costs owing to price competition.


Editorial cautioning against demonizing the pharmaceutical industry


Editorial on the need for stronger guidelines for pharmaceutical-industry interaction


Editorial on discerning helpful vs. deceptive promotional practices in the pharmaceutical industry


Industry defense of pharmaceutical promotion


Editorial on characteristics of marketing materials in clinical settings, by the medical director of Public Citizens Health Research Group


Editorial on appropriateness of marketing materials handed out in clinical settings


Editorial regarding limits of guidelines in conflict of intereste between industry and clinical practice


Editorial discussing role of academic detailing in continuing medical education

**ETHNOGRAPHY** (2)


Anthropologists of medicine and science are increasingly studying all aspects of pharmaceutical industry practices—from research and development to the marketing of prescription drugs. This article ethnographically explores one particular stage in the life cycle of pharmaceuticals: sales and marketing. Drawing on a range of sources—investigative journalism, medical ethics, and autoethnography—the author examines the day-to-day activities of pharmaceutical salespersons, or drug reps, during the 1990s. He describes in detail the pharmaceutical gift cycle, a three-way exchange network between doctors, salespersons, and patients and how this process of exchange is currently in a state of involution. This gift economy exists to generate prescriptions (scripts) and can mask and/or perpetuate risks and side effects for patients. With implications of pharmaceutical industry practices impacting everything from the personal-psychological to the global political economy, medical anthropologists can play a lead role in the emerging scholarly discourse concerned with critical pharmaceutical studies.


Industry and medicine share a complicated relationship that engenders a considerable degree of controversy. Although they share a relationship, industry and medicine have different perspectives toward their involvement with each other. Industry conceives of medicine as one aspect of the "drug pipeline," a larger set of relationships that is necessary for producing and marketing products. In contrast, select physicians refer to medicine's relationship with industry as "dancing with the porcupine," an inherently difficult and dangerous activity. This paper compares the "pipeline" and "porcupine" metaphors, and draws upon ethnographic data from fieldwork conducted among clinical neuroscientists at a Canadian medical school to further elucidate the perspectives of physicians toward industry and the nature of the physician-industry relationship. The paper argues that the physician-industry relationship is akin to a type of gift-exchange known as a total prestation, and that this form of total prestation is part of a strategy of capital reconversion.

**GIFT-GIVING** (27)


Describes educational intervention and attitudinal survey designed to assess medical student and nurse practitioner attitudes toward receiving gifts from the pharmaceutical industry

T. Randall, "Kennedy Hearings Say No More Free Lunch--or Much Else--from Drug Firms," *JAMA*, 1991 265: 440, 42--.

Senator Edward Kenendy held hearings on December 11-12 1990 to address drug pricing and drug promotion; concerning the AMA and PMA guidelines Kennedy noted "The principal question is whether the industry and the medical profession can heal themselves or whether additional regulation or legislation is needed."


We have responded on an individual basis to many requests for interpretations of grey areas in the opinion on gifts from industry since its release in December 1990, and many physicians and companies asked for a detailed list of these interpretations. While the council agrees with the concerns several individuals have expressed about additional rules, it authorized this revised list of questions and answers which replaces the earlier draft. It also established three main principles for future implementation: 1. The key principles of the guidelines should be carefully observed by physicians, and the AMA will remain active in attempting to secure compliance by its members. The overriding rule is that individual physicians should not accept substantial gifts from industry, even if the gift has an educational or patient benefit. It is important that the profession set clear and enforceable standards in this regard. 2. Professional associations should make their own interpretations of the appropriateness of gifts to them from industry. Under appropriate conditions, associations of physicians may, of course, receive gifts from industry. 3. Neither the council nor its staff will attempt to regulate minor issues or minute details of compliance. For many situations there are no yes or no answers. Some black letter rules are necessary so that conduct that should be changed is changed. In addition, they aid companies which want to comply with the spirit as well as the letter of the guidelines without putting themselves at a competitive disadvantage. The six points of the Opinion cover most situations and compliance to date has been good. (ABSTRACT TRUNCATED AT 250 WORDS)


BACKGROUND: Concerns have been expressed about physicians' acceptance of gifts from pharmaceutical companies, but few studies have examined or attempted to change medical students' attitudes about accepting such gifts. METHODS: We used a questionnaire survey to measure attitudes about accepting such gifts. We then carried out a field experiment to compare changes in second-year medical students' attitudes, seven weeks after a one-hour lecture and discussion about the appropriateness of pharmaceutical gifts, to changes in first-year students who were not exposed to the program. RESULTS: Following the intervention, second-year students became less accepting of these marketing practices; first-year students showed no significant change. The difference between the groups after the intervention was statistically significant (P < .0001). CONCLUSIONS: If medical students' attitudes about accepting gifts from pharmaceutical companies need to be changed, this study suggests that the process may be fostered with little investment of curricular time.


STUDY OBJECTIVES: To examine emergency medicine resident training and understanding of general bioethics and resident and faculty attitudes and behavior regarding professional interactions with the biomedical industry. DESIGN: Two companion questionnaire surveys. SETTING: Annual resident in-service examination and written director survey with telephone follow-up. PARTICIPANTS: Emergency medicine residents and program directors. INTERVENTIONS: chi 2 analysis was used for questions involving relationships among variables with dichotomous or categorical response. An analysis of variance or Pearson Product Moment Correlation was calculated for questions with continuous variables. MEASUREMENTS AND MAIN RESULTS: The surveys were completed by 1,385 of 1,836 (75%) residents and 80 of 81 (99%) residency directors. On average, residents receive eight hours of bioethical instruction per year but believe that they need 12 hours per year. Seventy-five percent of residents believe that company representatives sometimes cross ethical boundaries. The amount of resident understanding of bioethical concepts correlated with the number of hours of bioethics training they received. A sensitivity to
bioethical conflicts index was correlated with the residents' behavior. CONCLUSION: There is wide variation in beliefs and practices regarding the interaction between emergency medicine residents and directors and the biomedical industry. Our results suggest that residents need training regarding conflicts of interest, accepted standards of practice, and dealing with potential conflicts with the biomedical industry.


Editorial on the need for stronger guidelines for pharmaceutical-industry interaction


Survey of physician and pharmacist attitudes on the ethics of pharmaceutical marketing


OBJECTIVE: To examine patient perceptions of professional appropriateness and the potential impact on health care of physician acceptance of gifts from the pharmaceutical industry. DESIGN: A random-digit dialing telephone survey. SETTING AND PARTICIPANTS: A sample of 649 adults (> or = 18 years old) living in Kentucky. MAIN OUTCOME MEASURES: Patient awareness of office-use gifts (eg, pens, notepads) and personal gifts to physicians from the pharmaceutical industry, patient exposure to office-use gifts, and attitudes toward physician acceptance of both office-use and personal gifts. RESULTS: The survey had a response rate of 55%. Eighty-two percent of the respondents were aware that physicians received office-use gifts, while 32% were aware that physicians received personal gifts. Seventy-five percent reported receiving free samples of medication from their physicians. Compared with office-use gifts, more respondents believed that personal gifts to physicians have a negative effect on both health care cost (42% vs 26%) and quality (23% vs 13%). After controlling for demographic variables, as well as awareness and exposure to physician gifts, individuals with at least a high school education were 2.4 times as likely to believe that personal gifts have a negative effect on the cost of health care and 2.3 times as likely to believe that personal gifts would have a negative effect on the quality of health care. CONCLUSIONS: These results suggest that the public is generally uninformed about personal gifts from pharmaceutical companies to physicians. If public perception regarding the objectivity of the medical profession is to serve as a guide, these findings suggest a reevaluation may be in order for guidelines regarding physician acceptance of gifts from the pharmaceutical industry.


CONTEXT: Controversy exists over the fact that physicians have regular contact with the pharmaceutical industry and its sales representatives, who spend a large sum of money each year promoting to them by way of gifts, free meals, travel subsidies, sponsored teachings, and symposia. OBJECTIVE: To identify the extent of and attitudes toward the relationship between physicians and the pharmaceutical industry and its representatives and its impact on the knowledge, attitudes, and behavior of physicians. DATA SOURCES: A MEDLINE search was conducted for English-language articles published from 1994 to present, with review of reference lists from retrieved articles; in addition, an Internet database was searched and 5 key informants were interviewed. STUDY SELECTION: A total of 538 studies that provided data on any of the study questions were targeted for retrieval, 29 of which were included in the analysis. DATA EXTRACTION: Data were extracted by 1 author. Articles using an analytic design were considered to be of higher methodological quality. DATA SYNTHESIS: Physician interactions with pharmaceutical representatives were generally endorsed, began in medical school, and continued at a rate of about 4 times per month. Meetings with pharmaceutical representatives were associated with requests by physicians for adding the drugs to the hospital formulary and changes in prescribing practice. Drug company-sponsored continuing medical education (CME) preferentially highlighted the sponsor's drug(s) compared with other CME programs. Attending sponsored CME events and accepting funding for travel or lodging for educational symposia were associated with increased prescription rates of the sponsor's medication. Attending presentations given by pharmaceutical representative speakers was also associated with nonrational prescribing. CONCLUSION: The present extent of physician-industry interactions appears to affect prescribing and professional behavior and should be further addressed at the level of policy and education.

Supported in part by the Attorneys General Prescriber Education Grant Program
When pharmaceutical companies market their products to, and through, healthcare professionals in hospitals and private practice, healthcare professionals face ethical dilemmas in their practice and their organizations. Pharmaceutical companies target nurse practitioners with prescribing privileges. The author describes the ethical dilemma faced by healthcare professionals when friendly salespeople offer tempting gifts. The article outlines cultural responses to gift giving and ethical issues surrounding healthcare professionals' responses to pharmaceutical marketing strategies. Nurse administrators need to acknowledge a growing threat to nursing integrity. Nurse administrators have the power to make and enforce ethical policies that prevent proprietary influences from clouding nursing judgment and contributing to the escalating costs of prescription medications.


Ethical analysis of effectiveness of small gifts from industry on influencing physician prescribing patterns, questions role of dollar-limits in effectively combatting influence of gifts.


PURPOSE: Hospital-based physicians are responsible for the purchase of expensive equipment. Little is known about the influence of gift giving on their behavior. We wanted to ascertain the prevalence of gift giving from the pharmaceutical industry and medical equipment manufacturers to radiation oncologists and determine whether or not the size of accepted gifts influences their opinions regarding gifts.

METHODS AND MATERIALS: A population-based survey of hospital-based physicians conducted between 2002 and 2003. The study population consisted of all radiation oncologists who were members of the American Society of Therapeutic Radiology and Oncology between 2000 and 2001. A random number generator was used to identify 20% of the population. This group was invited by e-mail and conventional mail to complete a Likert scale questionnaire. Those asked to complete the questionnaire electronically were directed to a specially designed web site. RESULTS: Of 640 individuals who were asked to participate, 241 (38%) completed the questionnaire. 96% admitted accepting gifts. The most commonly accepted low value gifts were: pen or pencil (78%), drug samples for patient's use (70%), meal (66%), and a note pad (59%). The most commonly accepted high value gifts were trips to "equipment-users meetings" (15%), honoraria for speaking at a conference (10%), and participation in a conference call (9%). Only 5% of radiation oncologists agreed with the statement "my prescribing practices are affected" by gifts; however, 33% agreed with the statement "I believe that other physicians prescribing practices are affected." Similarly, although only 4% felt that their recommendations concerning purchases of medical equipment are affected by gifts, 19% felt that other physicians would be influenced. A test of the hypothesis that physicians believe that their conduct is less affected than those of their colleagues (i.e., "I am not influenced by gifts but someone else is" was strongly confirmed by a correlation statistic) (p < 0.0001). Of the radiation oncologists surveyed, 74% felt that they should be free to accept gifts of small value, 31% felt they should be free to accept meals or gifts of any type, 16% felt that residency programs should ban free meals provided by companies, 13% felt professional associations should discourage companies from hosting parties at the annual meeting, 17% felt that gift giving should stop, and 66% agreed that clinical information provided by companies provides a useful continuing medical education service. Those who accepted larger gifts were far more likely to disagree with statements such as "professional societies should actively discourage companies from hosting parties and providing free meals and giving gifts to physicians attending the annual meeting" (p = 0.0003) and "the practice of gift giving by companies should stop" (p = 0.0017); they were slightly more likely to agree with statements such as "clinical information provided to radiation oncologists by companies provides a useful continuing medical education service." CONCLUSIONS: To our knowledge, this study represents the first large-scale population based study of a hospital-based specialty and gift giving. This study demonstrates that: (1) Gift giving in radiation oncology is endemic. (2) Although each physician is likely to consider himself or herself immune from being influenced by gift giving, he or she is suspicious that the "next person" is influenced. (3) There is a correlation between the willingness of individual physician to accept gifts of high value and their sympathy toward this practice.

Supported in part by the Attorneys General Prescriber Education Grant Program

OBJECTIVES: To examine the beliefs and practices of emergency medicine program directors regarding interactions with the pharmaceutical industry. The authors also sought to study the prevalence of program policies and the desire for organizational policies. METHODS: The Board of the Council of Emergency Medicine Residency Directors (CORD) requested and approved a member survey. An institutional review board-approved, Web-based, 30-item survey was sent to all CORD members subscribed to the organization's listserv in May 2002 and was completed by June 2002. Program director respondents were queried about their awareness of existing guidelines and whether they desired policy development by CORD. RESULTS: Surveys were returned from 106 programs (85%). The majority of program directors (72%) "never" or "very rarely" allowed unrestricted interactions between pharmaceutical representatives and residents at work. However, only 52% of program directors said they "never" or "very rarely" allowed pharmaceutical representatives to give residents free drug samples at work. Only 46% said they "never" or "very rarely" allowed pharmaceutical representatives to teach residents. Two thirds of program directors desired CORD guidelines regarding interactions with the pharmaceutical industry. Program directors seeking guidelines were less likely to allow pharmaceutical representatives to teach residents (p = 0.05). They were also less likely to allow pharmaceutical representatives unrestricted interactions with residents (p = 0.05). CONCLUSIONS: A wide range of practices exist among emergency medicine residency program directors, and most desire organizational guidelines regarding interactions with the pharmaceutical industry.


Anthropologists of medicine and science are increasingly studying all aspects of pharmaceutical industry practices—from research and development to the marketing of prescription drugs. This article ethnographically explores one particular stage in the life cycle of pharmaceuticals: sales and marketing. Drawing on a range of sources—investigative journalism, medical ethics, and autoethnography—the author examines the day-to-day activities of pharmaceutical salespersons, or drug reps, during the 1990s. He describes in detail the pharmaceutical gift cycle, a three-way exchange network between doctors, salespersons, and patients and how this process of exchange is currently in a state of involution. This gift economy exists to generate prescriptions (scripts) and can mask and/or perpetuate risks and side effects for patients. With implications of pharmaceutical industry practices impacting everything from the personal-psychological to the global political economy, medical anthropologists can play a lead role in the emerging scholarly discourse concerned with critical pharmaceutical studies.


CONTEXT: While exposure to and attitudes about drug company interactions among residents have been studied extensively, relatively little is known about relationships between drug companies and medical students. OBJECTIVE: To measure third-year medical students’ exposure to and attitudes about drug company interactions. DESIGN, SETTING, AND PARTICIPANTS: In 2003, we distributed a 64-item anonymous survey to 1143 third-year students at 8 US medical schools, exploring their exposure and response to drug company interactions. The schools’ characteristics included a wide spectrum of ownership types, National Institutes of Health funding, and geographic locations. In 2005, we conducted a national survey of student affairs deans to measure the prevalence of school-wide policies on drug company-medical student interactions. MAIN OUTCOME MEASURES: Monthly frequency of students’ exposure to various activities and gifts during clerkships, and attitudes about receiving gifts. RESULTS: Overall response rate was 826/1143 (72.3%), with range among schools of 30.9%-90.7%. Mean exposure for each student was 1 gift or sponsored activity per week. Of respondents, 762/818 (93.2%) were asked or required by a physician to attend at least 1 sponsored lunch. Regarding attitudes, 556/808 (68.8%) believed gifts would not influence their practices and 464/804 (57.7%) believed gifts would not affect colleagues’ practices. Of the students, 553/604 (80.3%) believed that they were entitled to gifts. Of 183 students who thought a gift valued at less than $50 was inappropriate, 158 (86.3%) had accepted one. The number of students who simultaneously believed that sponsored grand rounds are educationally helpful and are likely to be biased was 452/758 (59.6%). Students at 1 school who had attended a seminar about drug company-physician relationships were no more likely than the nonattending classmates to show skepticism. Of the respondents, 704/822 (85.6%) did not know if their school had a policy on these relationships. In a national survey of student affairs deans, among the 99 who knew their...
policy status, only 10 (10.1%) reported having school-wide policies about these interactions. CONCLUSIONS: Student experiences and attitudes suggest that as a group they are at risk for unrecognized influence by marketing efforts. Research should focus on evaluating methods to limit these experiences and affect the development of students' attitudes to ensure that physicians' decisions are based solely on helping each patient achieve the greatest possible benefit.


Industry and medicine share a complicated relationship that engenders a considerable degree of controversy. Although they share a relationship, industry and medicine have different perspectives toward their involvement with each other. Industry conceives of medicine as one aspect of the "drug pipeline", a larger set of relationships that is necessary for producing and marketing products. In contrast, select physicians refer to medicine's relationship with industry as "dancing with the porcupine", an inherently difficult and dangerous activity. This paper compares the "pipeline" and "porcupine" metaphors, and draws upon ethnographic data from fieldwork conducted among clinical neuroscientists at a Canadian medical school to further elucidate the perspectives of physicians toward industry and the nature of the physician-industry relationship. The paper argues that the physician-industry relationship is akin to a type of gift-exchange known as a total prestation, and that this form of total prestation is part of a strategy of capital reconversion.


PURPOSE: To describe change in residents' attitudes toward gifts from and interactions with industry and to measure the effects of a formal educational workshop on changes in perceptions. METHOD: At the University of Chicago, 118 internal medicine residents completed an observational survey and took part in a controlled intervention across three years (2001-2004) of residency. Four cohorts of residents completing the program in 2004-2007 participated. The intervention was an interactive educational workshop, including reviews of literature and guidelines, and three videos demonstrating routine resident interactions with pharmaceutical representatives. Residents graduating in 2005 were the intervention group and residents graduating in 2004 the comparison group. Analysis of variance and linear regression models were used to determine the relationship between variables. RESULTS: Residents perceived "lunch sponsored at noon conference" and "pharmaceutical representative brief talk at noon conference" as increasingly appropriate over their training period (p < .02). Residents perceived "pens, notepads, pocket antibiotic guides" as increasingly appropriate and "tickets to sporting events," "round of golf," and "travel/registration for national conference" as increasingly inappropriate (p < .05). The intervention group was more likely to rate only one item, "lunch at noon conference," as less appropriate (p = .042). CONCLUSIONS: Residents' perceptions toward industry gifts and interactions changed modestly during their training to reflect institutional policy. "Appropriate" gifts of minimal value were generally perceived as increasingly appropriate, whereas "inappropriate" gifts were perceived as increasingly inappropriate over time. An educational workshop alone may not significantly alter residents' perceptions toward industry without the implementation of broad and consistent institutional policy.


A research-informed understanding of conflict of interest has important implications for policy. Specifically, the interventions mentioned earlier—limiting gift size, educational initiatives, and mandatory disclosure—are unlikely to eliminate bias because they rest on a faulty model of human behavior. The finding that individuals are not aware of their bias, even when taught about it, suggests that the problem cannot be dealt with effectively through training. For example, even if ethical conduct is clearly illustrated through case studies, few conflict of interest situations that the physician will actually encounter are likely to replicate these cases so closely as to preclude potential mitigating circumstances, thus opening the door for a self-serving interpretation of whether one's own behavior is improper.
We surveyed faculty and residents from seven hospitals affiliated with three academic internal medicine training programs about their perceptions of the informational and service benefits vs the risks of ethical compromise involved in interactions with pharmaceutical sales representatives. Questionnaires were returned by 467 (81%) of 575 physicians surveyed. Residents and faculty generally had somewhat negative attitudes toward the educational and informational value of detailing activities at their institutions but indicated that representatives supported important conferences and speakers. Residents were more likely than faculty to perceive contacts with sales representatives as potentially influencing physician decision making. Sixty-seven percent of faculty and 77% of residents indicated that physicians could be compromised by accepting gifts. More than half of the physicians who suggested that such compromise was possible indicated that acceptance of gifts worth more than $100 from drug companies would be likely to compromise a physician's independence and objectivity. A majority of both faculty and house staff favored eliminating presentations by pharmaceutical representatives at their hospitals. Only 10% thought they had had sufficient training during medical school and residency regarding professional interaction with sales representatives.

**W. S. Sandberg, R. Carlos, E. H. Sandberg, and M. F. Roizen, "The Effect of Educational Gifts from Pharmaceutical Firms on Medical Students' Recall of Company Names or Products," Acad Med, 1997; 72: 916-8.**

**PURPOSE:** To assess the influence of pharmaceutical advertising (in the form of books) directed at medical students and also to examine students' attitudes toward pharmaceutical representatives after interacting with them. **METHOD:** Two groups of fourth-year medical students were surveyed: 166 residency applicants to the Department of Anesthesia and Critical Care between 1991 and 1993, who were questioned during their personal interviews with the department chair, and 39 fourth-year students from the University of Chicago Pritzker School of Medicine in 1994-95, who were surveyed by telephone. The students were asked if they had ever received a book from a pharmaceutical representative and, if so, to name the book. Then they were asked to name the book-giving company or a product associated with the company. Responses were compared using chi-square analysis. **RESULTS:** In all, 90% of the students had received one or more books and accurately recalled titles for 89% of them. However, only 25% of the named books were accurately associated with a pharmaceutical company or product. The Pritzker students, asked to recall interactions with pharmaceutical representatives, reported being skeptical of representatives who ignored them because they were students, but they rated as helpful and informative those who conversed with them or gave them gifts. **CONCLUSION:** Although gifts to medical students do not necessarily engender company or product recall, attention paid to medical students by pharmaceutical representatives engenders goodwill toward the representatives and their messages.


**OBJECTIVE:** To compare physicians' and their patients' attitudes toward pharmaceutical gifts. **DESIGN:** Survey of physicians and their patients. **SETTING:** Two tertiary-care medical centers, one military and one civilian. **PARTICIPANTS:** Two hundred sixty-eight of 392 consecutively surveyed physicians, 100 of 103 randomly selected patients at the military center, and 96 patients in a convenience sample at the civilian center completed the survey. **MEASUREMENTS:** Participants rated 10 pharmaceutical gifts on whether they were appropriate for physicians to accept and whether they were likely to influence prescribing. Patients found gifts less appropriate and more influential than did their physicians. About half of the patients were aware of such gifts; of those unaware, 24% responded that this knowledge altered their perception of the medical profession. Asked whether they thought their own physician accepted gifts, 27% said yes, 20% no, and 53% were unsure. For patients, feeling that gifts were inappropriate was best predicted by a belief that gifts might influence prescribing, while for physicians, the best predictor was knowledge of guidelines. **CONCLUSIONS:** Patients feel pharmaceutical gifts are more influential and less appropriate than do their physicians. Physicians may want to consider this in deciding whether to accept particular gifts. Broader
dissemination of guidelines may be one means of changing physician behavior. At the same time, future guidelines should further consider the potentially different viewpoints of patients and physicians.


PURPOSE: The purpose of the study was to determine whether access to drug samples influences resident prescribing decisions. SUBJECTS AND METHODS: The authors observed 390 decisions to initiate drug therapy by 29 internal medicine residents over a 6-month period in an inner-city primary care clinic. By random selection, half of the residents agreed not to use available free drug samples. Five drug class pairs were chosen for study prospectively. Highly advertised drugs were matched with drugs commonly used for the same indication that were less expensive, available over-the-counter, or available in generic formulation. RESULTS: Resident physicians with access to drug samples were less likely to choose unadvertised drugs (131/202 decisions) than residents who did not have access to samples (138/188 decisions; P = .04) and less likely to choose over-the-counter drugs (51/202, 73/188; P = .003). There was a trend toward less use of inexpensive drugs. CONCLUSION: Access to drug samples in clinical influences resident prescribing decisions. This could affect resident education and increase drug costs for patients.


BACKGROUND: This study investigated the 'gift-relationship' between pharmaceutical companies and doctors. METHODS: The study was based on a survey questionnaire of 823 medical specialists from across Australia. The aim of this study was to investigate gifts offered to medical specialists in Australia by pharmaceutical companies, financial support actively sought by medical specialists for activities other than research and to consider what is ethically appropriate. RESULTS: A high percentage of specialists received offers of food (96%), items for the office (94%), personal gifts (51%) and journals or textbooks (50%). Most specialists were invited to product launches, symposia or educational events (75-84%) and 52% received offers of travel to conferences. A high proportion of offers were accepted (66-79%) except invitations to product launches (49%), sponsored symposia (53%) and offers of travel that included partners (27%). Fifteen per cent of specialists requested financial support from pharmaceutical companies for activities and items, including conferences, travel, educational activities, salaries and donations to specific funds. The study outlined guidelines on gifts from pharmaceutical companies and differing standards applying to gifts and grants for travel. We found that, although most gifts and requests for support complied with professional and pharmaceutical industry guidelines, some—including personal gifts, tickets to sporting events, entertainment and travel expenses for specialists’ partners—did not. CONCLUSION: To ensure that physicians’ judgements are free from real or perceived influence from industry and to maintain public trust, we support a shift towards more conservative standards on gifts and support for travel evident in recent guidelines.


Marketing costs exceed 30% of revenues for the pharmaceutical industry, with over 90% of the effort aimed at physicians. Although there are currently unprecedented numbers of regulatory activities focusing on relationships between the pharmaceutical industry and the medical profession, such legislation is often unrecognized or flouted. The potential influence, although minimized by both parties, must not be ignored. Physicians and drug companies will need to re-evaluate their responsibilities to their patients and their shareholders, and both groups should assume proactive and guidance roles in the transformation.


BACKGROUND: Few studies have reported the attitudes of both individual doctors and members of the public toward the appropriateness of ‘gifts’ from pharmaceutical companies. AIMS: To investigate the attitudes of both doctors and members of the public toward the appropriateness of receiving particular ‘gifts’ from pharmaceutical companies, and to consider whether public acceptability is a suitable criterion for determining the ethical appropriateness of ‘gifts’. METHODS: A survey questionnaire of medical specialists in Australia and a survey questionnaire of members of the public itemized 23 ‘gifts’ (valued between AU$10 and AU$2500) and asked whether or not each was appropriate. RESULTS: Both medical specialists and members of the public believe certain ‘gifts’ from pharmaceutical companies are
appropriate but not others. There was a tendency for members of the public to be more permissive than medical specialists. CONCLUSION: Although some professional guidelines place importance on the attitudes of the general public to 'gift' giving, and other guidelines give importance to a need for transparency and public accountability, we question whether public acceptability is a suitable criterion for determining the ethical appropriateness of 'gifts'. We suggest that more weight be given to the need for independence of clinical decision making, with empirical evidence indicating that even small 'gifts' can bias clinicians' judgments, and to important values such as the primacy of patient welfare, autonomy and social justice. We conclude that it is time to eliminate giving and receiving of promotional items between the pharmaceutical industry and members of health professions.

GUIDELINES FOR PHYSICIAN-INDUSTRY INTERACTION (40)


ACP guidelines on ethics of receiving gifts from industry


AMA guidelines on ethics of gifts to physicians from industry


AMA guidelines on ethics of gifts to physicians from industry


OBJECTIVE: To determine the attitudes, knowledge and practices of family medicine residents relating to the pharmaceutical industry and to assess the effectiveness of existing guidelines on appropriate interactions with the pharmaceutical industry. DESIGN: Survey by mailed questionnaire. SETTING: Ontario. PARTICIPANTS: All 262 second-year family medicine residents in Ontario (seven centres); 226 (86.3%) responded. RESULTS: Fifty-two (23.0%) of the residents who responded stated that they had read the CMA policy statement on appropriate interactions between physicians and the pharmaceutical industry. A total of 124 (54.9%) stated that they would attend a private dinner paid for by a pharmaceutical representative; the proportion was not significantly reduced among those who had read the CMA guidelines, which prohibit the acceptance of personal gifts. In all, 186 (82.3%) reported that they would like the opportunity to interact with pharmaceutical representatives in an educational setting, even though several programs now discourage these interactions. Approximately three quarters (172/226 [76.1%]) of the residents indicated that they plan to see pharmaceutical representatives in their future practice. Residents at Centre 2 were significantly more critical of the pharmaceutical industry than those from the other centres. Overall, being aware of, and familiar with, departmental policy or CMA policy on interactions with the pharmaceutical industry did not affect the residents' attitudes or intended future practices. CONCLUSION: The presence of guidelines concerning physicians' interactions with the...

OBJECTIVE: To compare physicians' and their patients' attitudes toward pharmaceutical gifts. DESIGN: Survey of physicians and their patients. SETTING: Two tertiary-care medical centers, one military and one civilian. PARTICIPANTS: Two hundred sixty-eight of 392 consecutively surveyed physicians, 100 of 103 randomly selected patients at the military center, and 96 patients in a convenience sample at the civilian center completed the survey. MEASUREMENTS: Participants rated 10 pharmaceutical gifts on whether they were appropriate for physicians to accept and whether they were likely to influence prescribing. Patients found gifts less appropriate and more influential than did their physicians. About half of the patients were aware of such gifts; of those unaware, 24% responded that this knowledge altered their perception of the medical profession. Asked whether they thought their own physician accepted gifts, 27% said yes, 20% no, and 53% were unsure. For patients, feeling that gifts were inappropriate was best predicted by a belief that gifts might influence prescribing, while for physicians, the best predictor was knowledge of guidelines. CONCLUSIONS: Patients feel pharmaceutical gifts are more influential and less appropriate than do their physicians. Physicians may want to consider this in deciding whether to accept particular gifts. Broader dissemination of guidelines may be one means of changing physician behavior. At the same time, future guidelines should further consider the potentially different viewpoints of patients and physicians.


Editorial regarding limits of guidelines in conflict of interest between industry and clinical practice


OBJECTIVES: Promotion of prescription drugs represents a growing source of pharmaceutical marketing expenditures. This study was undertaken to identify the frequency of items containing pharmaceutical advertising in clinical emergency departments (EDs). METHODS: In this observational study, emergency physician on-site investigators quantified a variety of items containing pharmaceutical advertising present at specified representative times and days, in clinical EDs. RESULTS: Measurements were obtained by 65 on-site investigators, representing 22 states. Most EDs in this study were community EDs (87% community and 14% university or university affiliate), and most were in urban settings (50% urban, 38% suburban, and 13% rural). Investigators measured 42 items per ED (mean = 42; median = 31; interquartile range of 14-55) containing pharmaceutical advertising in the clinical area. The most commonly observed items included pens (mean 15 per ED; median 10), product brochures (mean 5; median 3), stethoscope labels (mean 4; median 2), drug samples (mean 3; median 0), books (mean 3.4), mugs (mean 2.4), and published literature (mean 3.1). EDs with a policy restricting pharmaceutical representatives in the ED had significantly fewer items containing pharmaceutical advertising (median 7.5; 95% CI = 0 to 27) than EDs without such a policy (median 35; 95% CI = 27 to 47, p = 0.005, nonparametric Wilcoxon two-sample test). There were no differences in quantities of pharmaceutical advertising for EDs in community compared with university settings (p = 0.5), rural compared with urban settings (p = 0.3), or annual ED volumes (p = 0.9). CONCLUSIONS: Numerous items containing pharmaceutical advertising are frequently observed in EDs. Policies restricting pharmaceutical representatives in the ED are associated with reduced pharmaceutical advertising.
**Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits**
Harvard Medical School, Brigham & Woman’s Hospital, Division of Pharmacoepidemiology and Pharmacoeconomics


**PURPOSE:** To increase nurse practitioners' (NPs) awareness of the conflict of interest that exists between the NPs' primary goal of making the best medication choices for patients and the potentially negative impact that the pharmaceutical industry's marketing strategies have on these choices. **DATA SOURCES:** Selected healthcare professional, philosophical, and bioethical literature was reviewed. **CONCLUSIONS:** Healthcare professionals are given gifts, dinners, and other inducements in the drug industry's effort to increase consumerism and drug sales. The current method of drug promotion increases sales but also increases healthcare expenses. Research also indicates that the pharmaceutical marketing strategies influence the judgments that NPs and other healthcare professionals make about patient care and drug prescriptions. **IMPLICATIONS:** Guidelines are presented that can reduce the likelihood that any conflict of interest that exists will influence NPs' decisions about patient care.


**OBJECTIVE:** Medical school and residency are formative years in establishing patterns of prescribing. We aimed to review the literature regarding the extent of pharmaceutical industry contact with trainees, attitudes about these interactions, and effects on trainee prescribing behavior, with an emphasis on points of potential intervention and policy formation. **DESIGN:** We searched MEDLINE from 1966 until May 2004 for English language articles. All original articles were included if the abstract reported content relevant to medical training and the pharmaceutical industry. Editorials, guidelines, and policy recommendations were excluded. **MEASUREMENTS AND MAIN RESULTS:** Contact with pharmaceutical representatives was common among residents. The majority of trainees felt that the interactions were appropriate. A minority felt that their own prescribing could be influenced by contact or gifts, but were more likely to believe that others' prescribing could be influenced. Resident prescribing was associated with pharmaceutical representative visits and the availability of samples. A variety of policy and educational interventions appear to influence resident attitudes toward interactions with industry, although data on the long-term effects of these interventions are limited. Overall, residents reported insufficient training in this area. **CONCLUSIONS:** The pharmaceutical industry has a significant presence during residency training, has gained the overall acceptance of trainees, and appears to influence prescribing behavior. Training programs can benefit from policies and curricula that teach residents about industry influence and ways in which to critically evaluate information that they are given. Recommendations for local and national approaches are discussed.


Describes educational intervention and attitudinal survey designed to assess medical student and nurse practitioner attitudes toward receiving gifts from the pharmaceutical industry.

T. Randall, "Kennedy Hearings Say No More Free Lunch--or Much Else--from Drug Firms," *JAMA*, 1991 265: 440, 42-.

Senator Edward Kennedy held hearings on December 11-12 1990 to address drug pricing and drug promotion; concerning the AMA and PMA guidelines Kennedy noted "The principal question is whether the industry and the medical profession can heal themselves or whether additional regulation or legislation is needed."


Survey of internal medicine residency programs on the role of pharmaceutical industry sponsorship of conferences, finding a significant degree of concern among residency directors of the lack of control of conduct and content of resident-representative interactions.

Critique of ACP guidelines on gifts from pharmaceutical industry


Based on our review of existing written policies regarding pharmaceutical representative-resident interactions, we believe that residencies should develop more comprehensive policies. We present six topic areas that programs should address in formulating policies: 1) policy tone, 2) traffic control, 3) samples, 4) gifts, 5) screening of educational and promotional materials and events, and 6) honoraria, research funding, and other monetary exchanges.


BACKGROUND. Residents frequently interact with pharmaceutical representatives during their training. The purpose of this study was to determine the prevalence of policies restricting or regulating the interactions of pharmaceutical representatives with family medicine residents. METHODS. A descriptive, cross-sectional survey was sent to all 386 accredited family practice residency programs. Programs were surveyed for the presence of restrictions or policies regarding the following circumstances and activities through which pharmaceutical representative-resident interactions could occur: (1) contact during working hours, (2) clinic drug samples, (3) personal samples for residents, (4) displays, (5) distribution of literature, (6) gifts and outings, and (7) group presentations. RESULTS. Overall, residency programs tended to allow most of these activities and had only informal guidelines regarding pharmaceutical representative interaction. Written policies were present in 58% of the programs. Prohibitions of some type were present in 41% of the programs. A higher prevalence of written policies was noted in military programs, larger programs, and programs located in hospitals with only family practice residents. CONCLUSIONS. There are wide variations among family practice residency programs regarding the regulation of pharmaceutical representative-resident interactions. In view of the educational mission of residency training programs and the recent concern over the ethics of the relationship between the medical profession and the pharmaceutical industry, it would be prudent for all residencies to develop written policies addressing the activities of pharmaceutical representatives in training sites.


The American Medical Association (AMA) has recently published guidelines for the receipt of gifts from industry representatives. To examine faculty members' attitudes toward that AMA policy as it pertains to gifts from the pharmaceutical industry, the authors surveyed the faculty of the University of Kentucky College of Medicine in 1991. Of 462 faculty members, 248 (54%) completed the questionnaires. The faculty generally agreed with the AMA guidelines. A majority of the faculty believed that personal relationships had the potential to influence prescribing patterns but that gifts, in general, did not greatly influence prescribing behaviors. Compared with the 169 M.D. faculty, the 69 Ph.D. faculty significantly favored more restrictive policies (p less than .001). The authors discuss both the ethical considerations and the utility of guidelines for physician-industry interactions.


We have responded on an individual basis to many requests for interpretations of grey areas in the opinion on gifts from industry since its release in December 1990, and many physicians and companies asked for a detailed list of these interpretations. While the council agrees with the concerns several individuals have expressed about additional rules, it authorized this revised list of questions and answers which replaces the earlier draft. It also established three main principles for future implementation: 1. The key principles of the guidelines should be carefully observed by physicians, and the AMA will remain active in attempting to secure compliance by its members. The overriding rule is that individual physicians should not accept substantial gifts from industry, even if the gift has an educational or patient benefit. It is important that the profession set clear and enforceable standards in this regard. 2. Professional associations should make their own interpretations of the appropriateness of gifts to them from industry.

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Under appropriate conditions, associations of physicians may, of course, receive gifts from industry. 3. Neither the council nor its staff will attempt to regulate minor issues or minute details of compliance. For many situations there are no yes or no answers. Some black letter rules are necessary so that conduct that should be changed is changed. In addition, they aid companies which want to comply with the spirit as well as the letter of the guidelines without putting themselves at a competitive disadvantage. The six points of the Opinion cover most situations and compliance to date has been good.(ABSTRACT TRUNCATED AT 250 WORDS)


STUDY OBJECTIVES: To determine the extent and diversity of involvement of pharmaceutical representatives in emergency medicine residency programs and to assess chief residents' beliefs and attitudes concerning this activity. DESIGN AND PARTICIPANTS: A multi-item survey with cover letter was mailed to the chief resident at each of the 87 Accreditation Council on Graduate Medical Education-approved emergency medicine residency programs in the United States at the time of study conception. MEASUREMENTS AND MAIN RESULTS: Eighty-three percent (72 of 87) of the questionnaires were returned. Ninety-three percent (66 of 71) of responders reported the involvement of pharmaceutical representatives in their emergency medicine residency. The most frequent activities (90%, 63 of 70) were to distribute small gifts (pens, notepads) and to provide meals during department functions such as journal clubs (80%, 56 of 70). Only 32 of 70 responding chief residents (46%) were aware of any established guidelines in their institution or residency program concerning relationships with pharmaceutical representatives, and 14 respondents (20%) believed that accepting gifts from pharmaceutical companies could affect their own prescribing habits. A few stated that pharmaceutical representative-sponsored educational functions were inappropriate. CONCLUSION: The interaction of pharmaceutical representatives with emergency medicine residents and residencies is widespread. More than 50% of the institutions supporting emergency medicine residency programs have no formal guidelines with regard to the interaction of their residents with pharmaceutical representatives or their guidelines are not known to the person most responsible for approval and arrangement of the pharmaceutical representative interaction--the emergency medicine chief resident. While most chief residents believed that accepting small gifts was reasonable, they also believed that accepting gifts valued at $100 or more and pharmaceutical representative sponsorship of trips was inappropriate.Citation 22.Link to...


OBJECTIVE: To determine the effect on resident attitudes of policies regarding pharmaceutical representative interactions with residents. DESIGN: Cross-sectional survey. SETTING: National sample of U.S. family medicine residencies. PARTICIPANTS: Three hundred seventy-eight residents from 14 randomly selected programs. Seven programs had written policies and restrictions (restricted programs), and seven had no such restriction or guideline (free programs). MEASUREMENTS AND MAIN RESULTS: The authors assessed resident attitudes regarding the perception of benefit from pharmaceutical representative activities, the usefulness of various sources of drug information, and the appropriateness of accepting gifts from a pharmaceutical representative. There were 265/378 respondents (70% response rate). Residents from restricted programs reported fewer benefits from pharmaceutical representative interactions and were less likely to feel that acceptance of gifts was appropriate. The amount of exposure to pharmaceutical representatives was positively correlated with perceived benefit and negatively correlated with ratings of appropriateness of gift acceptance. CONCLUSION: Regulatory policies can influence resident attitudes and perceptions. Training programs should develop written policies to help guide resident-pharmaceutical representative interactions.


Editorial on the need for stronger guidelines for pharmaceutical-industry interaction


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Although UCLA had established policies and procedures for visiting pharmaceutical representatives, changes in both the pharmaceutical business environment and in UCLA's physical environment mandated an update. To deal with the changes, a multidisciplinary team comprised of various departmental staff members met to develop a new vendor representative visitation policy that included the practice of drug sample distribution. More stringent registration requirements and shared responsibility for policy enforcement are the key elements of the new policy.


Survey of 16 family medicine residency training programs re: guidelines regarding interactions between residents and the pharmaceutical industry


BACKGROUND: Although pharmaceutical sales representatives provide physicians with information on new products, these encounters have rarely been studied in practice settings. We examined these interactions among practicing internists and assessed whether prior residency policies limiting pharmaceutical sales representative access affected the subsequent behavior of practitioners. METHODS: We conducted a mail survey of the internal medicine staffs of a medical school hospital and two affiliated community hospitals. A second request was sent to nonresponders. After the second mailing, a random sample of nonresponders was compared with a similar sample of respondents. Multivariate odds ratios (OR) and 95% confidence intervals (CI) were estimated with logistic regression. RESULTS: Of the 346 (40%) internists who responded, 22% were women and 60% were trained in university hospitals. There were no differences in gender, subspecialization, or type of training when survey responders and nonresponders were compared. Two hundred eighty-seven (83%) physicians had met with pharmaceutical sales representatives within the previous year, of whom 248 (86%) had received drug samples. Having had a policy that limited access to pharmaceutical sales representatives during residency did not affect the subsequent likelihood of seeing these representatives (P = 0.20) or accepting samples in practice (P = 0.99). Those describing themselves as busy practitioners were significantly less likely to abstain from meeting pharmaceutical sales representatives (OR = 0.2, 95% CI: 0.1 to 0.6, P <0.001). Those with very frequent contacts (>10 times/month) were virtually all busy practitioners. CONCLUSIONS: Encounters between physicians and pharmaceutical sales representatives are common in internal medicine practice, especially in busy offices. Policies designed to limit pharmaceutical sales representative access during residency do not appear to affect the subsequent likelihood of meeting with pharmaceutical sales representatives or accepting samples.


Study finding that public private collaborations between NHS and pharmaceutical industry to use sales representative for health marketing purposes did not lead to changes in prescribing behavior.


PURPOSE: Little is known about the factors that influence housestaff attitudes toward pharmaceutical industry promotions or, how such attitudes correlate with physician behaviors. We studied these attitudes and practices among internal medicine housestaff. SUBJECTS AND METHODS: Confidential surveys about attitudes and behaviors toward industry gifts were distributed to 1st- and 2nd-year residents at a university-based internal medicine residency program. RESULTS: Ninety percent of the residents (105 of 117) completed the survey. A majority of respondents considered seven of nine types of promotions appropriate. Residents judged the appropriateness of promotions on the basis of their cost (median percentage of items considered appropriate 100% for inexpensive items vs. 60% for expensive ones) more than on the basis of their educational value (80% for educational items vs.75% for noneducational
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ones; P < .001 for comparison of appropriateness based on cost vs. educational value). Behaviors were often inconsistent with attitudes; every resident who considered conference lunches (n = 13) and pens (n = 18) inappropriate had accepted these gifts. Most respondents (61%) stated that industry promotions and contacts did not influence their own prescribing, but only 16% believed other physicians were similarly unaffected (P < .0001). Nonetheless, more than two thirds of residents agreed that it is appropriate for a medical institution to have rules on industry interactions with residents and faculty. CONCLUSIONS: Residents hold generally positive attitudes toward gifts from industry, believe they are not influenced by them, and report behaviors that are often inconsistent with their attitudes. Thoughtful education and policy programs may help residents learn to critically appraise these gifts.


CONTEXT: The long-term effect of policies restricting contact between residents and pharmaceutical company representatives (PCRs) during internal medicine training is unknown. The McMaster University Department of Medicine in Hamilton, Ontario, implemented a policy restricting PCR contact with trainees in 1992, whereas the Department of Medicine at the University of Toronto, Toronto, Ontario, has no such policy. OBJECTIVE: To determine if the presence of a restrictive policy and the frequency of contact with PCRs during internal medicine training predict attitudes and behavior several years after completion of training. DESIGN, SETTING, AND PARTICIPANTS: Retrospective analysis of the attitudes and behavior of 3 cohorts of physicians: University of Toronto trainees, prepolicy McMaster trainees, and postpolicy McMaster trainees. Surveys were mailed to 242 former University of Toronto and 57 former McMaster trainees who completed their internal medicine training between 1990 and 1996, with response rates of 163 (67%) and 42 (74%), respectively. MAIN OUTCOME MEASURES: Physician attitude, assessed by a question about the perceived helpfulness of PCR information, and behavior, assessed by whether physicians met with PCRs in the office and the frequency of contacts with PCRs (current contact score, consisting of conversations with PCRs, PCR-sponsored events attended, gifts, honoraria, and consulting fees received). RESULTS: In both the unadjusted and multiple regression analyses, postpolicy McMaster trainees were less likely to find information from PCRs beneficial in guiding their practice compared with Toronto and prepolicy McMaster trainees, with unadjusted odds ratios (ORs) of 0.44 (95% confidence interval [CI], 0.20-0.94) and 0.39 (95% CI, 0.13-1.22), respectively. All 3 groups were equally likely to report that they met with PCRs in their office in the past year (88%). Postpolicy McMaster trainees had a lower current contact score compared with Toronto (9.3 vs 10.9; P = .04) and prepolicy McMaster trainees (9.3 vs 10.8; P = .18). In multiple regression models, greater frequency of contact with PCRs during training was a predictor of increased perceived benefit of PCR information (OR, 1.29; 95% CI, 1.13-1.47) and was positively correlated with the current contact score (partial r = 0.49; P< .001). Number of PCR-sponsored rounds attended during training was not a consistent predictor of attitudes or behavior. CONCLUSIONS: Policies restricting PCR access to internal medicine trainees and the amount of contact during residency appear to affect future attitudes and behavior of physicians.


CONTEXT: Increasing contact has been reported between physicians and the pharmaceutical industry, although no data exist in the literature regarding potential financial conflicts of interest for authors of clinical practice guidelines (CPGs). These interactions may be particularly relevant since CPGs are designed to influence the practice of a large number of physicians. OBJECTIVE: To quantify the extent and nature of interactions between authors of CPGs and the pharmaceutical industry. DESIGN, SETTING, AND PARTICIPANTS: Cross-sectional survey of 192 authors of 44 CPGs endorsed by North American and European societies on common adult diseases published between 1991 and July 1999. One hundred authors (52%) provided usable responses representing 37 of 44 different CPGs that we identified. MAIN OUTCOME MEASURES: Nature and extent of interactions of authors with drug manufacturers; disclosure of relationships in published guidelines; prior discussion among authors regarding relationships; beliefs regarding whether authors’ own relationships or those of their colleagues influenced treatment recommendations in guidelines. RESULTS: Eighty-seven percent of authors had some form of interaction with the pharmaceutical industry. Fifty-eight percent had received financial support to perform research and 38% had served as employees or consultants for a pharmaceutical company. On average, CPG authors interacted with 10.5 different companies. Overall, an average of 81% (95% confidence interval, 70%-92%) of authors per CPG had interactions. Similarly, all of the CPGs for 7 of the 10 diseases included in our study had at least 1 author who had some interaction. Fifty-nine percent had relationships with companies whose drugs were considered in the guideline they authored, and of these authors, 96% had relationships that predated the guideline creation process. Fifty-five percent of respondents indicated that the guideline process with which they were involved had no formal process for declaring these relationships, and 38% had served as employees or consultants for a pharmaceutical company. On average, CPG authors interacted with 10.5 different companies. Overall, an average of 81% (95% confidence interval, 70%-92%) of authors per CPG had interactions. Similarly, all of the CPGs for 7 of the 10 diseases included in our study had at least 1 author who had some interaction. Fifty-nine percent had relationships with companies whose drugs were considered in the guideline they authored, and of these authors, 96% had relationships that predated the guideline creation process. Fifty-five percent of respondents indicated that the guideline process with which they were involved had no formal process for declaring these
relationships. In published versions of the CPGs, specific declarations regarding the personal financial interactions of individual authors with the pharmaceutical industry were made in only 2 cases. Seven percent thought that their own relationships with the pharmaceutical industry influenced the recommendations and 19% thought that their coauthors' recommendations were influenced by their relationships. CONCLUSIONS: Although the response rate for this survey was low, there appears to be considerable interaction between CPG authors and the pharmaceutical industry. Our study highlights the need for appropriate disclosure of financial conflicts of interest for authors of CPGs and a formal process for discussing these conflicts prior to CPG development.


Position paper on physician-industry interactions.


PURPOSE: Little is known about the knowledge and skills internal medicine residents need to interact appropriately with pharmaceutical industry representatives. The authors conducted a needs assessment of current knowledge and preferences for potential components of a new educational initiative among residents. METHOD: In 2001, a two-page questionnaire using a five-point ordinal scale was mailed to all internal medicine residents and faculty at one institution. Analysis included use of Wilcoxon two-sample test. RESULTS: Response rates were 97% (85/88) for residents and 79% (86/109) for faculty. Residents and faculty's knowledge about formal position statements or literature on the impact of marketing strategies on prescribing patterns, drug marketing costs, or how pharmaceutical representatives are trained to interact with physicians was very limited. Most responders felt residents should learn to critically interpret promotional materials, recognize potential for conflict of interest, and consider how patients perceive the physician-pharmaceutical industry relationship. More faculty than residents valued including position statements (66% versus 39%, p <.001) and literature exploring the impact of marketing on prescribing patterns (70% versus 41%, p <.001) in education. Only one-half or fewer favored small-group discussions, lecture series, critical-reading skills seminars, or panel discussions. CONCLUSIONS: Internal medicine residents and faculty reported low levels of knowledge about physician-pharmaceutical industry relationships. Some consensus about educational components existed, but optimal educational formats remain uncertain. A six-hour curriculum to address this complex, emotionally charged topic was developed, implemented, and evaluated.


CONTEXT: While exposure to and attitudes about drug company interactions among residents have been studied extensively, relatively little is known about relationships between drug companies and medical students. OBJECTIVE: To measure third-year medical students' exposure to and attitudes about drug company interactions. DESIGN, SETTING, AND PARTICIPANTS: In 2003, we distributed a 64-item anonymous survey to 1143 third-year students at 8 US medical schools, exploring their exposure and response to drug company interactions. The schools' characteristics included a wide spectrum of ownership types, National Institutes of Health funding, and geographic locations. In 2005, we conducted a national survey of student affairs deans to measure the prevalence of school-wide policies on drug company-medical student interactions. MAIN OUTCOME MEASURES: Monthly frequency of students' exposure to various activities and gifts during clerkships, and attitudes about receiving gifts. RESULTS: Overall response rate was 826/1143 (72.3%), with range among schools of 30.9%-90.7%. Mean exposure for each student was 1 gift or sponsored activity per week. Of respondents, 762/818 (93.2%) were asked or required by a physician to attend at least 1 sponsored lunch. Regarding attitudes, 556/808 (68.8%) believed gifts would not influence their practices and 464/804 (57.7%) believed gifts would not affect colleagues' practices. Of the students, 553/604 (80.3%) believed that they were entitled to gifts. Of 183 students who thought a gift valued at less than $50 was inappropriate, 158 (86.3%) had accepted one. The number of students who simultaneously believed that sponsored grand rounds are educationally helpful and are likely to be biased was 452/758 (59.6%). Students at 1 school who had attended a seminar about drug company-physician relationships were more no more likely than the nonattending classmates to show skepticism. Of the respondents, 704/822 (85.6%) did not know if their school had a policy on these relationships. In a national survey of student affairs deans, among the 99 who knew their policy status, only 10 (10.1%) reported having school-wide policies about these interactions.

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CONCLUSIONS: Student experiences and attitudes suggest that as a group they are at risk for unrecognized influence by marketing efforts. Research should focus on evaluating methods to limit these experiences and affect the development of students’ attitudes to ensure that physicians’ decisions are based solely on helping each patient achieve the greatest possible benefit.


PURPOSE: To describe change in residents’ attitudes toward gifts from and interactions with industry and to measure the effects of a formal educational workshop on changes in perceptions. METHOD: At the University of Chicago, 118 internal medicine residents completed an observational survey and took part in a controlled intervention across three years (2001-2004) of residency. Four cohorts of residents completing the program in 2004-2007 participated. The intervention was an interactive educational workshop, including reviews of literature and guidelines, and three videos demonstrating routine resident interactions with pharmaceutical representatives. Residents graduating in 2005 were the intervention group and residents graduating in 2004 the comparison group. Analysis of variance and linear regression models were used to determine the relationship between variables. RESULTS: Residents perceived “lunch sponsored at noon conference” and “pharmaceutical representative brief talk at noon conference” as increasingly appropriate over their training period (p < .02). Residents perceived “pens, notepads, pocket antibiotic guides” as increasingly appropriate and “tickets to sporting events,” “round of golf,” and “travel/registration for national conference” as increasingly inappropriate (p < .05). The intervention group was more likely to rate only one item, “lunch at noon conference,” as less appropriate (p = .042). CONCLUSIONS: Residents’ perceptions toward industry gifts and interactions changed modestly during their training to reflect institutional policy. “Appropriate” gifts of minimal value were generally perceived as increasingly appropriate, whereas “inappropriate” gifts were perceived as increasingly inappropriate over time. An educational workshop alone may not significantly alter residents’ perceptions toward industry without the implementation of broad and consistent institutional policy.


BACKGROUND: Relationships between physicians and pharmaceutical, medical device, and other medically related industries have received considerable attention in recent years. We surveyed physicians to collect information about their financial associations with industry and the factors that predict those associations.

METHODS: We conducted a national survey of 3167 physicians in six specialties (anesthesiology, cardiology, family practice, general surgery, internal medicine, and pediatrics) in late 2003 and early 2004. The raw response rate for this probability sample was 52%, and the weighted response rate was 58%. RESULTS: Most physicians (94%) reported some type of relationship with the pharmaceutical industry, and most of these relationships involved receiving food in the workplace (83%) or receiving drug samples (78%). More than one third of the respondents (35%) received reimbursement for costs associated with professional meetings or continuing medical education, and more than one quarter (28%) received payments for consulting, giving lectures, or enrolling patients in trials. Cardiologists were more than twice as likely as family practitioners to receive payments. Family practitioners met more frequently with industry representatives than did physicians in other specialties, and physicians in solo, two-person, or group practices met more frequently with industry representatives than did physicians practicing in hospitals and clinics. CONCLUSIONS: The results of this national survey indicate that relationships between physicians and industry are common and underscore the variation among such relationships according to specialty, practice type, and professional activities.


BACKGROUND: Interactions between physicians and drug representatives are common, even though research shows that physicians understand the conflict of interest between marketing and patient care. Little is known about how physicians resolve this contradiction. OBJECTIVE: To determine physicians’ techniques for managing cognitive inconsistencies within their relationships with drug representatives.

DESIGN, SETTING, AND PARTICIPANTS: Six focus groups were conducted with 32 academic and community physicians in San Diego, Atlanta, and Chicago. MEASUREMENTS: Qualitative analysis of focus group transcripts to determine physicians’ attitudes towards conflict of interest and detailing, their beliefs about the quality of information conveyed and the impact on prescribing, and their resolution of the conflict between detailers’ desire to sell product and patient care. RESULTS: Physicians understood the concept of conflict of interest and applied it to relationships with detailers. However, they maintained
favorable views of physician-detailler exchanges. Holding these mutually contradictory attitudes, physicians were in a position of cognitive dissonance. To resolve the dissonance, they used a variety of denials and rationalizations: They avoided thinking about the conflict of interest, they disagreed that industry relationships affected physician behavior, they denied responsibility for the problem, they enumerated techniques for remaining impartial, and they reasoned that meetings with detailers were educational and benefited patients. CONCLUSIONS: Although physicians understood the concept of conflict of interest, relationships with detailers set up psychological dynamics that influenced their reasoning. Our findings suggest that voluntary guidelines, like those proposed by most major medical societies, are inadequate. It may be that only the prohibition of physician-detailler interactions will be effective.


OBJECTIVE: To identify factors that predict physicians' intent to comply with the American Medical Association's (AMA's) ethical guidelines on gifts from the pharmaceutical industry. METHODS: A survey was designed and mailed in June 2004 to a random sample of 850 physicians in Florida, USA, excluding physicians with inactive licences, incomplete addresses, addresses in other states and pretest participants. Factor analysis extracted six factors: attitude towards following the guidelines, subjective norms (eg, peers, patients, etc), facilitating conditions (eg, knowledge of the guidelines, etc), profession-specific precedents (eg, institution's policies, etc), individual-specific precedents (physicians' own discretion, policies, etc) and intent. Multivariate regression modelling was conducted. RESULTS: Surveys were received from 213 physicians representing all specialties, with a net response rate of 25.5%. 62% (n = 133) of respondents were aware of the guidelines; 50% (n = 107) had read them. 48% (n = 102) thought that following the guidelines would increase physicians' credibility and professional image; 68% (n = 145) agreed that it was important to do so. Intent to comply was positively associated with attitude, subjective norms, facilitators and sponsorship of continuing medical education (CME) events, while individual-specific precedents had a negative relationship with intent to comply. Predictors of intent (R(2) = 0.52, p <0) were attitude, subjective norms, the interaction term (attitude and subjective norms), sponsorship of CME events and individual-specific precedents. CONCLUSIONS: Physicians are more likely to follow the AMA guidelines if they have positive attitudes towards the guidelines, greater subjective norms, fewer individual-specific precedents. Physicians believing that important individuals or organisations expect them to comply with the guidelines are more likely to express intent, despite having fewer beliefs that positive outcomes would result through compliance.


CONTEXT: Recent legislation in 5 states and the District of Columbia mandated state disclosure of payments made to physicians by pharmaceutical companies. In 2 of these states, Vermont and Minnesota, payment disclosures are publicly available. OBJECTIVES: To determine the accessibility and quality of the data available in Vermont and Minnesota and to describe the prevalence and magnitude of disclosed payments. DESIGN AND SETTING: Cross-sectional analysis of publicly available data from July 1, 2002, through June 30, 2004, in Vermont and from January 1, 2002, through December 31, 2004, in Minnesota. MAIN OUTCOME MEASURES: Accessibility and quality of disclosure data and the number, value, and type of payments of $100 or more to physicians. DESIGN AND SETTING: Cross-sectional analysis of publicly available data from July 1, 2002, through June 30, 2004, in Vermont and from January 1, 2002, through December 31, 2004, in Minnesota. MAIN OUTCOME MEASURES: Accessibility and quality of disclosure data and the number, value, and type of payments of $100 or more to physicians. RESULTS: Access to payment data required extensive negotiation with the Office of the Vermont Attorney General and manual photocopying of individual disclosure forms at Minnesota's State Board of Pharmacy. In Vermont, 61% of payments were not released to the public because pharmaceutical companies designated them as trade secrets and 75% of publicly disclosed payments were missing information necessary to identify the recipient. In Minnesota, 25% of companies reported in each of the 3 years. In Vermont, among 12,227 payments totaling $2.18 million publicly disclosed, there were 2416 payments of $100 or more to physicians; total, $1.01 million; median payment, $177 (range, $100-$20,000). In Minnesota, among 6946 payments totaling $30.96 million publicly disclosed, there were 6238 payments of $100 or more to physicians; total, $22.39 million; median payment, $1000 (range, $100-$922,239). Physician-specific analyses were possible only in Minnesota, identifying 2388 distinct physicians who received payment of $100 or more; median number of payments received, 1 (range, 1-88) and the median amount received, $1000 (range, $100-$1,178,203). CONCLUSIONS: The Vermont and Minnesota laws requiring disclosure of payments do not provide easy access to payment information for the public and are of limited quality once accessed. However, substantial numbers of payments of $100 or more were made to physicians by pharmaceutical companies.

S. Chimonas, L. Patterson, V.H. Raveis, D.J. Rothman, "Managing conflicts of interest in clinical
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PURPOSE: Policy recommendations specify how academic medical centers should manage clinical conflicts of interest (CCOIs), including gifts and payments to physicians from pharmaceutical companies. However, no reliable data exist on the extent to which schools have policies to manage CCOIs. The authors sought to determine the extent and strength of medical schools’ CCOI policies. METHOD: A survey asked compliance officers at 125 MD-granting medical schools in the United States to indicate whether their institutions had policies covering 11 areas of CCOI and to provide copies of relevant policies. Policies were scored as 0 (no policy), 1 (permissive), 2 (moderate), or 3 (stringent), based on published recommendations. Each school's scores were averaged to create a measure of overall policy strength. The authors also collected information on schools’ public/private status, hospital ownership/affiliation, and NIH funding to determine whether these characteristics were associated with differences in policy strength. RESULTS: A representative sample of 77 of 125 (62%) medical schools responded between October 2007 and December 2008. Absence of policy was the most frequent finding in 7 of 11 CCOI areas. The mean score for overall policy strength was 1.2. Greater NIH funding was associated with stronger policies in 9 areas. CONCLUSIONS: This analysis provides a comprehensive overview of medical schools’ CCOI policies. Wider adoption of CCOI policies is crucial to eliminate undue industry influence in clinical care and to preserve public trust in the medical profession. The authors close with a consideration of why so few medical schools have implemented strong policies.

INDUSTRY PERSPECTIVE (11)


Assessment of data on the drug market available to the pharmaceutical industry in the 1950s. "Statistics are important in the pharmaceutical industry. They form the basis for scientific research decisions, for medical research decisions, and for business decisions. As the pharmaceutical industry has become more complex, facts and statistical data likewise have become more useful." This article concerns itself with detailing the major sources of economic and market data relevant to the pharmaceutical industry in 1953. Sources come from governmental publications, trade associations, trade journals, pharmaceutical companies, private research organizations, universities, and state governments. Southern divides the available data into 8 categories production consumption foreign trade new pharmaceutical products prescriptions disease incidence mortality statistics financial and operating data on the pharmaceutical industry PRODUCTION U.S. Tariff Commissions U.S. Census of Manufacturers CONSUMPTION No audits: recommends Drug Topics, also the Retail Trade section of the U.S. Census of Business which gives some drug store statistics PRESCRIPTION STATISTICS American Druggist carries a continuing prescription survey in each issue, classified by use and major drug type. In total, 26 prescription types and 8 drug types are listed--a bit crude. The Associated Prescription Panel Service is a monthly analysis of 33,500 prescriptions, giving data on the number of times prescription specialties were used in the prescriptions analyzed. "The National Prescription Survey, a bi-monthly publication of the Research Society averages 225,000 prescriptions per year. This survey gives such data as: number of one ingredient prescriptions, prescriptions by manufacturers, average prescription prices, and number of drug forms to fill specialty prescriptions. Drug Topics carries an annual prescription survey which is very useful. NEW PHARMACEUTICAL SPECIALTIES Modern Drug Encyclopedia American Druggist Blue Book Drug Topic Red Book Facts and Comparisons Unlisted Drugs STATISTICS ON THE SCOPE OF THE PHARMACEUTICAL MARKET Census of Population Vital Statistics of the United States Communicable Disease Summary Morbidity and Mortality Public Health Reports Statistical Bulletin of the Metropolitan Life Insurance Company FOREIGN TRADE STATISTICS Dept of Commerce publications


Bauer, a professor at Harvard Business School who performed several market research assessments for pharmaceutical firms, assesses available data on sources physicians use to evaluate new drug products.


Holland provides a defense of pharmaceutical representatives and pharmaceutical advertisements as "the most important sources of medical information to the National Health Service" of the United Kingdom.

A review of the effect of advertising drug products in medical journals on the prescribing of drugs. The scope of advertising, the content of advertising, the latent effects of advertising, the effects of advertising on prescribing, and the social costs and benefits of advertising are discussed. Advertising for antibiotic and psychotropic drug products is reviewed in some detail. It is concluded that there is inconclusive evidence that the pharmaceutical industry, through journal advertising, is persuading physicians to prescribe drugs too often or unwisely, or both. It is suggested that pharmacists study the information needs of health care practitioners and provide good drug information services.

C. N. Wilson, "The Sales Representative Calls on the CEO," Hospital Pharmacy, 1988 23: 902-04


Pharmaceutical marketing is the last element of an information continuum, where research concepts are transformed into practical therapeutic tools and where information is progressively layered and made more useful to the health care system. Thus, transfer of information to physicians through marketing is a crucial element of pharmaceutical innovation. By providing an informed choice of carefully characterized agents, marketing assists physicians in matching drug therapy to individual patient needs. Pharmaceutical marketing is presently the most organized and comprehensive information system for updating physicians about the availability, safety, efficacy, hazards, and techniques of using medicines. The costs of pharmaceutical marketing are substantial, but they are typical of high-technology industries that must communicate important and complex information to sophisticated users. These costs are offset by savings resulting from proper use of medicines and from lower drug costs owing to price competition.


Editorial cautioning against demonizing the pharmaceutical industry


Industry defense of pharmaceutical promotion


OBJECTIVES: To describe material distributed to physicians by pharmaceutical companies; to describe characteristics of the drugs discussed in the material; to determine whether the material complies with Food and Drug Administration (FDA) regulations and whether it contains promotional and educational characteristics. DESIGN: Cross-sectional study. SETTING: An academic internal medicine residency program, a private internist's office, and a health maintenance organization (HMO). PATIENTS/PARTICIPANTS: A consecutive sample of 486 items, excluding gifts and drug samples, distributed by drug companies between August 11, 1993 and March 1, 1994. MEASUREMENTS AND MAIN RESULTS: Of the 486 items collected, 207 were reprints, 196 were advertisements, 51 were general information, and 32 were other. Reprints were delivered to residents significantly more often than to the HMO (p < .001) or to the private internist's office (p < .001). By contrast, the internist's office received a greater proportion of personal correspondence compared with the other locations (p < .001 for both). Of the drugs publicized, 10% were substantial improvements over other therapeutic choices. Forty-two percent of the items failed to comply with at least one of three FDA regulations assessed, including 17 items that discussed unapproved uses for drugs. Advertisements, as well as items that were not obviously promotional, contained promotional characteristics. Thirty-nine percent of the items offered scientific support for their claims. CONCLUSIONS: Little of the material distributed by pharmaceutical companies to
Pharmaceutical sales representatives (PSRs) are a key component of pharmaceutical companies' marketing strategies in that they are the link between the pharmaceutical company and the physician. PSRs provide various services in order to increase the physician's prescribing activity of their companies' products. Given the high cost of recruiting, training, and supporting a PSR, it is important for PSRs to understand the relative significance physicians ascribe to services provided. This study examined whether there is a gap in the perceptions of physicians and PSRs regarding the value of specific services provided by PSRs. Physicians and PSRs who attended medical meetings were surveyed. Results of the study indicated that there were significant differences in the perceived value between PSRs and physicians. Services which were perceived to be less important to physicians than to PSRs were new product detailing, old product detailing, providing product studies and research findings, PSRs serving as expert consultants, and recruiting physicians to participate in FDA approval drug studies. Services for which there were no significant differences of perceived value between the groups included free product samples and promotional luncheons and dinners.


Pharmaceutical marketing, which is primarily targeted at physicians, has been criticised because it may distort physician prescribing and thus potentially raise costs and/or worsen health. An alternative view, presented in this paper, is that successful marketing of pharmaceuticals can improve consumer welfare by increasing incentives for research and development (R&D) investment and by providing guidance to R&D to make it more consistent with consumer preferences. There are a number of arguments that support this view, despite impediments to pharmaceutical marketing such as the prohibited dissemination of off-label information in the US, difficulties in estimating potential pharmaceutical demand, and the long time lag between demand assessment and the introduction of new drugs. For example, physicians are often slow to modify their prescribing practices, even when new evidence-based practice guidelines are issued by prestigious organisations. Pharmaceutical promotion is likely to be particularly valuable because information plays a key role, is highly technical, and can change rapidly. Even consumer advertising can potentially improve health, for example, by improving patient compliance with drug therapy. In addition to disseminating information about the benefits of new therapies, an essential (and perhaps unique) role for pharmaceutical promotion is to encourage physicians and payers to pay closer attention to consumer needs (i.e. willingness to pay) for new medical technology. Moreover, successful marketing of pharmaceuticals increases the returns from R&D, thus increasing incentives to explore consumer demand and to contribute to basic research on the role of drug therapy. Consumer benefits from this process may be very large.

INFORMATION DISSEMINATION (4)


Detailed sociological study of role of physician networks in the prescribing habits regarding a new drug, based on interviews and participant observation.


Bauer, a professor at Harvard Business School who performed several market research assessments for pharmaceutical firms, assesses available data on sources physicians use to evaluate new drug products.
OBJECTIVES: To describe material distributed to physicians by pharmaceutical companies; to describe characteristics of the drugs discussed in the material; to determine whether the material complies with Food and Drug Administration (FDA) regulations and whether it contains promotional and educational characteristics. DESIGN: Cross-sectional study. SETTING: An academic internal medicine residency program, a private internist's office, and a health maintenance organization (HMO). PATIENTS/PARTICIPANTS: A consecutive sample of 486 items, excluding gifts and drug samples, distributed by drug companies between August 11, 1993 and March 1, 1994. MEASUREMENTS AND MAIN RESULTS: Of the 486 items collected, 207 were reprints, 196 were advertisements, 51 were general information, and 32 were other. Reprints were delivered to residents significantly more often than to the HMO (p < .001) or to the private internist's office (p < .001). By contrast, the internist's office received a greater proportion of personal correspondence compared with the other locations (p < .001 for both). Of the drugs publicized, 10% were substantial improvements over other therapeutic choices. Forty-two percent of the items failed to comply with at least one of three FDA regulations assessed, including 17 items that discussed unapproved uses for drugs. Advertisements, as well as items that were not obviously promotional, contained promotional characteristics. Thirty-nine percent of the items offered scientific support for their claims. CONCLUSIONS: Little of the material distributed by pharmaceutical companies to physicians conveys information about important therapeutic breakthroughs; some of it fails to comply with FDA regulations. The material contains both educational and promotional characteristics.

The author argues that Medical Innovation—the landmark study by Coleman, Katz, and Menzel—and several subsequent studies analyzing the diffusion of the drug tetracycline have confounded social contagion with marketing effects. The article describes the medical community's understanding of tetracycline and how the drug was marketed. This situational analysis finds no reasons to expect social contagion; instead, aggressive marketing efforts may have played an important role. The Medical Innovation data set is reanalyzed and supplemented with newly collected advertising data. When marketing efforts are controlled for, contagion effects disappear. The article underscores the importance of controlling for potential confounds when studying the role of social contagion in innovation diffusion.


Describes educational intervention and attitudinal survey designed to assess medical student and nurse practitioner attitudes toward receiving gifts from the pharmaceutical industry.


The cost-effectiveness of quality assurance programs is often poorly documented, especially for innovative approaches. The authors analyzed the economic effects of an experimental educational outreach program designed to reduce inappropriate drug prescribing, based on a four-state randomized controlled trial (N = 435 physicians). Primary care physicians randomized into the face-to-face group were offered two individualized educational sessions with clinical pharmacists, lasting an average of 18 minutes each, concerning optimal use of three drug groups that are often used inappropriately. After the program, expenditures for target drugs prescribed by these physicians to Medicaid patients decreased by 13%, compared with controls (P = 0.002); this effect was stable over three quarters. Implementation of this program for 10,000 physicians would lead to projected drug savings (to Medicaid only) of $2,050,000, compared with resource costs of $940,000. Net savings remain high, even after adjustment for use of substitution medications. Although there was a ninefold difference in average preintervention prescribing levels between the highest and lowest thirds of the sample, all groups reduced target drug expenditures at the same rate. Targeting of higher-volume prescribers would thus further raise the observed benefit-to-
cost ratio from approximately 1.8 to at least 3.0. Net benefits would also increase further if non-Medicaid savings were added, or if the analysis included quality-of-care considerations. Although print materials alone may be marginally cost-effective, print plus face-to-face approaches offer greater net benefits. The authors conclude that a program of brief, face-to-face "detailing" visits conducted by academic rather than commercial sources can be a highly cost-effective method for improving drug therapy decisions. Such an approach makes possible the enhancement of physicians' clinical expertise without relying on restriction of drug choices.


In analyzing a university-based program to educate physicians about proper medication use, we sought to measure whether physician background characteristics and the quality or number of educational exposures influenced the rate of relinquishment of inappropriate prescribing. A sample of 435 doctors was randomized to control and experimental groups; interventions consisted of printed educational materials and face-to-face visits by clinical pharmacists. The program sought to reduce inappropriate use of three drug categories: propoxyphene, peripheral/cerebral vasodilators, and cephalexin. Outcome data included the total volume (tablets/capsules) of these drugs prescribed through Medicaid by each study physician 9 months before and after the program. We estimated average changes in prescribing levels by experimental and control physicians within each physician subgroup (e.g., board-certified versus uncertified), adjusting for prescribing level in the same 9 months of the previous year. The results indicated that the rate of prescribing change was independent of most physician background characteristics studied, including age, board certification, specialty, rural versus urban practice, intensity of previous target drug use, and size of Medicaid practice. Experimental effects were highly significant (-9% to -20%, P less than 0.025) in 11 of 14 physician subgroups. The presence of a follow-up reinforcement visit was a strong independent predictor of prescribing change (P less than 0.05). An increase from one visit to two visits was associated with an approximate doubling of the size of the program effect. However, total exposure time was not related to changes in prescribing behavior. These findings document that face to face education can be effective in improving the prescribing practices of a wide variety of physicians, and that brevity, repetition, and reinforcement of recommended practices are important components in the design of such programs.


BACKGROUND: The pharmaceutical industry plays a large role in the lifelong learning of family physicians. Controversy exists over how to integrate this potential information source into residency curricula. METHODS: Based on a faculty and resident needs assessment, a curriculum was designed to teach the evaluation of pharmaceutical representatives' (PRs) presentations. The Pharmaceutical Representative Evaluation Form is the keystone of the curriculum. This evaluation form guides discussion of pharmaceutical presentation to facilitate understanding of the sales process and help residents confirm or dispute the presentation's content, based on the sales methods used. A second goal of the evaluation program is to improve the content of the PRs' presentations. RESULTS: Residents rapidly acquire the ability to identify potential fallacies of logic and other misleading sales techniques in representatives' presentations. Compared with pretest results, residents' posttest scores demonstrate an understanding that PRs and the acceptance of promotional items can affect their prescribing behavior. Most PRs are pleased that their role is seen as educational. CONCLUSIONS: Physicians must function more as information managers than as information repositories, and it is important that residents be able to obtain useful information from PRs. Our curriculum has been effective in increasing residents' abilities to evaluate the pharmaceutical sales process and allowing them to separate the inverted question mark wheat from the chaff inverted question mark contained in this ubiquitous source of information.


An educational intervention was developed to improve family practice residents' ability to obtain useful information from pharmaceutical representatives. The curriculum is based on the traditional one-on-one drug detail. The objectives are to develop residents' skills in controlling the interview, promote skills for critically analyzing drug-promotional material, and discuss ethical issues. The contents include an

To assess primary care resident and faculty knowledge and attitudes concerning interactions between physicians and pharmaceutical representatives (PRs) and to measure changes in residents' knowledge and attitudes after an educational intervention, we conducted preintervention and postintervention surveys with a causal-comparative group in a university-based primary care residency program. All primary care internal medicine and internal medicine-pediatrics residents and faculty were given the voluntary survey. In general, residents and faculty demonstrated similar responses for the preintervention survey. Differences between faculty and resident opinions were seen in two areas. Faculty were more likely than residents to believe that PRs sometimes use unethical marketing practices (p < .05) and that the amount of contact with PRs in the outpatient clinic is excessive (p < .01). The postintervention survey of residents demonstrated significant differences between the control and intervention groups for three attitude scales. After the intervention, residents showed an increased belief that PRs may use unethical marketing practices (p < .01), that marketing gifts with no patient benefit may be inappropriate (p = .05), and that other physicians' prescribing patterns could be negatively influenced through the acceptance of gifts (p < .05). A brief educational intervention can change resident attitudes concerning physician interactions with PRs.


Physician prescribing practices were the focus of a recent 1-day conference in Toronto. A BC hospital pharmacist outlined a successful initiative that provides physicians with impartial prescribing advice, saying it has resulted in considerable savings and improved prescribing practices in North Vancouver. Drugs of Choice author Dr. Joel Lexchin says such initiatives, called academic detailing, along with peer feedback, are cost-effective ways to improve prescribing habits.


OBJECTIVE: The purpose of this article is to discuss the principles of academic detailing, or educational outreach, in primary care and review the evidence of its effectiveness in, and potential for improving, mental health care. METHODS: The general educational research literature on improving physician performance was reviewed along with studies that were designed to test academic detailing. Four rigorous studies have tested this approach specifically on mental health care. These studies are reviewed in detail. RESULTS: Measuring pre-intervention performance to target those with increased educational needs and identifying barriers to change are associated with substantially improved program effectiveness. To change strongly held beliefs or to overcome patient demands, person-to-person contact with credible experts who provide structured alternatives is necessary. Brief reinforcement visits increase success rates and targeting programs to physicians at greatest need improves the cost effectiveness of educational interventions. CONCLUSIONS: Academic detailing is one of the few educational interventions that has consistently demonstrated improved physician performance. Educational outreach methods to improve mental health practices in primary care are in need of much additional research. Improving the detection of mental disorders and underuse of mental health treatment may prove to be more difficult than reducing the overuse of unnecessary medications.


Study finding that public private collaborations between NHS and pharmaceutical industry to use sales representative for health marketing purposes did not lead to changes in prescribing behavior.
CONTEXT: The long-term effect of policies restricting contact between residents and pharmaceutical company representatives (PCRs) during internal medicine training is unknown. The McMaster University Department of Medicine in Hamilton, Ontario, implemented a policy restricting PCR contact with trainees in 1992, whereas the Department of Medicine at the University of Toronto, Toronto, Ontario, has no such policy. OBJECTIVE: To determine if the presence of a restrictive policy and the frequency of contact with PCRs during internal medicine training predict attitudes and behavior several years after completion of training. DESIGN, SETTING, AND PARTICIPANTS: Retrospective analysis of the attitudes and behavior of 3 cohorts of physicians: University of Toronto trainees, prepolicy McMaster trainees, and postpolicy McMaster trainees. Surveys were mailed to 242 former University of Toronto and 57 former McMaster trainees who completed their internal medicine training between 1990 and 1996, with response rates of 163 (67%) and 42 (74%), respectively. MAIN OUTCOME MEASURES: Physician attitude, assessed by a question about the perceived helpfulness of PCR information, and behavior, assessed by whether physicians met with PCRs in the office and the frequency of contacts with PCRs (current contact score, consisting of conversations with PCRs, PCR-sponsored events attended, gifts, honoraria, and consulting fees received). RESULTS: In both the unadjusted and multiple regression analyses, postpolicy McMaster trainees were less likely to find information from PCRs beneficial in guiding their practice compared with Toronto and prepolicy McMaster trainees, with unadjusted odds ratios (ORs) of 0.44 (95% confidence interval [CI], 0.20-0.94) and 0.39 (95% CI, 0.13-1.22), respectively. All 3 groups were equally likely to report that they met with PCRs in their office in the past year (88%). Postpolicy McMaster trainees had a lower current contact score compared with Toronto (9.3 vs 10.9; P = .04) and prepolicy McMaster trainees (9.3 vs 10.8; P = .18). In multiple regression models, greater frequency of contact with PCRs during training was a predictor of increased perceived benefit of PCR information (OR, 1.29; 95% CI, 1.13-1.47) and was positively correlated with the current contact score (partial r = 0.49; P < .001). Number of PCR-sponsored rounds attended during training was not a consistent predictor of attitudes or behavior. CONCLUSIONS: Policies restricting PCR access to internal medicine trainees and the amount of contact during residency appear to affect future attitudes and behavior of physicians.


Prescription drugs comprise approximately 9% of the total cost of health care in the United States. The manner in which doctors obtain information about new and changing pharmaceuticals obviously has the potential to have a profound impact on health care costs, pharmaceutical companies' profits, and the quality of health care. Patterns learned in medical school undoubtedly influence physicians' future behaviors. The authors describe an educational program, in which university pharmacists portrayed pharmaceutical company representatives to model a promotional presentation, that they designed to generate critical thinking among third-year medical students regarding the influence of pharmaceutical representatives on the prescribing practices of physicians. The authors also provide information suggesting that the program increased the uncertainty many students felt about the accuracy and ethics of standard drug "detailing."


PURPOSE: There is increasing evidence that physicians may be compromised by their interactions with the pharmaceutical industry. The authors aimed to develop and determine the effect of an educational intervention to inform family medicine residents about pharmaceutical marketing. METHOD: Confidential, self-administered questionnaires were administered to family medicine residents at McMaster University, Hamilton, Canada, immediately before and after a two-part, 2.5-hour educational intervention. The curriculum consisted of (1) a faculty-led debate and discussion of a systematic review of physician-pharmaceutical industry interactions, and (2) an interactive workshop that included a presentation highlighting key empirical findings, a video illustrating techniques to optimize pharmaceutical sales representatives' visits, and small- and large-group problem-based discussions. Residents were asked about their attitudes toward five marketing strategies: drug samples, industry-sponsored continuing medical education, one-on-one interactions with sales representatives, free meals, and gifts worth less than CAN.
PURPOSE: Little is known about the knowledge and skills internal medicine residents need to interact appropriately with pharmaceutical industry representatives. The authors conducted a needs assessment of current knowledge and preferences for potential components of a new educational initiative among residents. METHOD: In 2001, a two-page questionnaire using a five-point ordinal scale was mailed to all internal medicine residents and faculty at one institution. Analysis included use of Wilcoxon two-sample test. RESULTS: Response rates were 97% (85/88) for residents and 79% (86/109) for faculty. Residents and faculty's knowledge about formal position statements or literature on the impact of marketing strategies on prescribing patterns, drug marketing costs, or how pharmaceutical representatives are trained to interact with physicians was very limited. Most responders felt residents should learn to critically interpret promotional materials, recognize potential for conflict of interest, and consider how patients perceive the physician-pharmaceutical industry relationship. More faculty than residents valued including position statements (66% versus 39%, p < .001) and literature exploring the impact of marketing on prescribing patterns (70% versus 41%, p < .001) in education. Only one-half or fewer favored small-group discussions, lecture series, critical-reading skills seminars, or panel discussions. CONCLUSIONS: Internal medicine residents and faculty reported low levels of knowledge about physician-pharmaceutical industry relationships. Some consensus about educational components existed, but optimal educational formats remain uncertain. A six-hour curriculum to address this complex, emotionally charged topic was developed, implemented, and evaluated.


OBJECTIVE: The authors sought to determine the effect of an educational seminar on interactions with pharmaceutical representatives on residents' attitudes and behavior. METHOD: A controlled trial of an educational intervention was conducted. Residents at a university-affiliated residency program (N=32) were divided into two groups: one group (N=18) received a 1-hour educational intervention, while the other group (N=14) served as a control. Both groups completed a 33-item survey before the intervention and 2 months after the intervention. RESULTS: Residents interacted substantially with pharmaceutical representatives. The majority of residents found the interactions and gifts useful and believed their prescribing practices were not influenced. Compared to the comparison group, the intervention group significantly decreased the reported number of office supplies and noneducational gifts, but showed no change in attitude toward pharmaceutical representatives and their gifts. CONCLUSION: One-time educational interventions may have significant impact on psychiatric residents' targeted gift-accepting behavior but little effect on attitudes.


BACKGROUND: Pharmaceutical company representatives (PCRs) influence the prescribing habits and professional behaviour of physicians. However, the skills for interacting with PCRs are not taught in the traditional medical school curriculum. We examined whether an innovative, mandatory workshop for third year medical students had immediate effects on knowledge and attitudes regarding interactions with PCRs. METHODS: Surveys issued before and after the workshop intervention solicited opinions (five point Likert scales) from third year students (n = 75) about the degree of bias of PCR information, the influence of PCRs on prescribing habits, the acceptability of specific gifts, and the educational value of PCR information for both practicing physicians and students. Two faculty members and one PCR led the workshop, which highlighted typical physician-PCR interactions, the use of samples and gifts, the validity and legal boundaries of PCR information, and associated ethical issues. Role plays with the PCR demonstrated appropriate and inappropriate strategies for interacting with PCRs. RESULTS: The majority of third year students (56%, 42/75) had experienced more than three personal conversations with a PCR about a drug product since starting medical school. Five percent (4/75) claimed no previous personal experience with PCRs. Most students (57.3%, 43/75) were not aware of available guidelines regarding PCR interactions. Twenty-eight percent of students (21/75) thought that none of the named activities/gifts (lunch access, free stethoscope, textbooks, educational CD-ROMS, sporting events) should be restricted, while 24.0% (8/75) thought that students should be restricted only from sporting events. The perceived educational value of PCR information to both practicing physicians and students increased after the workshop intervention from 17.7% to 43.2% (chi square, p = .0001), and 22.1% to 40.5% (p = .0007), respectively. Student perceptions of the degree of bias of PCR information decreased from 84.1% to 72.9% (p = .065), but the perceived degree of influence on prescribing increased (44.2% to 62.1% (p =
CONCLUSIONS: Students have exposure to PCRs early in their medical training. A single workshop intervention may influence student attitudes toward interactions with PCRs. Students were more likely to acknowledge the educational value of PCR interactions and their impact on prescribing after the workshop intervention.


PURPOSE: To compare group versus individual academic detailing to increase diuretic or beta-blocker use in hypertension. METHODS: We conducted a cluster-randomized controlled trial in a large health maintenance organization. Subjects (N=9820) were patients with newly treated hypertension in the year preceding the intervention (N=3692), the 9 months following the intervention (N=3556), and the second year following intervention (N=2572). We randomly allocated 3 practice sites to group detailing (N=227 prescribers), 3 to individual detailing (N=235 prescribers), and 3 to usual care (N=319 prescribers). Individual detailing entailed a physician-educator meeting individually with clinicians to address barriers to prescribing guideline-recommended medications. The group detailing intervention incorporated the same social marketing principles in small groups of clinicians. RESULTS: In the first year following the intervention, the rates of diuretic or beta-blocker use increased by 13.2% in the group detailing practices, 12.5% in the individual detailing practices, and 6.2% in the usual care practices. As compared with usual care practices, diuretic or beta-blocker use was more likely in group detailing practices (adjusted odds ratio (OR), 1.40; 95% confidence interval (CI), 1.11 - 1.76) and individual detailing practices (adjusted OR, 1.30; 95% CI, 0.95 - 1.79). Neither intervention affected blood pressure control. Two years following this single-visit intervention, there was still a trend suggesting a persistent effect of individual (OR, 1.22; 95% CI, 0.92 - 1.62), but not group, detailing (OR, 1.06; 95% CI, 0.80 - 1.39), as compared with usual care. CONCLUSION: Both group and individual academic detailing improved antihypertensive prescribing over and above usual care but may require reinforcement to sustain improvements.


Narrative discussion from panel regarding means of educating physicians about the role of pharmaceutical promotion

MEDICAL EDUCATION (UNDERGRADUATE AND GRADUATE) (40)


Seminal article critiquing the role of pharmaceutical promotion in medical education, this piece emerged during the Kefauver Hearings and was subsequently referred to repeatedly throughout the Nelson Hearings. Sample quote: The traditional independence of physicians and the welfare of the public are being threatened by the new vogue among drug manufacturers to promote their products by assuming an aggressive role in the "education" of doctors...Is it prudent for physicians to become greatly dependent upon pharmaceutical manufacturers for support of scientific journals and medical societies, for entertainment, and now also for a large part of their education?"


A review of the literature on the factors affecting drug prescribing in Western countries is given. Factors discussed are education, advertising, colleagues, control and regulation measures, demands from society and patients and doctor's characteristics. On the basis of the available literature the role of the drug industry seems especially important. Suggestions for further studies are given.

Supported in part by the Attorneys General Prescriber Education Grant Program

Describes educational intervention and attitudinal survey designed to assess medical student and nurse practitioner attitudes toward receiving gifts from the pharmaceutical industry.


ACP guidelines on ethics of receiving gifts from industry


We surveyed faculty and residents from seven hospitals affiliated with three academic internal medicine training programs about their perceptions of the informational and service benefits vs the risks of ethical compromise involved in interactions with pharmaceutical sales representatives. Questionnaires were returned by 467 (81%) of 575 physicians surveyed. Residents and faculty generally had somewhat negative attitudes toward the educational and informational value of detailing activities at their institutions but indicated that representatives supported important conferences and speakers. Residents were more likely than faculty to perceive contacts with sales representatives as potentially influencing physician decision making. Sixty-seven percent of faculty and 77% of residents indicated that physicians could be compromised by accepting gifts. More than half of the physicians who suggested that such compromise was possible indicated that acceptance of gifts worth more than $100 from drug companies would be likely to compromise a physician's independence and objectivity. A majority of both faculty and house staff favored eliminating presentations by pharmaceutical representatives at their hospitals. Only 10% thought they had had sufficient training during medical school and residency regarding professional interaction with sales representatives.


OBJECTIVE: To determine the nature, frequency and effects of internal medicine housestaff and faculty contacts with pharmaceutical representatives (PRs). DESIGN AND SETTING: The authors surveyed internal medicine faculty at seven midwest teaching hospitals and housestaff from two of the teaching programs. The survey asked about type and frequency of contacts with PRs and behavior that might be related to these contacts. T-tests and logistic regression were used to estimate the relationship between reported physician contacts and behavioral changes. PARTICIPANTS: Two hundred forty faculty (78%) and 131 house officers (75%) responded to the survey. RESULTS: Faculty and housestaff averaged 1.5 brief contacts per month with PRs. Housestaff averaged more than one meal/month at pharmaceutical company expense. Twenty-five percent of faculty and 32% of residents reported changing their practices at least once based on PR contact. Independent predictors of faculty change in practice were brief or extended conversations and free meals. Predictors of faculty requests for formulary addition were brief conversations and receipt of honoraria or research support. Only brief conversations independently predicted housestaff changes in practice. CONCLUSION: Academic housestaff and faculty have frequent PR contact; such contact is related to changes in behavior. The potential for influence of PRs in academic medical centers should be recognized, and their activities should be evaluated accordingly.


Survey of internal medicine residency programs on the role of pharmaceutical industry sponsorship of conferences, finding a significant degree of concern among residency directors of the lack of control of conduct and content of resident-representative interactions.
Based on our review of existing written policies regarding pharmaceutical representative-resident interactions, we believe that residencies should develop more comprehensive policies. We present six topic areas that programs should address in formulating policies: 1) policy tone, 2) traffic control, 3) samples, 4) gifts, 5) screening of educational and promotional materials and events, and 6) honoraria, research funding, and other monetary exchanges.


BACKGROUND. Residents frequently interact with pharmaceutical representatives during their training. The purpose of this study was to determine the prevalence of policies restricting or regulating the interactions of pharmaceutical representatives with family medicine residents. METHODS. A descriptive, cross-sectional survey was sent to all 386 accredited family practice residency programs. Programs were surveyed for the presence of restrictions or policies regarding the following circumstances and activities through which pharmaceutical representative-resident interactions could occur: (1) contact during working hours, (2) clinic drug samples, (3) personal samples for residents, (4) displays, (5) distribution of literature, (6) gifts and outings, and (7) group presentations. RESULTS. Overall, residency programs tended to allow most of these activities and had only informal guidelines regarding pharmaceutical representative interaction. Written policies were present in 58% of the programs. Prohibitions of some type were present in 41% of the programs. A higher prevalence of written policies was noted in military programs, larger programs, and programs located in hospitals with only family practice residents. CONCLUSIONS. There are wide variations among family practice residency programs regarding the regulation of pharmaceutical representative-resident interactions. In view of the educational mission of residency training programs and the recent concern over the ethics of the relationship between the medical profession and the pharmaceutical industry, it would be prudent for all residencies to develop written policies addressing the activities of pharmaceutical representatives in training sites.


STUDY OBJECTIVES: To examine emergency medicine resident training and understanding of general bioethics and resident and faculty attitudes and behavior regarding professional interactions with the biomedical industry. DESIGN: Two companion questionnaire surveys. SETTING: Annual resident in-service examination and written director survey with telephone follow-up. PARTICIPANTS: Emergency medicine residents and program directors. INTERVENTIONS: chi 2 analysis was used for questions involving relationships among variables with dichotomous or categorical response. An analysis of variance or Pearson Product Moment Correlation was calculated for questions with continuous variables. MEASUREMENTS AND MAIN RESULTS: The surveys were completed by 1,385 of 1,836 (75%) residents and 80 of 81 (99%) residency directors. On average, residents receive eight hours of bioethical instruction per year but believe that they need 12 hours per year. Seventy-five percent of residents believe that company representatives sometimes cross ethical boundaries. The amount of resident understanding of bioethical concepts correlated with the number of hours of bioethics training they received. A sensitivity to bioethical conflicts index was correlated with the residents' behavior. CONCLUSION: There is wide variation in beliefs and practices regarding the interaction between emergency medicine residents and directors and the biomedical industry. Our results suggest that residents need training regarding conflicts of interest, accepted standards of practice, and dealing with potential conflicts with the biomedical industry.


There is an informational void about pharmaceuticals in the training of most doctors, despite the importance of the prescription in medical care. The writing of the prescription is the final common pathway in therapeutic decision making, which involves such diverse forces and disciplines as anthropology, decision science, health economics, ethics, and politics, as well as pharmacology and clinical medicine. Programs to improve the precision and cost-effectiveness of doctors' prescribing must consider all of these factors if pharmacotherapeutics are to be used optimally.
PURPOSE: Little is known about the factors that influence housestaff attitudes toward pharmaceutical industry promotions or, how such attitudes correlate with physician behaviors. We studied these attitudes and practices among internal medicine housestaff. SUBJECTS AND METHODS: Confidential surveys about attitudes and behaviors toward industry gifts were distributed to 1st- and 2nd-year residents at a university-based internal medicine residency program. RESULTS: Ninety percent of the residents (105 of 117) completed the survey. A majority of respondents considered seven of nine types of promotions appropriate. Residents judged the appropriateness of promotions on the basis of their cost (median percentage of items considered appropriate 100% for inexpensive items vs. 60% for expensive ones) more than on the basis of their educational value (80% for educational items vs. 75% for nonevaluational ones; P < .001 for comparison of appropriateness based on cost vs. educational value). Behaviors were often inconsistent with attitudes; every resident who considered conference lunches (n = 13) and pens (n = 18) inappropriate had accepted these gifts. Most respondents (61%) stated that industry promotions and contacts did not influence their own prescribing, but only 16% believed other physicians were similarly unaffected (P < .0001). Nonetheless, more than two thirds of residents agreed that it is appropriate for a medical institution to have rules on industry interactions with residents and faculty. CONCLUSIONS: Residents hold generally positive attitudes toward gifts from industry, believe they are not influenced by them, and report behaviors that are often inconsistent with their attitudes. Thoughtful education and policy programs may help residents learn to critically appraise these gifts.


CONTEXT: The long-term effect of policies restricting contact between residents and pharmaceutical company representatives (PCRs) during internal medicine training is unknown. The McMaster University Department of Medicine in Hamilton, Ontario, implemented a policy restricting PCR contact with trainees in 1992, whereas the Department of Medicine at the University of Toronto, Toronto, Ontario, has no such policy. OBJECTIVE: To determine if the presence of a restrictive policy and the frequency of contact with PCRs during internal medicine training predict attitudes and behavior several years after completion of training. DESIGN, SETTING, AND PARTICIPANTS: Retrospective analysis of the attitudes and behavior of 3 cohorts of physicians: University of Toronto trainees, prepolicy McMaster trainees, and postpolicy McMaster trainees. Surveys were mailed to 242 former University of Toronto and 57 former McMaster trainees who completed their internal medicine training between 1990 and 1996, with response rates of 163 (67%) and 42 (74%), respectively. MAIN OUTCOME MEASURES: Physician attitude, assessed by a question about the perceived helpfulness of PCR information, and behavior, assessed by whether physicians met with PCRs in the office and the frequency of contacts with PCRs (current contact score, consisting of conversations with PCRs, PCR-sponsored events attended, gifts, honoraria, and consulting fees received). RESULTS: In both the unadjusted and multiple regression analyses, postpolicy McMaster trainees were less likely to find information from PCRs beneficial in guiding their practice compared with Toronto (9.3 vs 10.9; P = .04) and prepolicy McMaster trainees (9.3 vs 10.8; P = .18). In multiple regression models, greater frequency of contact with PCRs during training was a predictor of increased perceived benefit of PCR information (OR = 1.29; 95% CI 1.13-1.47) and was positively correlated with the current contact score (partial r = 0.49; P < .001). Number of PCR-sponsored rounds attended during training was not a consistent predictor of attitudes or behavior. CONCLUSIONS: Policies restricting PCR access to internal medicine trainees and the amount of contact during residency appear to affect future attitudes and behavior of physicians.


Position paper on physician-industry interactions.

Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits
Harvard Medical School, Brigham & Woman’s Hospital,
Division of Pharmacoepidemiology and Pharmacoeconomics

PURPOSE: Little is known about the knowledge and skills internal medicine residents need to interact appropriately with pharmaceutical industry representatives. The authors conducted a needs assessment of current knowledge and preferences for potential components of a new educational initiative among residents. METHOD: In 2001, a two-page questionnaire using a five-point ordinal scale was mailed to all internal medicine residents and faculty at one institution. Analysis included use of Wilcoxon two-sample test. RESULTS: Response rates were 97% (85/88) for residents and 79% (86/109) for faculty. Residents and faculty's knowledge about formal position statements or literature on the impact of marketing strategies on prescribing patterns, drug marketing costs, or how pharmaceutical representatives are trained to interact with physicians was very limited. Most responders felt residents should learn to critically interpret promotional materials, recognize potential for conflict of interest, and consider how patients perceive the physician-pharmaceutical industry relationship. More faculty than residents valued including position statements (66% versus 39%, p < .001) and literature exploring the impact of marketing on prescribing patterns (70% versus 41%, p < .001) in education. Only one-half or fewer favored small-group discussions, lecture series, critical-reading skills seminars, or panel discussions. CONCLUSIONS: Internal medicine residents and faculty reported low levels of knowledge about physician-pharmaceutical industry relationships. Some consensus about educational components existed, but optimal educational formats remain uncertain. A six-hour curriculum to address this complex, emotionally charged topic was developed, implemented, and evaluated.


CONTEXT: While exposure to and attitudes about drug company interactions among residents have been studied extensively, relatively little is known about relationships between drug companies and medical students. OBJECTIVE: To measure third-year medical students' exposure to and attitudes about drug company interactions. DESIGN, SETTING, AND PARTICIPANTS: In 2003, we distributed a 64-item anonymous survey to 1143 third-year students at 8 US medical schools, exploring their exposure and response to drug company interactions. The schools' characteristics included a wide spectrum of ownership types, National Institutes of Health funding, and geographic locations. In 2005, we conducted a national survey of student affairs deans to measure the prevalence of school-wide policies on drug company-medical student interactions. MAIN OUTCOME MEASURES: Monthly frequency of students' exposure to various activities and gifts during clerkships, and attitudes about receiving gifts. RESULTS: Overall response rate was 826/1143 (72.3%), with range among schools of 30.9%-90.7%. Mean exposure for each student was 1 gift or sponsored activity per week. Of respondents, 762/818 (93.2%) were asked or required by a physician to attend at least 1 sponsored lunch. Regarding attitudes, 556/608 (68.8%) believed gifts would not influence their practices and 464/804 (57.7%) believed gifts would not affect colleagues' practices. Of the students, 553/604 (80.3%) believed that they were entitled to gifts. Of 183 students who thought a gift valued at less than $50 was inappropriate, 158 (86.3%) had accepted one. The number of students who simultaneously believed that sponsored grand rounds are educationally helpful and are likely to be biased was 452/758 (59.6%). Students at 1 school who had attended a seminar about drug company-physician relationships were no more likely than the nonattending classmates to show skepticism. Of the respondents, 704/822 (85.6%) did not know if their school had a policy on these relationships. In a national survey of student affairs deans, among the 99 who knew their policy status, only 10 (10.1%) reported having school-wide policies about these interactions. CONCLUSIONS: Student experiences and attitudes suggest that as a group they are at risk for unrecognized influence by marketing efforts. Research should focus on evaluating methods to limit these experiences and affect the development of students' attitudes to ensure that physicians' decisions are based solely on helping each patient achieve the greatest possible benefit.


OBJECTIVE: The authors sought to determine the effect of an educational seminar on interactions with pharmaceutical representatives on residents' attitudes and behavior. METHOD: A controlled trial of an educational intervention was conducted. Residents at a university-affiliated residency program (N=32) were divided into two groups: one group (N=18) received a 1-hour educational intervention, while the other group (N=14) served as a control. Both groups completed a 33-item survey before the intervention and 2 months after the intervention. RESULTS: Residents interacted substantially with pharmaceutical representatives. The majority of residents found the interactions and gifts useful and believed their prescribing practices were not influenced. Compared to the comparison group, the intervention group significantly decreased the reported number of office supplies and noneducational gifts, but showed no change in attitude toward pharmaceutical representatives and their gifts. CONCLUSION: One-time

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PURPOSE: To describe change in residents' attitudes toward gifts from and interactions with industry and to measure the effects of a formal educational workshop on changes in perceptions. METHOD: At the University of Chicago, 118 internal medicine residents completed an observational survey and took part in a controlled intervention across three years (2001-2004) of residency. Four cohorts of residents completing the program in 2004-2007 participated. The intervention was an interactive educational workshop, including reviews of literature and guidelines, and three videos demonstrating routine resident interactions with pharmaceutical representatives. Residents graduating in 2005 were the intervention group and residents graduating in 2004 the comparison group. Analysis of variance and linear regression models were used to determine the relationship between variables. RESULTS: Residents perceived "lunch sponsored at noon conference" and "pharmaceutical representative brief talk at noon conference" as increasingly appropriate over their training period (p < .02). Residents perceived "pens, notepads, pocket antibiotic guides" as increasingly appropriate and "tickets to sporting events," "round of golf," and "travel/registration for national conference" as increasingly inappropriate (p < .05). The intervention group was more likely to rate only one item, "lunch at noon conference," as less appropriate (p = .042). CONCLUSIONS: Residents' perceptions toward industry gifts and interactions changed modestly during their training to reflect institutional policy. "Appropriate" gifts of minimal value were generally perceived as increasingly appropriate, whereas "inappropriate" gifts were perceived as increasingly inappropriate over time. An educational workshop alone may not significantly alter residents' perceptions toward industry without the implementation of broad and consistent institutional policy.


BACKGROUND: Concerns have been expressed about physicians' acceptance of gifts from pharmaceutical companies, but few studies have examined or attempted to change medical students' attitudes about accepting such gifts. METHODS: We used a questionnaire survey to measure attitudes about accepting such gifts. We then carried out a field experiment to compare changes in second-year medical students' attitudes, seven weeks after a one-hour lecture and discussion about the appropriateness of pharmaceutical gifts, to changes in first-year students who were not exposed to the program. RESULTS: Following the intervention, second-year students became less accepting of these marketing practices; first-year students showed no significant change. The difference between the groups after the intervention was statistically significant (P < .0001). CONCLUSIONS: If medical students' attitudes about accepting gifts from pharmaceutical companies need to be changed, this study suggests that the process may be fostered with little investment of curricular time.


STUDY OBJECTIVES: To determine the extent and diversity of involvement of pharmaceutical representatives in emergency medicine residency programs and to assess chief residents' beliefs and attitudes concerning this activity. DESIGN AND PARTICIPANTS: A multi-item survey with cover letter was mailed to the chief resident at each of the 87 Accreditation Council on Graduate Medical Education-approved emergency medicine residency programs in the United States at the time of study conception. MEASUREMENTS AND MAIN RESULTS: Eighty-three percent (72 of 87) of the questionnaires were returned. Ninety-three percent (66 of 71) of responders reported the involvement of pharmaceutical representatives in their emergency medicine residency. The most frequent activities (90%, 63 of 70) were to distribute small gifts (pens, notepads) and to provide meals during department functions such as journal clubs (80%, 56 of 70). Only 32 of 70 responding chief residents (46%) were aware of any established guidelines in their institution or residency program concerning relationships with pharmaceutical representatives, and 14 responders (20%) believed that accepting gifts from

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Background: The pharmaceutical industry plays a large role in the lifelong learning of family physicians. Controversy exists over how to integrate this potential information source into residency curricula.

Methods: Based on a faculty and resident needs assessment, a curriculum was designed to teach the evaluation of pharmaceutical representatives’ (PRs) presentations. The Pharmaceutical Representative Evaluation Form is the keystone of the curriculum. This evaluation form guides discussion of pharmaceutical presentations to facilitate understanding of the sales process and help residents confirm or dispute the presentation’s content, based on the sales methods used. A second goal of the evaluation program is to improve the content of the PRs’ presentations. Results: Residents rapidly acquire the ability to identify potential fallacies of logic and other misleading sales techniques in representatives’ presentations. Compared with pretest results, residents’ posttest scores demonstrate an understanding that PRs and the acceptance of promotional items can affect their prescribing behavior. Most PRs are pleased that their role is seen as educational. Conclusions: Physicians must function more as information managers than as information repositories, and it is important that residents be able to obtain useful information from PRs. Our curriculum has been effective in increasing residents’ abilities to evaluate the pharmaceutical sales process and allowing them to separate the inverted question mark wheat from the chaff inverted question mark contained in this ubiquitous source of information.


Retrospective cohort study assessing probability for inappropriate prescription of a company-produced pharmaceutical agent within a group of residents exposed to a grand rounds presentation by a company employee as compared to residents not in attendance at the grand rounds.


Editorial on characteristics of marketing materials in clinical settings, by the medical director of Public Citizens Health Research Group
Survey of 16 family medicine residency training programs re: guidelines regarding interactions between residents and the pharmaceutical industry


To assess primary care resident and faculty knowledge and attitudes concerning interactions between physicians and pharmaceutical representatives (PRs) and to measure changes in residents' knowledge and attitudes after an educational intervention, we conducted preintervention and postintervention surveys with a causal-comparative group in a university-based primary care residency program. All primary care internal medicine and internal medicine-pediatrics residents and faculty were given the voluntary survey. In general, residents and faculty demonstrated similar responses for the preintervention survey. Differences between faculty and resident opinions were seen in two areas. Faculty were more likely than residents to believe that PRs sometimes use unethical marketing practices (p < .05) and that the amount of contact with PRs in the outpatient clinic is excessive (p < .01). The postintervention survey of residents demonstrated significant differences between the control and intervention groups for three attitude scales. After the intervention, residents showed an increased belief that PRs may use unethical marketing practices (p < .01), that marketing gifts with no patient benefit may be inappropriate (p = .05), and that other physicians' prescribing patterns could be negatively influenced through the acceptance of gifts (p < .05). A brief educational intervention can change resident attitudes concerning physician interactions with PRs.


PURPOSE: To assess the influence of pharmaceutical advertising (in the form of books) directed at medical students and also to examine students' attitudes toward pharmaceutical representatives after interacting with them. METHOD: Two groups of fourth-year medical students were surveyed: 166 residency applicants to the Department of Anesthesia and Critical Care between 1991 and 1993, who were questioned during their personal interviews with the department chair, and 39 fourth-year students from the University of Chicago Pritzker School of Medicine in 1994-95, who were surveyed by telephone. The students were asked if they had ever received a book from a pharmaceutical representative and, if so, to name the book. Then they were asked to name the book-giving company or a product associated with the company. Responses were compared using chi-square analysis. RESULTS: In all, 90% of the students had received one or more books and accurately recalled titles for 89% of them. However, only 25% of the named books were accurately associated with a pharmaceutical company or product. The Pritzker students, asked to recall interactions with pharmaceutical representatives, reported being skeptical of representatives who ignored them because they were students, but they rated as helpful and informative those who conversed with them or gave them gifts. CONCLUSION: Although gifts to medical students do not necessarily engender company or product recall, attention paid to medical students by pharmaceutical representatives engenders goodwill toward the representatives and their messages.


BACKGROUND: Although pharmaceutical sales representatives provide physicians with information on new products, these encounters have rarely been studied in practice settings. We examined these interactions among practicing internists and assessed whether prior residency policies limiting pharmaceutical sales representative access affected the subsequent behavior of practitioners. METHOD: We conducted a mail survey of the internal medicine staffs of a medical school hospital and two affiliated community hospitals. A second request was sent to nonresponders. After the second mailing, a random sample of nonresponders was compared with a similar sample of respondents. Multivariate odds ratios (OR) and 95% confidence intervals (CI) were estimated with logistic regression. RESULTS: Of the 346 (40%) internists who responded, 22% were women and 60% were trained in university hospitals. There were no differences in gender, subspecialization, or type of training when survey responders and nonresponders were compared. Two hundred eighty-seven (83%) physicians had met with pharmaceutical sales representatives who ignored them because they were students, but they rated as helpful and informative those who conversed with them or gave them gifts. CONCLUSION: Although gifts to medical students do not necessarily engender company or product recall, attention paid to medical students by pharmaceutical representatives engenders goodwill toward the representatives and their messages.
representatives within the previous year, of whom 248 (86%) had received drug samples. Having had a policy that limited access to pharmaceutical sales representatives during residency did not affect the subsequent likelihood of seeing these representatives (P = 0.20) or accepting samples in practice (P = 0.99). Those describing themselves as busy physicians were significantly less likely to abstain from meeting pharmaceutical sales representatives (OR = 0.2, 95% CI: 0.1 to 0.6, P <0.001). Those with very frequent contacts (>10 times/month) were virtually all busy practitioners. CONCLUSIONS: Encounters between physicians and pharmaceutical sales representatives are common in internal medicine practice, especially in busy offices. Policies designed to limit pharmaceutical sales representative access during residency do not appear to affect the subsequent likelihood of meeting with pharmaceutical sales representatives or accepting samples.


Prescription drugs comprise approximately 9% of the total cost of health care in the United States. The manner in which doctors obtain information about new and changing pharmaceuticals obviously has the potential to have a profound impact on health care costs, pharmaceutical companies' profits, and the quality of health care. Patterns learned in medical school undoubtedly influence physicians' future behaviors. The authors describe an educational program, in which university pharmacists portrayed pharmaceutical company representatives to model a promotional presentation, that they designed to generate critical thinking among third-year medical students regarding the influence of pharmaceutical representatives on the prescribing practices of physicians. The authors also provide information suggesting that the program increased the uncertainty many students felt about the accuracy and ethics of standard drug "detailing."


BACKGROUND: Personalized pharmaceutical marketing to physicians, including the provision of gifts and sponsorship of educational and recreational activities, raises ethical issues. We sought to determine the degree to which physicians regarded common pharmaceutical marketing activities as ethically problematic, and to compare the views of experienced physicians and physicians-in-training. METHODS: A questionnaire that included 18 scenarios portraying interactions between physicians and the pharmaceutical industry was distributed to residents and faculty members at a US medical school. RESULTS: Most marketing activities were not thought to pose major ethical problems. Respondents tended to make distinctions about the ethical appropriateness of gifts on the basis of the monetary value and type of gift. Some respondents' views would be in violation of recent professional guidelines that address interactions between physicians and pharmaceutical companies. However, some respondents were troubled by activities that are permitted by professional guidelines. The responses of residents and faculty physicians were similar. CONCLUSIONS: Despite the recent publicity about ethical problems in relationships between physicians and the pharmaceutical industry, inexperienced and experienced physicians at a single institution continue to have a rather permissive view about a variety of marketing activities.


BACKGROUND: Pharmaceutical sales representatives and direct-to-consumer advertising may influence physician practices, particularly prescribing. Identifying the relevant knowledge and attitudes students possess about the pharmaceutical industry may help professional curricula address these influences. PURPOSES: To assess knowledge and attitudes toward pharmaceutical industry marketing, ethical principles guiding drug company interactions, pharmaceutical sales representatives as a source of drug information, and confidence level in addressing consumers seeking a prescription from a direct-to-consumer advertisement among senior-level medical, PharmD, and nurse practitioner students. METHODS: A cross-sectional survey design was used to assess student knowledge and attitudes of four domains associated with the pharmaceutical industry. RESULTS: Significant deficiencies were noted in student knowledge of pharmaceutical marketing expenditures, professional ethics regarding interactions with drug companies, and accuracy of drug information from sales representatives. CONCLUSIONS: Health professional students' knowledge and attitudes toward the pharmaceutical industry are formed prior to graduation. Professional curricula must address the influences of sales representatives before postgraduate training.
BACKGROUND: Pharmaceutical company representatives (PCRs) influence the prescribing habits and professional behaviour of physicians. However, the skills for interacting with PCRs are not taught in the traditional medical school curriculum. We examined whether an innovative, mandatory workshop for third year medical students had immediate effects on knowledge and attitudes regarding interactions with PCRs. METHODS: Surveys issued before and after the workshop intervention solicited opinions (five point Likert scales) from third year students (n = 75) about the degree of bias in PCR information, the influence of PCRs on prescribing habits, the acceptability of specific gifts, and the educational value of PCR interactions. Twenty-eight percent of students (21/75) thought that none of the named activities/gifts (lunch access, free stethoscope, textbooks, educational CD-ROMS, sporting events) should be restricted, while 24.0% (8/75) thought that students should be restricted only from sporting events. The perceived
The educational value of PCR information to both practicing physicians and students increased after the workshop intervention from 17.7% to 43.2% (chi square, p = .0001), and 22.1% to 40.5% (p = .0007), respectively. Student perceptions of the degree of bias of PCR information decreased from 84.1% to 72.9% (p = .065), but the perceived degree of influence on prescribing increased (44.2% to 62.1% (p = .02)).

CONCLUSIONS: Students have exposure to PCRs early in their medical training. A single workshop intervention may influence student attitudes toward interactions with PCRs. Students were more likely to acknowledge the educational value of PCR interactions and their impact on prescribing after the workshop intervention.


OBJECTIVE: Medical school and residency are formative years in establishing patterns of prescribing. We aimed to review the literature regarding the extent of pharmaceutical industry contact with trainees, attitudes about these interactions, and effects on trainee prescribing behavior, with an emphasis on points of potential intervention and policy formation. DESIGN: We searched MEDLINE from 1966 until May 2004 for English language articles. All original articles were included if the abstract reported content relevant to medical training and the pharmaceutical industry. Editorials, guidelines, and policy recommendations were excluded. MEASUREMENTS AND MAIN RESULTS: Contact with pharmaceutical representatives was common among residents. The majority of trainees felt that the interactions were appropriate. A minority felt that their own prescribing could be influenced by contact or gifts, but were more likely to believe that others’ prescribing could be influenced. Resident prescribing was associated with pharmaceutical representative visits and the availability of samples. A variety of policy and educational interventions appear to influence resident attitudes toward interactions with industry, although data on the long-term effects of these interventions are limited. Overall, residents reported insufficient training in this area.

CONCLUSIONS: The pharmaceutical industry has a significant presence during residency training, has gained the overall acceptance of trainees, and appears to influence prescribing behavior. Training programs can benefit from policies and curricula that teach residents about industry influence and ways in which to critically evaluate information that they are given. Recommendations for local and national approaches are discussed.


It is known that interaction between pharmaceutical companies and medical professionals may lead to corruption of professional values, irrational use of medicine, and negative effects on the patient-physician relationship. Medical students frequently interact with pharmaceutical company representatives and increasingly accept their gifts. Considering the move toward early clinical encounters and community-based education, which expose students early to pharmaceutical representatives, the influence of those gifts is becoming a matter of concern. This study examines the frequency and influence of student exposure to drug marketing in primary care settings, as well as student perceptions of physician-pharmaceutical company relationships. This was a two-phase study consisting of qualitative research followed by a cross-sectional survey. Clinical experience logbooks of 280 second-year students in one school were analysed, and the themes that emerged were used to develop a survey that was administered to 308 third-year students from two medical schools. Survey results showed a 91.2% exposure to any type of marketing, and 56.8% of students were exposed to all classes of marketing methods studied. Deliberate targeting of students by pharmaceutical representatives, in particular, was correlated with being less sensitive to the negative effects of and having positive opinions about interactions with pharmaceutical companies. The vast majority of students are exposed to drug marketing in primary care settings, and may become more vulnerable to that strategy. Considering that medical students are vulnerable and are targeted deliberately by pharmaceutical companies, interventions aimed at developing skills in the rational use of medicines and in strategies for coping with drug marketing should be devised.

MEDICAL ETHICS (26)


Analysis of physician-pharmaceutical relationships from perspective of business ethics vs. medical ethics.
Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits
Harvard Medical School, Brigham & Woman’s Hospital,
Division of Pharmacoepidemiology and Pharmacoeconomics


ACP guidelines on ethics of receiving gifts from industry


We surveyed faculty and residents from seven hospitals affiliated with three academic internal medicine training programs about their perceptions of the informational and service benefits vs the risks of ethical compromise involved in interactions with pharmaceutical sales representatives. Questionnaires were returned by 467 (81%) of 575 physicians surveyed. Residents and faculty generally had somewhat negative attitudes toward the educational and informational value of detailing activities at their institutions but indicated that representatives supported important conferences and speakers. Residents were more likely than faculty to perceive contacts with sales representatives as potentially influencing physician decision making. Sixty-seven percent of faculty and 77% of residents indicated that physicians could be compromised by accepting gifts. More than half of the physicians who suggested that such compromise was possible indicated that acceptance of gifts worth more than +100 from drug companies would be likely to compromise a physician's independence and objectivity. A majority of both faculty and house staff favored eliminating presentations by pharmaceutical representatives at their hospitals. Only 10% thought they had had sufficient training during medical school and residency regarding professional interaction with sales representatives.


AMA guidelines on ethics of gifts to physicians from industry


AMA guidelines on ethics of gifts to physicians from industry


Critique of ACP guidelines on gifts from pharmaceutical industry


The American Medical Association (AMA) has recently published guidelines for the receipt of gifts from industry representatives. To examine faculty members' attitudes toward that AMA policy as it pertains to gifts from the pharmaceutical industry, the authors surveyed the faculty of the University of Kentucky College of Medicine in 1991. Of 462 faculty members, 248 (54%) completed the questionnaires. The faculty generally agreed with the AMA guidelines. A majority of the faculty believed that personal relationships had the potential to influence prescribing patterns but that gifts, in general, did not greatly influence prescribing behaviors. Compared with the 169 M.D. faculty, the 69 Ph.D. faculty significantly favored more restrictive policies (p less than .001). The authors discuss both the ethical considerations and the utility of guidelines for physician-industry interactions.

Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits
Harvard Medical School, Brigham & Woman's Hospital, Division of Pharmacoepidemiology and Pharmacoeconomics


STUDY OBJECTIVES: To examine emergency medicine resident training and understanding of general bioethics and resident and faculty attitudes and behavior regarding professional interactions with the biomedical industry. DESIGN: Two companion questionnaire surveys. SETTING: Annual resident in-service examination and written director survey with telephone follow-up. PARTICIPANTS: Emergency medicine residents and program directors. INTERVENTIONS: chi 2 analysis was used for questions involving relationships among variables with dichotomous or categorical response. An analysis of variance or Pearson Product Moment Correlation was calculated for questions with continuous variables. MEASUREMENTS AND MAIN RESULTS: The surveys were completed by 1,385 of 1,836 (75%) residents and 80 of 81 (99%) residency directors. On average, residents receive eight hours of bioethical instruction per year but believe that they need 12 hours per year. Seventy-five percent of residents believe that company representatives sometimes cross ethical boundaries. The amount of resident understanding of bioethical concepts correlated with the number of hours of bioethics training they received. A sensitivity to bioethical conflicts index was correlated with the residents' behavior. CONCLUSION: There is wide variation in beliefs and practices regarding the interaction between emergency medicine residents and directors and the biomedical industry. Our results suggest that residents need training regarding conflicts of interest, accepted standards of practice, and dealing with potential conflicts with the biomedical industry.


AMA guidelines on gifts from industry


Editorial on the need for stronger guidelines for pharmaceutical-industry interaction


Survey of physician and pharmacist attitudes on the ethics of pharmaceutical marketing


To assess primary care resident and faculty knowledge and attitudes concerning interactions between physicians and pharmaceutical representatives (PRs) and to measure changes in residents' knowledge and attitudes after an educational intervention, we conducted preintervention and postintervention surveys with a causal-comparative group in a university-based primary care residency program. All primary care internal medicine and internal medicine-pediatrics residents and faculty were given the voluntary survey. In general, residents and faculty demonstrated similar responses for the preintervention survey. Differences between faculty and resident opinions were seen in two areas. Faculty were more likely than residents to believe that PRs sometimes use unethical marketing practices (p < .05) and that the amount of contact with PRs in the outpatient clinic is excessive (p < .01). The postintervention survey of residents demonstrated significant differences between the control and intervention groups for three attitude scales. After the intervention, residents showed an increased belief that PRs may use unethical marketing practices (p < .01), that marketing gifts with no patient benefit may be inappropriate (p = .05), and that other physicians' prescribing patterns could be negatively influenced through the acceptance of gifts (p < .05). A brief educational intervention can change resident attitudes concerning physician interactions with PRs.

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Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits
Harvard Medical School, Brigham & Woman's Hospital,
Division of Pharmacoepidemiology and Pharmacoeconomics


Prescription drugs comprise approximately 9% of the total cost of health care in the United States. The manner in which doctors obtain information about new and changing pharmaceuticals obviously has the potential to have a profound impact on health care costs, pharmaceutical companies' profits, and the quality of health care. Patterns learned in medical school undoubtedly influence physicians' future behaviors. The authors describe an educational program, in which university pharmacists portrayed pharmaceutical company representatives to model a promotional presentation, that they designed to generate critical thinking among third-year medical students regarding the influence of pharmaceutical representatives on the prescribing practices of physicians. The authors also provide information suggesting that the program increased the uncertainty many students felt about the accuracy and ethics of standard drug "detailing."


BACKGROUND: Personalized pharmaceutical marketing to physicians, including the provision of gifts and sponsorship of educational and recreational activities, raises ethical issues. We sought to determine the degree to which physicians regarded common pharmaceutical marketing activities as ethically problematic, and to compare the views of experienced physicians and physicians-in-training. METHODS: A questionnaire that included 18 scenarios portraying interactions between physicians and the pharmaceutical industry was distributed to residents and faculty members at a US medical school. RESULTS: Most marketing activities were not thought to pose major ethical problems. Respondents tended to make distinctions about the ethical appropriateness of gifts on the basis of the monetary value and type of gift. Some respondents' views would be in violation of recent professional guidelines that address interactions between physicians and pharmaceutical companies. However, some respondents were troubled by activities that are permitted by professional guidelines. The responses of residents and faculty physicians were similar. CONCLUSIONS: Despite the recent publicity about ethical problems in relationships between physicians and the pharmaceutical industry, inexperienced and experienced physicians at a single institution continue to have a rather permissive view about a variety of marketing activities.


When pharmaceutical companies market their products to, and through, healthcare professionals in hospitals and private practice, healthcare professionals face ethical dilemmas in their practice and their organizations. Pharmaceutical companies target nurse practitioners with prescribing privileges. The author describes the ethical dilemma faced by healthcare professionals when friendly salespeople offer tempting gifts. The article outlines cultural responses to gift giving and ethical issues surrounding healthcare professionals' responses to pharmaceutical marketing strategies. Nurse administrators need to acknowledge a growing threat to nursing integrity. Nurse administrators have the power to make and enforce ethical policies that prevent proprietary influences from clouding nursing judgment and contributing to the escalating costs of prescription medications.


A research-informed understanding of conflict of interest has important implications for policy. Specifically, the interventions mentioned earlier—limiting gift size, educational initiatives, and mandatory disclosure—are unlikely to eliminate bias because they rest on a faulty model of human behavior. The finding that

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individuals are not aware of their bias, even when taught about it, suggests that the problem cannot be dealt with effectively through training. For example, even if ethical conduct is clearly illustrated through case studies, few conflict of interest situations that the physician will actually encounter are likely to replicate these cases so closely as to preclude potential mitigating circumstances, thus opening the door for a self-serving interpretation of whether one's own behavior is improper.


Ethical analysis of effectiveness of small gifts from industry on influencing physician prescribing patterns, questions role of dollar-limits in effectively combatting influence of gifts.


Industry and medicine share a complicated relationship that engenders a considerable degree of controversy. Although they share a relationship, industry and medicine have different perspectives toward their involvement with each other. Industry conceives of medicine as one aspect of the "drug pipeline", a larger set of relationships that is necessary for producing and marketing products. In contrast, select physicians refer to medicine's relationship with industry as "dancing with the porcupine", an inherently difficult and dangerous activity. This paper compares the "pipeline" and "porcupine" metaphors, and draws upon ethnographic data from fieldwork conducted among clinical neuroscientists at a Canadian medical school to further elucidate the perspectives of physicians toward industry and the nature of the physician-industry relationship. The paper argues that the physician-industry relationship is akin to a type of gift-exchange known as a total prestation, and that this form of total prestation is part of a strategy of capital reconversion.


OBJECTIVE: To assess the opinions and practice patterns of obstetrician-gynaecologists on acceptance and use of free drug samples and other incentive items from pharmaceutical representatives. METHODS: A questionnaire was mailed in March 2003 to 397 members of the American College of Obstetricians and Gynecologists who participate in the Collaborative Ambulatory Research Network. RESULTS: The response rate was 55%. Most respondents thought it proper to accept drug samples (92%), an informational lunch (77%), an anatomical model (75%) or a well-paid consultantship (53%) from pharmaceutical representatives. A third (33%) of the respondents thought that their own decision to prescribe a drug would probably be influenced by accepting drug samples. Respondents were more likely to think the average doctor's prescribing would be influenced by acceptance of the items than theirs would be (p<0.002). Respondents who distributed drug samples to patients indicated doing so because of patients' financial need (94%) and for their convenience (76%) and less so as a result of knowledge of the efficacy of the sample product (63%). A third (34%) of respondents agreed that interactions with industry should be more strictly regulated. CONCLUSION: Obstetrician-gynaecologists largely indicated that they would act in accordance with what they think is proper regarding accepting incentive items from pharmaceutical representatives. Although accepting free drug samples was considered to be appropriate more often than any other item, samples were most commonly judged to be influential on prescribing practices. The widely accepted practice of receiving and distributing free drug samples needs to be examined more carefully.


Surveillance of physicians' prescribing patterns and the accumulation and sale of these data for pharmaceutical marketing are currently the subjects of legislation in several states and action by state and national medical associations. Contrary to common perception, the growth of the health care information organization industry has not been limited to the past decade but has been building slowly over the past 50 years, beginning in the 1940s when growth in the prescription drug market fueled industry interest in understanding and influencing prescribing patterns. The development of this surveillance system was not simply imposed on the medical profession by the pharmaceutical industry but was developed through the interactions of pharmaceutical Salesmen, pharmaceutical marketers, academic researchers, individual physicians, and physician organizations. Examination of the role of physicians and physician organizations in the development of prescriber profiling is directly relevant to the contemporary policy debate surrounding this issue.
BACKGROUND: Interactions between physicians and drug representatives are common, even though research shows that physicians understand the conflict of interest between marketing and patient care. Little is known about how physicians resolve this contradiction. OBJECTIVE: To determine physicians’ techniques for managing cognitive inconsistencies within their relationships with drug representatives.

DESIGN, SETTING, AND PARTICIPANTS: Six focus groups were conducted with 32 academic and community physicians in San Diego, Atlanta, and Chicago. MEASUREMENTS: Qualitative analysis of focus group transcripts to determine physicians' attitudes towards conflict of interest and detailing, their beliefs about the quality of information conveyed and the impact on prescribing, and their resolution of the conflict between detailers' desire to sell product and patient care. RESULTS: Physicians understood the concept of conflict of interest and applied it to relationships with detailers. However, they maintained favorable views of physician-detailer exchanges. Holding these mutually contradictory attitudes, physicians were in a position of cognitive dissonance. To resolve the dissonance, they used a variety of denials and rationalizations: They avoided thinking about the conflict of interest, they disagreed that industry relationships affected physician behavior, they denied responsibility for the problem, they enumerated techniques for remaining impartial, and they reasoned that meetings with detailers were educational and benefited patients. CONCLUSIONS: Although physicians understood the concept of conflict of interest, relationships with detailers set up psychological dynamics that influenced their reasoning. Our findings suggest that voluntary guidelines, like those proposed by most major medical societies, are inadequate. It may be that only the prohibition of physician-detailer interactions will be effective.

OBSERVATION-BASED STUDIES


Detailed sociological study of role of physician networks in the prescribing habits regarding a new drug, based on interviews and participant observation.


Review of observational studies between physician and sales representative contacts reporting results on the quality of information obtained. Concluding that representatives present biased information about their products.


BACKGROUND: Interactions between the pharmaceutical industry and physicians have been discussed in numerous publications; however, most articles are limited to surveys and self-report data and often focus on academic or training contexts. We describe the role of pharmaceutical representatives and the use of samples in community-based family practices, using data obtained by directly observing clinical encounters. METHODS: We collected detailed descriptive field notes of the direct observations of 53 primary care clinicians and 1588 patient encounters in 18 purposefully selected Nebraska family practices. We used a comparative case study design, that used depth interviews of clinicians and office staff, and included details of the interactions with pharmaceutical representatives and the use of samples in clinical encounters. RESULTS: Individual providers and practices displayed noticeable variation in their approaches to drug representatives and samples. We found formal strategies and policies in a minority of practices. Generally there was little structure in the organization and distribution of sample medications at the office level, and detailed patient education regarding these drugs was rarely observed in patient encounters. Nevertheless, samples were used in almost 20% of observed encounters, at times as starter dosages, but often as complete courses of treatment. The benefits derived from contact with the pharmaceutical industry varied substantially, but most often included free medication samples, meals, and patient education materials. CONCLUSIONS: Clinicians have a complex symbiosis with the pharmaceutical industry. Supported in part by the Attorneys General Prescriber Education Grant Program.
industry and need to critically evaluate their handling of samples and their contact with pharmaceutical representatives to optimize this relationship and ensure quality patient care. Clinics with specific policies for interactions with drug companies appear to derive more satisfaction from their encounters.


BACKGROUND: Sales visits by pharmaceutical representatives (“drug detailing”) are common, but little is known about the content of these visits or about the impact of visit characteristics on prescribing behavior. In this study, we evaluated the content and impact of detail visits for gabapentin by analyzing market research forms completed by physicians after receiving a detail visit for this drug. METHODS AND FINDINGS: Market research forms that describe detail visits for gabapentin became available through litigation that alleged that gabapentin was promoted for “off-label” uses. Forms were available for 97 physicians reporting on 116 detail visits between 1995 and 1999. Three-quarters of recorded visits (91/116) occurred in 1996. Two-thirds of visits (72/107) were 5 minutes or less in duration, 65% (73/113) were rated of high informational value, and 39% (42/107) were accompanied by the delivery or promise of samples. During the period of this study, gabapentin was approved by the US Food and Drug Administration only for the adjunctive treatment of partial seizures, but in 38% of visits (44/115) the “main message” of the visit involved at least one off-label use. After receiving the detail visit, 46% (50/108) of physicians reported the intention to increase their prescribing or recommending of gabapentin in the future. In multivariable analysis, intent to increase future use or recommendation of gabapentin was associated with receiving the detail in a small group (versus one-on-one) setting and with low or absent baseline use of the drug, but not with other factors such as visit duration, discussion of “on-label” versus “off-label” content, and the perceived informational value of the presentation. CONCLUSIONS: Detail visits for gabapentin were of high perceived informational value and often involved messages about unapproved uses. Despite their short duration, detail visits were frequently followed by physician intentions to increase their future recommending or prescribing of the drug.

PATIENT SURVEYS (2)


OBJECTIVE: To examine patient perceptions of professional appropriateness and the potential impact on health care of physician acceptance of gifts from the pharmaceutical industry. DESIGN: A random-digit dialing telephone survey. SETTING AND PARTICIPANTS: A sample of 649 adults (> or = 18 years old) living in Kentucky. MAIN OUTCOME MEASURES: Patient awareness of office-use gifts (eg, pens, notepads) and personal gifts to physicians from the pharmaceutical industry, patient exposure to office-use gifts, and attitudes toward physician acceptance of both office-use and personal gifts. RESULTS: The survey had a response rate of 55%. Eighty-two percent of the respondents were aware that physicians received office-use gifts, while 32% were aware that physicians received personal gifts. Seventy-five percent reported receiving free samples of medication from their physicians. Compared with office-use gifts, more respondents believed that personal gifts to physicians have a negative effect on both health care cost (42% vs 26%) and quality (23% vs 13%). After controlling for demographic variables, as well as awareness and exposure to physician gifts, individuals with at least a high school education were 2.4 times as likely to believe that personal gifts have a negative effect on the cost of health care and 2.3 times as likely to believe that personal gifts would have a negative effect on the quality of health care. CONCLUSIONS: These results suggest that the public is generally uninformed about personal gifts from pharmaceutical companies to physicians. If public perception regarding the objectivity of the medical profession is to serve as a guide, these findings suggest a reevaluation may be in order for guidelines regarding physician acceptance of gifts from the pharmaceutical industry.


OBJECTIVE: To compare physicians’ and their patients’ attitudes toward pharmaceutical gifts. DESIGN: Survey of physicians and their patients. SETTING: Two tertiary-care medical centers, one military and one civilian. PARTICIPANTS: Two hundred sixty-eight of 392 consecutively surveyed physicians, 100 of 103 randomly selected patients at the military center, and 96 patients in a convenience sample at the civilian center completed the survey. MEASUREMENTS: Participants rated 10 pharmaceutical gifts on whether they...
were appropriate for physicians to accept and whether they were likely to influence prescribing. Patients found gifts less appropriate and more influential than did their physicians. About half of the patients were aware of such gifts; of those unaware, 24% responded that this knowledge altered their perception of the medical profession. Asked whether they thought their own physician accepted gifts, 27% said yes, 20% no, and 53% were unsure. For patients, feeling that gifts were inappropriate was best predicted by a belief that gifts might influence prescribing, while for physicians, the best predictor was knowledge of guidelines. CONCLUSIONS: Patients feel pharmaceutical gifts are more influential and less appropriate than do their physicians. Physicians may want to consider this in deciding whether to accept particular gifts. Broader dissemination of guidelines may be one means of changing physician behavior. At the same time, future guidelines should further consider the potentially different viewpoints of patients and physicians.

**PHARMACIST SURVEYS**


Survey of physician and pharmacist attitudes on the ethics of pharmaceutical marketing

**PHYSICIAN CHARACTERISTICS**


Bauer, a professor at Harvard Business School who performed several market research assessments for pharmaceutical firms, assesses available data on sources physicians use to evaluate new drug products.


A review fo the literature on the factors affectign drug prescribing in Western countries is given. Factors discussed are education, advertising, colleagues, control and regulation measures, demands from society and patients and doctor's characteristics. On the basis of the available literture the role of the drug industry seems especially important. Suggestions for further studies are given.


The hypothesis that prescribing rationality is related to physician rather than patient characteristics was investigated and the relationship between prescribing rationality and the use of different sources of drug information and age of the General Practitioner was examined. Prescribing rationality was assessed by a panel of experts with the case-history method. Data on the use of different sources of information were collected in a follow-up interview. One hundred sixteen (116) General Practitioners in Twente (a region in the east of the Netherlands) cooperated in the study. It was found that prescribing rationality is a physician characteristic. Younger General Practitioners prescribe in a more rational way than their older colleagues and this is partly reflected in the patterns of obtaining information. None of the studied professional sources of information seemed to have a great impact on prescribing rationality, with the exception of reliance on general medical journals instead of on drug oriented journals as a source of drug-information. This was negatively associated with prescribing rationality as well as reliance on the information of drug firms.


In analyzing a university-based program to educate physicians about proper medication use, we sought to measure whether physician background characteristics and the quality or number of educational exposures influenced the rate of relinquishment of inappropriate prescribing. A sample of 435 doctors was

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randomized to control and experimental groups; interventions consisted of printed educational materials and face-to-face visits by clinical pharmacists. The program sought to reduce inappropriate use of three drug categories: propoxyphene, peripheral/cerebral vasodilators, and cephalixin. Outcome data included the total volume (tablets/capsules) of these drugs prescribed through Medicaid by each study physician 9 months before and after the program. We estimated average changes in prescribing levels by experimental and control physicians within each physician subgroup (e.g., board-certified versus uncertified), adjusting for prescribing level in the same 9 months of the previous year. The results indicated that the rate of prescribing change was independent of most physician background characteristics studied, including age, board certification, specialty, rural versus urban practice, intensity of previous target drug use, and size of Medicaid practice. Experimental effects were highly significant (-9% to -20%, P less than 0.025) in 11 of 14 physician subgroups. The presence of a follow-up reinforcement visit was a strong independent predictor of prescribing change (P less than 0.05). An increase from one visit to two visits was associated with an approximate doubling of the size of the program effect. However, total exposure time was not related to changes in prescribing behavior. These findings document that face to face education can be effective in improving the prescribing practices of a wide variety of physicians, and that brevity, repetition, and reinforcement of recommended practices are important components in the design of such programs.


The goal of this study was to focus on the adoption process for a specific new drug upon its introduction to the marketplace. The reception of temazepam by doctors was investigated in interviews with 124 specialists and general practitioners. Their response to this new drug at different stages of the adoption process was related to contact with drug information sources and to characteristics of the doctor and practice. Within about 13 months after its release, 71% were familiar with temazepam, 48% had prescribed it, and 27% now preferred it to the alternatives. Contact with the detailman regarding this drug was the most consistent predictor of favourable reception. Results suggest that the adoption of the new drug was related to commercial forces rather than to a doctor’s professional involvements.


OBJECTIVE: Pharmaceutical companies often use drug samples as a marketing strategy in the ambulatory care setting. Little is known about how the availability of drug samples affects physicians' prescribing practices. Our goal was to assess: (1) under what circumstances and why physicians dispense drug samples, (2) if drug samples lead physicians to use medications other than their preferred drug choice, and (3) the physician characteristics that are associated with drug sample use. DESIGN: Cross-sectional survey. SETTING: University-based clinics at one academic medical center. PARTICIPANTS: 154 general medicine and family physicians. MEASUREMENTS AND MAIN RESULTS: Physicians' self-reported prescribing patterns for 3 clinical scenarios, including their preferred drug choice, whether they would use a drug sample and subsequently prescribe the sampled medication, and the importance of factors involved in the decision to dispense a drug sample. A total of 131 (85%) of 154 physicians responded. When presented with an insured woman with an uncomplicated lower urinary tract infection, 22 (17%) respondents reported that they would dispense a drug sample; 21 (95%) of 22 sample users stated that they would dispense a drug sample that differed from their preferred drug choice. For an uninsured man with hypertension, 35 (27%) respondents reported that they would dispense a drug sample; 32 (91%) of 35 sample users indicated that they would dispense a drug sample instead of their preferred drug choice. For an uninsured woman with depression, 108 (82%) respondents reported that they would dispense a drug sample; 101 (93%) of 108 sample users stated that they would dispense a drug sample at a lower cost. When respondents who chose a drug sample for 2 or 3 scenarios were compared to those who never chose to use a drug sample, or chose a drug sample for only one scenario, only younger age was independently associated with drug sample use. CONCLUSION: In self-reports, the availability of drug samples led physicians to dispense and subsequently prescribe drugs that differ from their preferred drug choice. Physicians most often report using drug samples to avoid cost to the patient.

PURPOSE: Hospital-based physicians are responsible for the purchase of expensive equipment. Little is known about the influence of gift giving on their behavior. We wanted to ascertain the prevalence of gift giving from the pharmaceutical industry and medical equipment manufacturers to radiation oncologists and determine whether or not the size of accepted gifts influences their opinions regarding gifts.

METHODS AND MATERIALS: A population-based survey of hospital-based physicians conducted between 2002 and 2003. The study population consisted of all radiation oncologists who were members of the American Society of Therapeutic Radiology and Oncology between 2000 and 2001. A random number generator was used to identify 20% of the population. This group was invited by e-mail and conventional mail to complete a Likert scale questionnaire. Those asked to complete the questionnaire electronically were directed to a specially designed web site. RESULTS: Of 640 individuals who were asked to participate, 241 (38%) completed the questionnaire. 96% admitted accepting gifts. The most commonly accepted low value gifts were: pen or pencil (78%), drug samples for patient's use (70%), meal (66%), and a note pad (59%). The most commonly accepted high value gifts were trips to "equipment-users meetings" (15%), honoraria for speaking at a conference (10%), and participation in a conference call (9%). Only 5% of radiation oncologists agreed with the statement "my prescribing practices are affected" by gifts; however, 33% agreed with the statement "I believe that other physicians prescribing practices are affected." Similarly, although only 4% felt that their recommendations concerning purchases of medical equipment are affected by gifts, 19% felt that other physicians would be influenced. A test of the hypothesis that physicians believe that their conduct is less affected than those of their colleagues (i.e., "I am not influenced by gifts but someone else is") was strongly affirmed by a correlation statistic (p < 0.0001). Of the radiation oncologists surveyed, 74% felt that they should be free to accept gifts of small value, 31% felt they should be free to accept meals or gifts of any type, 16% felt that residency programs should ban free meals provided by companies, 13% felt professional associations should discourage companies from hosting parties at the annual meeting, 17% felt that gift giving should stop, and 66% agreed that clinical information provided by companies provides a useful continuing medical education service. Those who accepted larger gifts were far more likely to disagree with statements such as "professional societies should actively discourage companies from hosting parties and providing free meals and giving gifts to physicians attending the annual meeting" (p = 0.0003) and "the practice of gift giving by companies should stop" (p = 0.0017); they were slightly more likely to agree with statements such as "clinical information provided to radiation oncologists by companies provides a useful continuing medical education service." CONCLUSIONS: To our knowledge, this study represents the first large-scale population-based study of a hospital-based specialty and gift giving. This study demonstrates that: (1) Gift giving in radiation oncology is endemic. (2) Although each physician is likely to consider himself or herself immune from being influenced by gift giving, he or she is suspicious that the "next person" is influenced. (3) There is a correlation between the willingness of individual physician to accept gifts of high value and their sympathy toward this practice.


Pharmaceutical sales representatives (PSRs) can impact physician prescribing. The objective of this study was to test a model of physician and practice setting characteristics as influences on decisions by physicians to see PSRs. A survey was sent to a random sample of 2000 physicians. Multiple linear regression analyses were used to test models for predicting influences on decisions to see PSRs frequently, defined as at least monthly. Independent variables included: presence of restrictive policy for pharmaceutical detailing, volume of prescriptions, gender, age, type of specialty, academic affiliation, practice setting size, and urban versus rural. The dependent variable was frequency of PSRs visits to physicians. Six hundred seventy-one responses were received yielding a response rate of 34.7%. Four hundred thirty-two physicians (79.5%) reported seeing PSRs at least monthly. The decision influence model was found to be significant. Primary care physicians and high-volume prescribers showed increased likelihood to see PSRs. Physicians practicing in settings that were small, urban, without restrictive policies for pharmaceutical detailing, and not academically affiliated were more likely to see PSRs frequently. This model of physician and practice characteristics is useful in explaining the variations in physicians' characteristics who see PSRs frequently. These characteristics could be used to guide the development of future academic or counter-detailing initiatives to improve evidence-based prescribing.


PURPOSE: To examine relationships between pharmaceutical representatives and obstetrician-gynecologists and identify factors associated with self-reported reliance on representatives when making prescribing decisions. METHOD: In 2006-2007, questionnaires were mailed to 515 randomly selected obstetrician-gynecologists and identified factors associated with self-reported reliance on representatives when creating prescribing decisions.
PHYSICIAN SURVEYS


The American Medical Association (AMA) has recently published guidelines for the receipt of gifts from industry representatives. To examine faculty members' attitudes toward that AMA policy as it pertains to gifts from the pharmaceutical industry, the authors surveyed the faculty of the University of Kentucky College of Medicine in 1991. Of 462 faculty members, 248 (54%) completed the questionnaires. The faculty generally agreed with the AMA guidelines. A majority of the faculty believed that personal relationships had the potential to influence prescribing patterns but that gifts, in general, did not greatly influence prescribing behaviors. Compared with the 169 M.D. faculty, the 69 Ph.D. faculty significantly favored more restrictive policies (p less than .001). The authors discuss both the ethical considerations and the utility of guidelines for physician-industry interactions.


STUDY OBJECTIVES: To examine emergency medicine resident training and understanding of general bioethics and resident and faculty attitudes and behavior regarding professional interactions with the biomedical industry. DESIGN: Two companion questionnaire surveys. SETTING: Annual resident in-service examination and written director survey with telephone follow-up. PARTICIPANTS: Emergency medicine residents and program directors. INTERVENTIONS: chi 2 analysis was used for questions involving relationships among variables with dichotomous or categorical response. An analysis of variance or Pearson Product Moment Correlation was calculated for questions with continuous variables. MEASUREMENTS AND MAIN RESULTS: The surveys were completed by 1,385 of 1,836 (75%) residents and 80 of 81 (99%) residency directors. On average, residents receive eight hours of bioethical instruction per year but believe that they need 12 hours per year. Seventy-five percent of residents believe that company representatives sometimes cross ethical boundaries. The amount of resident understanding of bioethical concepts correlated with the number of hours of bioethics training they received. A sensitivity to bioethical conflicts index was correlated with the residents' behavior. CONCLUSION: There is wide variation in beliefs and practices regarding the interaction between emergency medicine residents and directors and the biomedical industry. Our results suggest that residents need training regarding conflicts of interest, accepted standards of practice, and dealing with potential conflicts with the biomedical industry.


OBJECTIVE: To determine the attitudes, knowledge and practices of family medicine residents relating to the pharmaceutical industry and to assess the effectiveness of existing guidelines on appropriate interactions with the pharmaceutical industry. DESIGN: Survey by mailed questionnaire. SETTING:
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**Harvard Medical School, Brigham & Woman's Hospital, Division of Pharmacoepidemiology and Pharmacoeconomics**

Ontario. PARTICIPANTS: All 262 second-year family medicine residents in Ontario (seven centres); 226 (86.3%) responded. RESULTS: Fifty-two (23.0%) of the residents who responded stated that they had read the CMA policy statement on appropriate interactions between physicians and the pharmaceutical industry. A total of 14 (54.9%) stated that they would attend a private dinner paid for by a pharmaceutical representative; the proportion was not significantly reduced among those who had read the CMA guidelines, which prohibit the acceptance of personal gifts. In all, 186 (82.3%) reported that they would like the opportunity to interact with pharmaceutical representatives in an educational setting, even though several programs now discourage these interactions. Approximately three quarters (172/226 [76.1%]) of the residents indicated that they plan to see pharmaceutical representatives in their future practice. Residents at Centre 2 were significantly more critical of the pharmaceutical industry than those from the other centres. Overall, being aware of, and familiar with, departmental policy or CMA policy on interactions with the pharmaceutical industry did not affect the residents' attitudes or intended future practices. CONCLUSION: The presence of guidelines concerning physicians' interactions with the pharmaceutical industry does not appear to have a significant impact on family medicine residents in Ontario.


OBJECTIVE: To compare physicians' and their patients' attitudes toward pharmaceutical gifts. DESIGN: Survey of physicians and their patients. SETTING: Two tertiary-care medical centers, one military and one civilian. PARTICIPANTS: Two hundred sixty-eight of 392 consecutively surveyed physicians, 100 of 103 randomly selected patients at the military center, and 96 patients in a convenience sample at the civilian center completed the survey. MEASUREMENTS: Participants rated 10 pharmaceutical gifts on whether they were appropriate for physicians to accept and whether they were likely to influence prescribing. Patients found gifts less appropriate and more influential than did their physicians. About half of the patients were aware of such gifts; of those unaware, 24% responded that this knowledge altered their perception of the medical profession. Asked whether they thought their own physician accepted gifts, 27% said yes, 20% no, and 53% were unsure. For patients, feeling that gifts were inappropriate was best predicted by a belief that gifts might influence prescribing, while for physicians, the best predictor was knowledge of guidelines. CONCLUSIONS: Patients feel pharmaceutical gifts are more influential and less appropriate than do their physicians. Physicians may want to consider this in deciding whether to accept particular gifts. Broader dissemination of guidelines may be one means of changing physician behavior. At the same time, future guidelines should further consider the potentially different viewpoints of patients and physicians.


OBJECTIVE: Pharmaceutical companies often use drug samples as a marketing strategy in the ambulatory care setting. Little is known about how the availability of drug samples affects physicians' prescribing practices. Our goal was to assess: (1) under what circumstances and why physicians dispense drug samples, (2) if drug samples lead physicians to use medications other than their preferred drug choice, and (3) the physician characteristics that are associated with drug sample use. DESIGN: Cross-sectional survey. SETTING: University-based clinics at one academic medical center. PARTICIPANTS: 154 general medicine and family physicians. MEASUREMENTS AND MAIN RESULTS: Physicians' self-reported prescribing patterns for 3 clinical scenarios, including their preferred drug choice, whether they would use a drug sample and subsequently prescribe the sampled medication, and the importance of factors involved in the decision to dispense a drug sample. A total of 131 (85%) of 154 physicians responded. When presented with an insured woman with an uncomplicated lower urinary tract infection, 22 (17%) respondents reported that they would dispense a drug sample; 21 (95%) of 22 sample users stated that they would dispense a drug sample that differed from their preferred drug choice. For an uninsured man with hypertension, 35 (27%) respondents reported that they would dispense a drug sample; 32 (91%) of 35 sample users indicated that they would dispense a drug sample instead of their preferred drug choice. For an uninsured woman with depression, 108 (82%) respondents reported that they would dispense a drug sample; 53 (49%) of 108 sample users indicated that they would dispense a drug sample that differed from their preferred drug choice. Avoiding cost to the patient was the most consistent motivator for dispensing a drug sample for all 3 scenarios. For 2 scenarios, residents were more likely to report using drug samples than attendings (P <.05). When respondents who chose a drug sample for 2 or 3 scenarios were compared to those who never chose to use a drug sample, or chose a drug sample for only one scenario, only younger age was independently associated with drug sample use. CONCLUSION: In self-reports, the availability of drug samples led physicians to dispense and subsequently prescribe drugs...
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that differ from their preferred drug choice. Physicians most often report using drug samples to avoid cost to the patient.


PURPOSE: Little is known about the factors that influence housestaff attitudes toward pharmaceutical industry promotions or, how such attitudes correlate with physician behaviors. We studied these attitudes and practices among internal medicine housestaff. SUBJECTS AND METHODS: Confidential surveys about attitudes and behaviors toward industry gifts were distributed to 1st- and 2nd-year residents at a university-based internal medicine residency program. RESULTS: Ninety percent of the residents (105 of 117) completed the survey. A majority of respondents considered seven of nine types of promotions appropriate. Residents judged the appropriateness of promotions on the basis of their cost (median percentage of items considered appropriate 100% for inexpensive items vs. 60% for expensive ones) more than on the basis of their educational value (80% for educational items vs. 75% for noneducational ones; P < .001 for comparison of appropriateness based on cost vs. educational value). Behaviors were often inconsistent with attitudes; every resident who considered conference lunches (n = 13) and pens (n = 18) inappropriate had accepted these gifts. Most respondents (61%) stated that industry promotions and contacts did not influence their own prescribing, but only 16% believed other physicians were similarly unaffected (P < .0001). Nonetheless, more than two thirds of residents agreed that it is appropriate for a medical institution to have rules on industry interactions with residents and faculty. CONCLUSIONS: Residents hold generally positive attitudes toward gifts from industry, believe they are not influenced by them, and report behaviors that are often inconsistent with their attitudes. Thoughtful education and policy programs may help residents learn to critically appraise these gifts.


PURPOSE: Hospital-based physicians are responsible for the purchase of expensive equipment. Little is known about the influence of gift giving on their behavior. We wanted to ascertain the prevalence of gift giving from the pharmaceutical industry and medical equipment manufacturers, and determine whether or not the size of accepted gifts influences their opinions regarding gifts. METHODS AND MATERIALS: A population-based survey of hospital-based physicians conducted between 2002 and 2003. The study population consisted of all radiation oncologists who were members of the American Society of Therapeutic Radiology and Oncology between 2000 and 2001. A random number generator was used to identify 20% of the population. This group was invited by e-mail and conventional mail to complete a Likert scale questionnaire. Those asked to complete the questionnaire electronically were directed to a specially designed web site. RESULTS: Of 640 individuals who were asked to participate, 241 (38%) completed the questionnaire. 96% admitted accepting gifts. The most commonly accepted low value gifts were: pen or pencil (78%), drug samples for patient's use (70%), meal (66%), and a note pad (59%). The most commonly accepted high value gifts were trips to "equipment-users meetings" (15%), honoraria for speaking at a conference (10%), and participation in a conference call (9%). Only 5% of radiation oncologists agreed with the statement "my prescribing practices are affected" by gifts; however, 33% agreed with the statement "I believe that other physicians prescribing practices are affected." Similarly, although only 4% felt that their recommendations concerning purchases of medical equipment are affected by gifts, 19% felt that other physicians would be influenced. A test of the hypothesis that physicians believe that their conduct is less affected than those of their colleagues (i.e., "I am not influenced by gifts but someone else is") was strongly affirmed by a correlation statistic (ρ < 0.0001). Of the radiation oncologists surveyed, 74% felt that they should be free to accept gifts of small value, 31% felt they should be free to accept meals or gifts of any type, 16% felt that residency programs should ban free meals provided by companies, 13% felt professional associations should discourage companies from hosting parties at the annual meeting, 17% felt that gift giving should stop, and 66% agreed that clinical information provided by companies provides a useful continuing medical education service. Those who accepted larger gifts were far more likely to disagree with statements such as "professional societies should actively discourage companies from hosting parties and providing free meals and giving gifts to physicians attending the annual meeting" (ρ = 0.0003) and "the practice of gift giving by companies should stop" (ρ = 0.0017); they were slightly more likely to agree with statements such as "clinical information provided to radiation oncologists by companies provides a useful continuing medical education service." CONCLUSIONS: To our knowledge, this study represents the first large-scale population-based study of a hospital-based specialty and gift giving. This study demonstrates that: (1) Gift giving in radiation oncology is endemic. (2) Although each physician is likely to consider himself or herself immune from being influenced by gift giving, he or she is suspicious that the "next person" is influenced.
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(3) There is a correlation between the willingness of individual physician to accept gifts of high value and their sympathy toward this practice.


OBJECTIVES: To examine the beliefs and practices of emergency medicine program directors regarding interactions with the pharmaceutical industry. The authors also sought to study the prevalence of program policies and the desire for organizational policies. METHODS: The Board of the Council of Emergency Medicine Residency Directors (CORD) requested and approved a member survey. An institutional review board-approved, Web-based, 30-item survey was sent to all CORD members subscribed to the organization's listserv in May 2002 and was completed by June 2002. Program director respondents were surveyed as to their beliefs and practices regarding industry sponsorship of speakers, social events, drug samples, travel to conferences, and the educational value of marketing representatives. Subjects were queried about their awareness of existing guidelines and whether they desired policy development by CORD. RESULTS: Surveys were returned from 106 programs (85%). The majority of program directors (72%) "never" or "very rarely" allowed unrestricted interactions between pharmaceutical representatives and residents at work. However, only 52% of program directors said they "never" or "very rarely" allowed pharmaceutical representatives to give residents free drug samples at work. Only 46% said they "never" or "very rarely" allowed pharmaceutical representatives to teach residents. Two thirds of program directors desired CORD guidelines regarding interactions with the pharmaceutical industry. Program directors seeking guidelines were less likely to allow pharmaceutical representatives to teach residents (p = 0.001). They were also less likely to allow pharmaceutical representatives unrestricted interactions with residents (p = 0.05). CONCLUSIONS: A wide range of practices exist among emergency medicine residency program directors, and most desire organizational guidelines regarding interactions with the pharmaceutical industry.


PURPOSE: Little is known about the knowledge and skills internal medicine residents need to interact appropriately with pharmaceutical industry representatives. The authors conducted a needs assessment of current knowledge and preferences for potential components of a new educational initiative among residents. METHOD: In 2001, a two-page questionnaire using a five-point ordinal scale was mailed to all internal medicine residents and faculty at one institution. Analysis included use of Wilcoxon two-sample test. RESULTS: Response rates were 97% (85/88) for residents and 79% (86/109) for faculty. Residents and faculty's knowledge about formal position statements or literature on the impact of marketing strategies on prescribing patterns, drug marketing costs, or how pharmaceutical representatives are trained to interact with physicians was very limited. Most responders felt residents should learn to critically interpret promotional materials, recognize potential for conflict of interest, and consider how patients perceive the physician-pharmaceutical industry relationship. More faculty than residents valued including position statements (66% versus 39%, p <.001) and literature exploring the impact of marketing on prescribing patterns (70% versus 41%, p <.001) in education. Only one-half or fewer favored small-group discussions, lecture series, critical-reading skills seminars, or panel discussions. CONCLUSIONS: Internal medicine residents and faculty reported low levels of knowledge about physician-pharmaceutical industry relationships. Some consensus about educational components existed, but optimal educational formats remain uncertain. A six-hour curriculum to address this complex, emotionally charged topic was developed, implemented, and evaluated.


OBJECTIVE: The authors sought to determine the effect of an educational seminar on interactions with pharmaceutical representatives on residents' attitudes and behavior. METHOD: A controlled trial of an educational intervention was conducted. Residents at a university-affiliated residency program (N=32) were divided into two groups: one group (N=18) received a 1-hour educational intervention, while the other group (N=14) served as a control. Both groups completed a 33-item survey before the intervention and 2 months after the intervention. RESULTS: Residents interacted substantially with pharmaceutical representatives. The majority of residents found the interactions and gifts useful and believed their prescribing practices were not influenced. Compared to the comparison group, the intervention group significantly decreased the reported number of office supplies and noneducational gifts, but showed no change in attitude toward pharmaceutical representatives and their gifts. CONCLUSION: One-time
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Educational interventions may have significant impact on psychiatric residents' targeted gift-accepting behavior but little effect on attitudes.


Objective: To assess the opinions and practice patterns of obstetrician-gynecologists on acceptance and use of free drug samples and other incentive items from pharmaceutical representatives. Methods: A questionnaire was mailed in March 2003 to 397 members of the American College of Obstetricians and Gynecologists who participate in the Collaborative Ambulatory Research Network. Results: The response rate was 55%. Most respondents thought it proper to accept drug samples (92%), an informational lunch (77%), an anatomical model (75%) or a well-paid consultancy (53%) from pharmaceutical representatives. A third (33%) of the respondents thought that their own decision to prescribe a drug would probably be influenced by accepting drug samples. Respondents were more likely to think the average doctor’s prescribing would be influenced by acceptance of the items than theirs would be (p<0.002). Respondents who distributed drug samples to patients indicated doing so because of patients' financial need (94%) and for their convenience (76%) and less so as a result of knowledge of the efficacy of the sample product (63%). A third (34%) of respondents agreed that interactions with industry should be more strictly regulated. Conclusion: Obstetrician-gynaecologists largely indicated that they would act in accordance with what they think is proper regarding accepting incentive items from pharmaceutical representatives. Although accepting free drug samples was considered to be appropriate more often than any other item, samples were most commonly judged to be influential on prescribing practices. The widely accepted practice of receiving and distributing free drug samples needs to be examined more carefully.


Purpose: To describe change in residents' attitudes toward gifts from and interactions with industry and to measure the effects of a formal educational workshop on changes in perceptions. Method: At the University of Chicago, 118 internal medicine residents completed an observational survey and took part in a controlled intervention across three years (2001-2004) of residency. Four cohorts of residents completing the program in 2004-2007 participated. The intervention was an interactive educational workshop, including reviews of literature and guidelines, and three videos demonstrating routine resident interactions with pharmaceutical representatives. Residents graduating in 2005 were the intervention group and residents graduating in 2004 the comparison group. Analysis of variance and linear regression models were used to determine the relationship between variables. Results: Residents perceived "lunch sponsored at noon conference" and "pharmaceutical representative brief talk at noon conference" as increasingly appropriate over their training period (p < .02). Residents perceived "pens, notepads, pocket antibiotic guides" as increasingly appropriate and "tickets to sporting events," "round of golf," and "travel/registration for national conference" as increasingly inappropriate (p < .05). The intervention group was more likely to rate only one item, "lunch at noon conference," as less appropriate (p = .042). Conclusions: Residents' perceptions about industry gifts and interactions changed modestly during their training to reflect institutional policy. "Appropriate" gifts of minimal value were generally perceived as increasingly appropriate, whereas "inappropriate" gifts were perceived as increasingly inappropriate over time. An educational workshop alone may not significantly alter residents' perceptions toward industry without the implementation of broad and consistent institutional policy.


Background: Relationships between physicians and pharmaceutical, medical device, and other medically related industries have received considerable attention in recent years. We surveyed physicians to collect information about their financial associations with industry and the factors that predict those associations. Methods: We conducted a national survey of 3167 physicians in six specialties (anesthesiology, cardiology, family practice, general surgery, internal medicine, and pediatrics) in late 2003 and early 2004. The raw response rate for this probability sample was 52%, and the weighted response rate was 58%. Results: Most physicians (94%) reported some type of relationship with the pharmaceutical industry, and most of these relationships involved receiving food in the workplace (83%) or receiving drug samples (78%). More than one third of the respondents (35%) received reimbursement for costs associated with professional meetings or continuing medical education, and more than one quarter (28%) received payments for consulting, giving lectures, or enrolling patients in trials. Cardiologists were more than twice as likely as family practitioners to receive payments. Family practitioners met more frequently
with industry representatives than did physicians in other specialties, and physicians in solo, two-person, or group practices met more frequently with industry representatives than did physicians practicing in hospitals and clinics. CONCLUSIONS: The results of this national survey indicate that relationships between physicians and industry are common and underscore the variation among such relationships according to specialty, practice type, and professional activities.


ABSTRACT: BACKGROUND: The efficacy of academic detailing in changing physicians knowledge and practice has been the subject of many primary research publications and systematic reviews. However, there is little written about the features of academic detailing that physicians find valuable or that affect their use of it. The goal of our project was to explore family physicians (FPs) perceptions of academic detailing and the factors that affect their use of it. METHODS: We used 2 methods to collect data, a questionnaire and semi-structured telephone interviews. We mailed questionnaires to all FPs in the Dalhousie Office of Continuing Medical Education database and analyzed responses of non-users and users of academic detailing. After a preliminary analysis of questionnaire data, we conducted semi-structured interviews with 7 FPs who did not use academic detailing and 17 who did use it. RESULTS: Overall response rate to the questionnaire was 33% (289/869). Response rate of non-users of academic detailing was 15% (60/393), of users was 48% (229/476). The 3 factors that most encouraged use of academic detailing were the topics selected, the evidence-based approach adopted, and the handout material. The 3 factors that most discouraged the use of academic detailing were spending office time doing CME, scheduling time to see the academic detailer, and having CME provided by a non-physician. Users of academic detailing rated it as being more valuable than other forms of CME. Generally, interview data confirmed questionnaire data with the exception that interview informants did not view having CME provided by a non-physician as a barrier. Interview informants mentioned that the evidence-based approach adopted by academic detailing had led them to more critically evaluate information from other CME programs, pharmaceutical representatives, and journal articles, but not advice from specialists. CONCLUSIONS: Users of academic detailing highly value its educational value and tend to view information from other sources more critically because of its evidence-based approach. Non-users are unlikely to adopt academic detailing despite its high educational value because they find using office time for CME too much of a barrier. To reach these physicians with academic detailing messages, we will have to find other CME formats.


The goal of this study was to focus on the adoption process for a specific new drug upon its introduction to the marketplace. The reception of temazepam by doctors was investigated in interviews with 124 specialists and general practitioners. Their response to this new drug at different stages of the adoption process was related to contact with drug information sources and to characteristics of the doctor and practice. Within about 13 months after its release, 71% were familiar with temazepam, 48% had prescribed it, and 27% now preferred it to the alternatives. Contact with the detailman regarding this drug was the most consistent predictor of favourable reception. Results suggest that the adoption of the new drug was related to commercial forces rather than to a doctor's professional involvements.


Survey of physician and pharmacist attitudes on the ethics of pharmaceutical marketing


Physicians in northwestern Pennsylvania were surveyed to identify the factors that influenced their attitudes toward pharmaceutical sales representatives (PSRs). The results suggest that physicians' attitudes were influenced by the information and educational support they received from PSRs, selling techniques used by the PSRs to promote their products, and the volume of patients they saw.
BACKGROUND: Although pharmaceutical sales representatives provide physicians with information on new products, these encounters have rarely been studied in practice settings. We examined these interactions among practicing internists and assessed whether prior residency policies limiting pharmaceutical sales representative access affected the subsequent behavior of practitioners. METHODS: We conducted a mail survey of the internal medicine staffs of a medical school hospital and two affiliated community hospitals. A second request was sent to nonresponders. After the second mailing, a random sample of nonresponders was compared with a similar sample of respondents. Multivariate odds ratios (OR) and 95% confidence intervals (CI) were estimated with logistic regression. RESULTS: Of the 346 (40%) internists who responded, 22% were women and 60% were trained in university hospitals. There were no differences in gender, subspecialization, or type of training when survey responders and nonresponders were compared. Two hundred eighty-seven (83%) physicians had met with pharmaceutical sales representatives within the previous year, of whom 248 (86%) had received drug samples. Having had a policy that limited access to pharmaceutical sales representatives during residency did not affect the subsequent likelihood of seeing these representatives (P = 0.20) or accepting samples in practice (P = 0.99). Those describing themselves as busy practitioners were significantly less likely to abstain from meeting pharmaceutical sales representatives (OR = 0.2, 95% CI: 0.1 to 0.6, P <0.001). Those with very frequent contacts (>10 times/month) were virtually all busy practitioners. CONCLUSIONS: Encounters between physicians and pharmaceutical sales representatives are common in internal medicine practice, especially in busy offices. Policies designed to limit pharmaceutical sales representative access during residency do not appear to affect the subsequent likelihood of meeting with pharmaceutical sales representatives or accepting samples.


Pharmaceutical sales representatives (PSRs) are a key component of pharmaceutical companies' marketing strategies in that they are the link between the pharmaceutical company and the physician. PSRs provide various services in order to increase the physician's prescribing activity of their companies' products. Given the high cost of recruiting, training, and supporting a PSR, it is important for PSRs to understand the relative significance physicians ascribe to services provided. This study examined whether there is a gap in the perceptions of physicians and PSRs regarding the value of specific services provided by PSRs. Physicians and PSRs who attended medical meetings were surveyed. Results of the study indicated that there were significant differences in the perceived value between PSRs and physicians. Services which were perceived to be less important to physicians than to PSRs were new product detailing, old product detailing, providing product studies and research findings, PSRs serving as expert consultants, and recruiting physicians to participate in FDA approval drug studies. Services for which there were no significant differences of perceived value between the groups included free product samples and promotional luncheons and dinners.


BACKGROUND: Personalized pharmaceutical marketing to physicians, including the provision of gifts and sponsorship of educational and recreational activities, raises ethical issues. We sought to determine the degree to which physicians regarded common pharmaceutical marketing activities as ethically problematic, and to compare the views of experienced physicians and physicians-in-training. METHODS: A questionnaire that included 18 scenarios portraying interactions between physicians and the pharmaceutical industry was distributed to residents and faculty members at a US medical school. RESULTS: Most marketing activities were not thought to pose major ethical problems. Respondents tended to make distinctions about the ethical appropriateness of gifts on the basis of the monetary value and type of gift. Some respondents' views would be in violation of recent professional guidelines that...

PURPOSE: To determine the sources of funding for doctors attending conferences and meetings and the doctors' perception on whether their involvement with the pharmaceutical industry created a conflict of interest or bias in their drug selection. METHOD: A postal questionnaire was distributed to 622 hospital doctors and 515 general practitioners (GPs) working in the Edinburgh area in Scotland, UK. RESULTS: The pharmaceutical industry funded approximately half of the meetings and conferences attended by doctors. Less than 20% of the doctors funded themselves. One-third of the meetings would not have been attended if funding from the industry had not been available. Hospital doctors and GPs had similar views on conflict of interest and bias. A minority of doctors (40%) thought that industry involvement created a conflict of interest but the majority of doctors (86%) thought that it did not create a bias in their own drug selection. CONCLUSIONS: If continuing medical education (CME) for doctors is going to rely on pharmaceutical industry funding in the future, then we need more explicit codes of conduct. It is of concern that while many doctors recognise the potential for the industry to influence their prescribing habits, few recognise that they themselves are susceptible.


This descriptive cross-sectional survey was conducted at University of Ilorin Teaching Hospital to examine the influence of drug promotion by drug companies on the prescription habits of doctors in the hospital. Self-administered questionnaires were used to collect information from 137 doctors selected across all the clinical and laboratory departments using proportionate sampling. Majority (89.0%) of the doctors had attended drug promotion forum and were exposed to 64 different branded drugs within 6 months to this study. Fifty percent of the doctors had prescribed promoted drugs for the first time within 6 months to this study. The influence of drug promotion by drug companies on the prescription habits of doctors in the hospital.


Background. Community pharmacists, pharmaceutical industry and differences in prescribing between GPs. Objective. To explore the role of the pharmacists and pharmaceutical industry representatives. Methods. A cross-sectional survey was undertaken of 1434 GPs in The Netherlands in 2001. Prescribing indicators based on general practice guidelines were used to assess the quality of prescribing. Three constructs, based on survey questions, were used as possible determinants for the quality of prescribing: cooperation with the pharmacist; quality of the Pharmacotherapeutic audit meeting (PTAM); and the GP's attitude towards the pharmacist's role. Data were collected about the frequency of visits by pharmaceutical industry representatives. Responses from 324 solo GPs were analysed using multiple linear regression. Results. Response rate: 71%. For the 324 solo GPs the average score for the 20 prescribing indicators was 64% (SD 3.7). For the non-solo GPs this score was 65% (SD 3.8, P < 0.05). The differences between solo and group practices were: the number of visits from pharmaceutical industry representatives (5.7 versus 3.8 visits per month), full time GPs (93% versus 50%), the number of patients per GP (2151, SD 693 versus 1506, SD 742), and the presence of a GP trainer (21 versus 38%). Of the solo GPs, 4.6% are female, compared with 26% of the GPs in non-solo practices. The quality of prescribing in solo practices was not correlated with the GP's attitude towards the pharmacist's role, the way in which GPs cooperated with pharmacists or the quality of the PTAM. More frequent visits from pharmaceutical industry representatives was associated with a lower quality of prescribing. Conclusion. There was a negative correlation between quality of prescribing by solo GPs and frequency of visits by pharmaceutical industry representatives. In day-to-day practice, no measurable effects of the cooperation between solo GP and pharmacist on the quality of prescribing were observed. (copyright) The Author (2005). Published by Oxford University Press. All rights reserved.
study and over two-thirds agreed that drug promotion materials served as incentives to prescribe promoted drugs in preference to their alternatives. More than two-thirds of the doctors did not prescribe in generic names, thus making them susceptible to prescribing promoted branded drugs. Drug promotion by drug companies influenced prescription habits of doctors in this teaching hospital. This finding though beneficial to the drug companies may not necessarily be cost-effective and to the benefit of the patients. Further studies and attention on this issue in developing countries is necessary with the ultimate aim of protecting the interest of patients in the face of rising cost of pharmaceuticals.


BACKGROUND: Commercial sources of information are known to have greater influence than scientific sources on general practitioners’ (GPs) prescribing behavior in under developed and developing countries. The study aimed to determine the self-reported impact of pharmaceutical promotion on the decision-making process of prescription of GPs in Eastern Turkey. METHODS: A cross-sectional, exploratory survey was performed among 152 GPs working in the primary health centers and hospitals in Erzurum province of Eastern Turkey in 2006. A self-administered structured questionnaire was used. The questionnaire included questions regarding sociodemographics, number of patients per day, time per patient, frequency of sales representative visits to GPs, participation of GPs in training courses on prescribing (in-service training, drug companies), factors affecting prescribing decision, reference sources concerning prescribing and self-reported and self-rated effect of the activities of sales representatives on GPs prescribing decisions. RESULTS: Of 152 subjects, 53.3% were male and 65.8% were working at primary health care centers, respectively. Mean patient per day was 58.3 +/- 28.8 patients per GP. For majority of the GPs (73.7%), the most frequent resource used in case of any problems in prescribing process was drug guides of pharmaceutical companies. According to self-report of the GPs, their prescribing decisions were affected by participation in any training activity of drug companies, frequent visits by sales representatives, high number of patient examinations per day and low year of practice (p < 0.05 for all). CONCLUSION: The results of this study suggest that for the majority of the GPs, primary reference sources concerning prescribing was commercial information provided by sales representatives of pharmaceutical companies, which were reported to be highly influential on their decision-making process of prescribing by GPs. Since this study was based on self-report, the influence reported by the GPs may have been underestimated.


OBJECTIVE: To identify factors that predict physicians’ intent to comply with the American Medical Association’s (AMA’s) ethical guidelines on gifts from the pharmaceutical industry. METHODS: A survey was designed and mailed in June 2004 to a random sample of 850 physicians in Florida, USA, excluding physicians with inactive licences, incomplete addresses, addresses in other states and pretest participants. Factor analysis extracted six factors: attitude towards following the guidelines, subjective norms (eg, peers, patients, etc), facilitating conditions (eg, knowledge of the guidelines, etc), profession-specific precedents (eg, institution’s policies, etc), individual-specific precedents (physicians’ own discretion, policies, etc) and intent. Multivariate regression modelling was conducted. RESULTS: Surveys were received from 213 physicians representing all specialties, with a net response rate of 25.3%. 62% (n = 133) of respondents were aware of the guidelines; 50% (n = 107) had read them. 48% (n = 102) thought that following the guidelines would increase physicians' credibility and professional image; 68% (n = 145) agreed that it was important to do so. Intent to comply was positively associated with attitude, subjective norms, facilitators and sponsorship of continuing medical education (CME) events, while individual-specific precedents had a negative relationship with intent to comply. Predictors of intent (R(2) = 0.52, p <0) were attitude, subjective norms, the interaction term (attitude and subjective norms), sponsorship of CME events and individual-specific precedents. CONCLUSIONS: Physicians are more likely to follow the AMA guidelines if they have positive attitudes towards the guidelines, greater subjective norms, fewer expectations of CME sponsorship and fewer individual-specific precedents. Physicians believing that important individuals or organisations expect them to comply with the guidelines are more likely to express intent, despite having fewer beliefs that positive outcomes would result through compliance.
Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits
Harvard Medical School, Brigham & Woman's Hospital,
Division of Pharmacoepidemiology and Pharmacoeconomics


Pharmaceutical sales representatives (PSRs) can impact physician prescribing. The objective of this study was to test a model of physician and practice setting characteristics as influences on decisions by physicians to see PSRs. A survey was sent to a random sample of 2000 physicians. Multiple linear regression analyses were used to test models for predicting influences on decisions to see PSRs frequently, defined as at least monthly. Independent variables included: presence of restrictive policy for pharmaceutical detailing, volume of prescriptions, gender, age, type of specialty, academic affiliation, practice setting size, and urban versus rural. The dependent variable was frequency of PSRs visits to physicians. Six hundred seventy-one responses were received yielding a response rate of 34.7%. Four hundred thirty-two physicians (79.5%) reported seeing PSRs at least monthly. The decision influence model was found to be significant. Primary care physicians and high-volume prescribers showed increased likelihood to see PSRs. Physicians practicing in settings that were small, urban, without restrictive policies for pharmaceutical detailing, and not academically affiliated were more likely to see PSRs frequently. This model of physician and practice characteristics is useful in explaining the variations in physicians' decision to see PSRs frequently. These characteristics could be used to guide the development of future academic or counter-detailing initiatives to improve evidence-based prescribing.


PURPOSE: To examine relationships between pharmaceutical representatives and obstetrician-gynecologists and identify factors associated with self-reported reliance on representatives when making prescribing decisions. METHOD: In 2006-2007, questionnaires were mailed to 515 randomly selected physicians in the American College of Obstetricians and Gynecologists' Collaborative Ambulatory Research Network. Participants were asked about the information sources used when deciding to prescribe a new drug, interactions with sales representatives, views of representatives' value, and guidelines they had read on appropriate industry interactions. RESULTS: Two hundred fifty-one completed questionnaires (49%) were returned. Seventy-six percent of participants see sales representatives' information as at least somewhat valuable. Twenty-nine percent use representatives often or almost always when deciding whether to prescribe a new drug; 44% use them sometimes. Physicians in private practice are more likely than those in university hospitals to interact with, value, and rely on representatives; community hospital physicians tend to fall in the middle. Gender and age are not associated with industry interaction. Dispensing samples is associated with increased reliance on representatives when making prescribing decisions, beyond what is predicted by a physician's own beliefs about the value of representatives' information. Reading guidelines on physician-industry interaction is not associated with less reliance on representatives after controlling for practice setting. CONCLUSIONS: Physicians' interactions with industry and their familiarity with guidelines vary by practice setting, perhaps because of more restrictive policies in university settings, professional isolation of private practice, or differences in social norms. Prescribing samples may be associated with physicians' use of information from sales representatives more than is merited by the physicians' own beliefs about the value of pharmaceutical representatives.


BACKGROUND: Few studies have reported the attitudes of both individual doctors and members of the public toward the appropriateness of 'gifts' from pharmaceutical companies. AIMS: To investigate the attitudes of both doctors and members of the public toward the appropriateness of receiving particular 'gifts' from pharmaceutical companies, and to consider whether public acceptability is a suitable criterion for determining the ethical appropriateness of 'gifts'. METHODS: A survey questionnaire of medical specialists in Australia and a survey questionnaire of members of the public itemized 23 'gifts' (valued between AU$10 and AU$2500) and asked whether or not each was appropriate. RESULTS: Both medical specialists and members of the public believe certain 'gifts' from pharmaceutical companies are appropriate but not others. There was a tendency for members of the public to be more permissive than medical specialists. CONCLUSION: Although some professional guidelines place importance on the attitudes of the general public to 'gift' giving, and other guidelines give importance to a need for transparency and public accountability, we question whether public acceptability is a suitable criterion for determining the ethical appropriateness of 'gifts'. We suggest that more weight be given to the need for independence of clinical decision making, with empirical evidence indicating that even small 'gifts' can bias clinicians' judgments, and to important values such as the primacy of patient welfare, autonomy and social justice. We conclude that it is time to eliminate giving and receiving of promotional items between the pharmaceutical industry and members of health professions.
BACKGROUND: Previous surveys on the relationship between physicians and pharmaceutical representatives (PRs) have been of limited quality. The purpose of our survey of practicing physicians in Japan was to assess the extent of their involvement in pharmaceutical promotional activities, physician characteristics that predict such involvement, attitudes toward relationships with PRs, correlations between the extent of involvement and attitudes, and differences in the extent of involvement according to self-reported prescribing behaviors. METHODS AND FINDINGS: From January to March 2008, we conducted a national survey of 2621 practicing physicians in seven specialties: internal medicine, general surgery, orthopedic surgery, pediatrics, obstetrics-gynecology, psychiatry, and ophthalmology. The response rate was 54%. Most physicians met with PRs (98%), received drug samples (85%) and stationery (96%), and participated in industry-sponsored continuing medical education (CME) events at the workplace (80%) and outside the workplace (93%). Half accepted meals outside the workplace (49%) and financial subsidies to attend CME events (49%). Rules at the workplace banning both meetings with PRs and gifts predicted less involvement of physicians in promotional activities. Physicians valued information from PRs. They believed that they were unlikely to be influenced by promotional activities, but that their colleagues were more susceptible to such influence than themselves. They were divided about the appropriateness of low-value gifts. The extent of physician involvement in promotional activities was positively correlated with the attitudes that PRs are a valuable source of information and that gifts are appropriate. The extent of such involvement was higher among physicians who prefer to ask PRs for information when a new medication becomes available, physicians who are not satisfied with patient encounters ending only with advice, and physicians who prefer to prescribe brand-name medications. CONCLUSIONS: Involvement in pharmaceutical promotional activities is widespread among practicing physicians in Japan. The extent of such involvement varies according to certain physician characteristics. As a group, they are at risk for influence by promotional activities.

BACKGROUND: The prescribing patterns depend on the physicians' attitudes and their subjective norms towards prescribing a particular drug, as well as on their personal experience with a particular drug. The physicians are affected by their interactions with pharmaceutical industry. OBJECTIVE: The objectives were to develop a scale for assessment of pharmaceutical sales representatives (PSRs) by the family doctors (FDs) and to determine factors for their evaluation. METHOD: Cross-sectional anonymous postal study. We included a random sample of 250 Slovenian FDs. Settings. Slovenian FDs' surgeries. MAIN OUTCOME MEASURE: The score of various items regarding FDs' assessment of PSRs on a 7-point Likert scale. RESULTS: We got 163 responses (65.2% response rate). The most important characteristic of PSRs, as rated by respondents on the scale from 1 to 7, was the fact that they did not mislead when presenting products' information. The second most important characteristic was the ability to provide objective information about the product. The first three most important characteristics, as rated by the respondents by themselves, were 'Shows good knowledge on the promoted subject', 'Provides objective product information' and 'Makes brief and exact visits'. Cronbach's alpha of the composite scale was 0.844. Factor analysis revealed three PSRs' factors: selling skills, communicating skills and sense of trustworthiness. CONCLUSION: FDs evaluate PSRs mainly by their managerial skills and trustworthiness. The scale proved to be a reliable tool for assessing PSRs by FDs.


Bauer, a professor at Harvard Business School who performed several market research assessments for pharmaceutical firms, assesses available data on sources physicians use to evaluate new drug products.

The goal of this study was to focus on the adoption process for a specific new drug upon its introduction to the marketplace. The reception of temazepam by doctors was investigated in interviews with 124 specialists and general practitioners. Their response to this new drug at different stages of the adoption process was related to contact with drug information sources and to characteristics of the doctor and practice. Within about 13 months after its release, 71% were familiar with temazepam, 48% had prescribed it, and 27% now preferred it to the alternatives. Contact with the detailman regarding this drug was the most consistent predictor of favourable reception. Results suggest that the adoption of the new drug was related to commercial forces rather than to a doctor's professional involvements.


Physicians in northwestern Pennsylvania were surveyed to identify the factors that influenced their attitudes toward pharmaceutical sales representatives (PSRs). The results suggest that physicians' attitudes were influenced by the information and educational support they received from PSRs, selling techniques used by the PSRs to promote their products, and the volume of patients they saw.


Questionnaire of prescribing physicians in Kentucky gauging relationship between self-reported use of prescribing information from pharmaceutical industry sources and overall cost of prescription practice.


Pharmaceutical sales representatives (PSRs) can impact physician prescribing. The objective of this study was to test a model of physician and practice setting characteristics as influences on decisions by physicians to see PSRs. A survey was sent to a random sample of 2000 physicians. Multiple linear regression analyses were used to test models for predicting influences on decisions to see PSRs frequently, defined as at least monthly. Independent variables included: presence of restrictive policy for pharmaceutical detailing, volume of prescriptions, gender, age, type of specialty, academic affiliation, practice setting size, and urban versus rural. The dependent variable was frequency of PSRs visits to physicians. Six hundred seventy-one responses were received yielding a response rate of 34.7%. Four hundred thirty-two physicians (79.5%) reported seeing PSRs at least monthly. The decision influence model was found to be significant. Primary care physicians and high-volume prescribers showed increased likelihood to see PSRs. Physicians practicing in settings that were small, urban, without restrictive policies for pharmaceutical detailing, and not academically affiliated were more likely to see PSRs frequently. This model of physician and practice characteristics is useful in explaining the variations in physicians' characteristics who see PSRs frequently. These characteristics could be used to guide the development of future academic or counter-detailing initiatives to improve evidence-based prescribing.


PURPOSE: To examine relationships between pharmaceutical representatives and obstetrician-gynecologists and identify factors associated with self-reported reliance on representatives when making prescribing decisions. METHOD: In 2006-2007, questionnaires were mailed to 515 randomly selected physicians in the American College of Obstetricians and Gynecologists' Collaborative Ambulatory Research Network. Participants were asked about the information sources used when deciding to prescribe a new drug, interactions with sales representatives, views of representatives' value, and guidelines they had read on appropriate industry interactions. RESULTS: Two hundred fifty-one completed questionnaires (49%) were returned. Seventy-six percent of participants see sales representatives' information as at least somewhat valuable. Twenty-nine percent use representatives often or almost always when deciding whether to prescribe a new drug; 44% use them sometimes. Physicians in private practice are more likely than those in university hospitals to interact with, value, and rely on representatives; community hospital physicians tend to fall in the middle. Gender and age are not associated with industry interaction. Dispensing samples is associated with increased reliance on representatives when making prescribing decisions, beyond what is predicted by a physician's own beliefs about the value of representatives' information. Reading guidelines on physician-industry interaction is not associated with less reliance on...
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BACKGROUND: Physicians and pharmaceutical sales representatives (PSR) are in regular contact. The goal of the present study is systematically to assess the kind of contacts that take place and their quality with a survey of physicians in private practice. A further goal is to determine whether alternatives to current practices can be envisioned. METHODS: 100 physicians in each of three specialties (neurology/psychiatry, general medicine, and cardiology) were surveyed with a questionnaire containing 37 questions. 208 (69.3%) questionnaires were anonymously filled out and returned. RESULTS: 77% (n = 160) of all physicians were visited by PSR at least once a week, and 19% (n = 39) every day. Pharmaceutical samples, items of office stationery and free lunches were the most commonly received gifts. 49% (n = 102) stated that they only occasionally, rarely, or never receive adequate information from PSR, and 76% (n = 158) stated that PSR often or always wanted to influence their prescribing patterns. Only 6% (n = 13) considered themselves to be often or always influenced, while 21% (n = 44) believed this of their colleagues. The physicians generally did not believe that PSR visits and drug company-sponsored educational events delivered objective information, in contrast to medical texts and non-sponsored educational events. Nonetheless, 52% (n = 108) of the physicians would regret the cessation of PSR visits, because PSRs give practical prescribing information, offer support for continuing medical education, and provide pharmaceutical samples. CONCLUSION: PSR visits and attempts to influence physicians' prescribing behavior are a part of everyday life in private medical practice, yet only a few physicians consider themselves to be susceptible to this kind of influence. A more critical attitude among physicians, and the creation of alternative educational events without drug company sponsoring, might lead to more independence and perhaps to more rational and less costly drug-prescribing practices.

**PRESCRIBING INFLUENCE** (44)


Review article of 15 studies conducted between 1940 and 1969 exploring the comparative roles of pharmacists, patients, journals, peers, advertising, and pharmaceutical representatives in influencing prescribing decision making.


A review of the effect of advertising drug products in medical journals on the prescribing of drugs. The scope of advertising, the content of advertising, the latent effects of advertising, the effects of advertisement on prescribing, and the social costs and benefits of advertising are discussed. Advertising for antibiotic and psychotropic drug products is reviewed in some detail. It is concluded that there is inconclusive evidence that the pharmaceutical industry, through journal advertising, is persuading physicians to prescribe drugs too often or unwisely, or both. It is suggested that pharmacists study the information needs of health care practitioners and provide good drug information services.


The hypothesis that prescribing rationality is related to physician rather than patient characteristics was investigated and the relationship between prescribing rationality and the use of different sources of drug information and age of the General Practitioner was examined. Prescribing rationality was assessed by a panel of experts with the case-history method. Data on the use of different sources of information were collected in a follow-up interview. One hundred sixteen (116) General Practitioners in Twente (a region in the east of the Netherlands) cooperated in the study. It was found that prescribing rationality is a physician characteristic. Younger General Practitioners prescribe in a more rational way
than their older colleagues and this is partly reflected in the patterns of obtaining information. None of the studied professional sources of information seemed to have a great impact on prescribing rationality, with the exception of reliance on general medical journals instead of on drug oriented journals as a source of drug-information. This was negatively associated with prescribing rationality as well as reliance on the information of drug firms.


The cost-effectiveness of quality assurance programs is often poorly documented, especially for innovative approaches. The authors analyzed the economic effects of an experimental educational outreach program designed to reduce inappropriate drug prescribing, based on a four-state randomized controlled trial (N = 435 physicians). Primary care physicians randomized into the face-to-face group were offered two individualized educational sessions with clinical pharmacists, lasting an average of 18 minutes each, concerning optimal use of three drug groups that are often used inappropriately. After the program, expenditures for target drugs prescribed by these physicians to Medicaid patients decreased by 13%, compared with controls (P = 0.002); this effect was stable over three quarters. Implementation of this program for 10,000 physicians would lead to projected drug savings (to Medicaid only) of $2,050,000, compared with resource costs of $940,000. Net savings remain high, even after adjustment for use of substitution medications. Although there was a ninefold difference in average preintervention prescribing levels between the highest and lowest thirds of the sample, all groups reduced target drug expenditures at the same rate. Targeting of higher-volume prescribers would thus further raise the observed benefit-to-cost ratio from approximately 1.8 to at least 3.0. Net benefits would also increase further if non-Medicaid savings were added, or if the analysis included quality-of-care considerations. Although print materials alone may be marginally cost-effective, print plus face-to-face approaches offer greater net benefits. The authors conclude that a program of brief, face-to-face “detailing” visits conducted by academic rather than commercial sources can be a highly cost-effective method for improving drug therapy decisions. Such an approach makes possible the enhancement of physicians’ clinical expertise without relying on restriction of drug choices.


In analyzing a university-based program to educate physicians about proper medication use, we sought to measure whether physician background characteristics and the quality or number of educational exposures influenced the rate of relinquishment of inappropriate prescribing. A sample of 435 doctors was randomized to control and experimental groups; interventions consisted of printed educational materials and face-to-face visits by clinical pharmacists. The program sought to reduce inappropriate use of three drug categories: propoxyphene, peripheral/cerebral vasodilators, and cephalexin. Outcome data included the total volume (tablets/capsules) of these drugs prescribed through Medicaid by each study physician 9 months before and after the program. We estimated average changes in prescribing levels by experimental and control physicians within each physician subgroup (e.g., board-certified versus uncertified), adjusting for prescribing level in the same 9 months of the previous year. The results indicated that the rate of prescribing change was independent of most physician background characteristics studied, including age, board certification, specialty, rural versus urban practice, intensity of previous target drug use, and size of Medicaid practice. Experimental effects were highly significant (-9% to -20%, P less than 0.025) in 11 of 14 physician subgroups. The presence of a follow-up reinforcement visit was a strong independent predictor of prescribing change (P less than 0.05). An increase from one visit to two visits was associated with an approximate doubling of the size of the program effect. However, total exposure time was not related to changes in prescribing behavior. These findings document that face to face education can be effective in improving the prescribing practices of a wide variety of physicians, and that brevity, repetition, and reinforcement of recommended practices are important components in the design of such programs.


Supported in part by the Attorneys General Prescriber Education Grant Program
Although there is increasing concern about inappropriate physician prescribing and how to devise programs to improve drug therapy decisions, little research has been published documenting the reasons for such misprescribing. We analyzed the motivations reported by 141 physicians who were part of a large multi-state randomized controlled trial of ‘academic detailing.’ The physicians were identified from state Medicaid prescribing records as moderate to high prescribers of cerebral or peripheral vasodilators, propoxyphene, or cephalexin, and were visited by clinical pharmacists serving as outreach educators in a medical school-based prescribing improvement program. Physicians’ motivations for their prescribing patterns were discussed in an informal, interactive manner; all responses were recorded in detail by the pharmacists immediately following each visit. Of the 110 responses elicited, the most common reason offered by physicians for use of these medications was patient demand (51 statements, or 46%). Physicians also frequently attributed their prescribing of these drugs to intentional use of placebo effect (24%). An equally common reason was prescribers’ assertion that their own clinical experience indicated that these drugs were actually therapies of choice in the conditions presented (26%), despite evidence from the research literature that this was not the case. Such indications included the use of the ‘vasodilators’ for senile dementia or peripheral vascular disease, cephalexin for viral upper respiratory infections, and propoxyphene instead of acetaminophen or aspirin for mild pain. Greater attention must be paid to physicians’ attitudes and motivations concerning suboptimal prescribing if programs are to succeed in replacing these practices with more rational clinical decision-making.


We examined the impact on physician prescribing patterns of pharmaceutical firms offering all-expenses-paid trips to popular sunbelt vacation sites to attend symposia sponsored by a pharmaceutical company. The impact was assessed by tracking the pharmacy inventory usage reports for two drugs before and after the symposia. Both drugs were available only as intravenous preparations and could be used only on hospitalized patients. The usage patterns were tracked for 22 months preceding each symposium and for 17 months after each symposium. Ten physicians invited to each symposium were interviewed about the likelihood that such an enticement would affect their prescribing patterns. A significant increase in the prescribing pattern of both drugs occurred following the symposia. The usage of drug A increased from a mean of 81 +/- 44 units before the symposium to a mean of 272 +/- 117 after the symposium (p less than 0.001). The usage of drug B changed from 34 +/- 30 units before the symposium to 87 +/- 24 units after the symposium (p less than 0.001). The usage of drug B changed from 34 +/- 30 units before the symposium to 87 +/- 24 units (p less than 0.001) after the symposium. These changed prescribing patterns were also significantly different from the national usage patterns of the two drugs by hospitals with more than 500 beds and major medical centers over the same period of time. These alterations in prescribing patterns occurred even though the majority of physicians who attended the symposia believed that such enticements would not alter their prescribing patterns.


There is an informational void about pharmaceuticals in the training of most doctors, despite the importance of the prescription in medical care. The writing of the prescription is the final common pathway in therapeutic decision making, which involves such diverse forces and disciplines as anthropology, decision science, health economics, ethics, and politics, as well as pharmacology and clinical medicine. Programs to improve the precision and cost-effectiveness of doctors' prescribing must consider all of these factors if pharmacotherapeutics are to be used optimally.


In order to measure the effect of industry-independent information on the prescribing of benzodiazepines in general practice, 128 primary practitioners were randomly allocated to three intervention groups after stratification by year of graduation. One third of the participating physicians were forwarded written information about the indications and limitations of benzodiazepines, another third received both written and oral information, and the remaining third (the control group) obtained no information at all. A comparison of the number of benzodiazepines prescribed per 100 patient contacts with prescription before and after the intervention showed an average decrease of 3% in the control group, of 14% in physicians...
who received only written information, and of 24% in physicians who were given additional oral
information. Post hoc pair-wise comparisons revealed a significant difference at the 1% level in the
number of benzodiazepines prescribed between physicians who received both written and oral information
and the control group. A follow-up survey conducted 4 weeks after the intervention showed that the oral
information campaign positively affected physicians’ attitudes about the value of oral drug information
from an industry-independent source.

T. J. Wang, J. C. Ausiello, and R. S. Stafford, "Trends in Antihypertensive Drug Advertising,

BACKGROUND: Over the past decade, calcium channel blockers (CCBs) and ACE inhibitors have been used
increasingly in the treatment of hypertension. In contrast, beta-blocker and diuretic use has decreased. It
has been suggested that pharmaceutical marketing has influenced these prescribing patterns. No objective
analysis of advertising for antihypertensive therapies exists, however. METHODS AND RESULTS: We
reviewed the January, April, July, and October issues of the New England Journal of Medicine from 1985 to
1996 (210 issues). The intensity of drug promotion was measured as the proportion of advertising pages
used to promote a given medication. Statistical analyses used the chi2 test for trend. Advertising for CCBs
increased from 4.6% of advertising pages in 1985 to 26.9% in 1996, while advertising for beta-blockers
(12.4% in 1985 to 0% in 1996) and diuretics (4.2% to 0%) decreased (all P<0.0001). A nonsignificant
increase was observed in advertising for ACE inhibitors (3.5% to 4.3%, P=0.17). Although the total
number of drug advertising pages per issue decreased from 60 pages in 1985 to 42 pages in 1996
(P<0.001), the number of pages devoted to calcium channel blocker advertisements nearly quadrupled.
CONCLUSIONS: Increasing promotion of CCBs has mirrored trends in physician prescribing. An association
between advertising and prescribing patterns could explain why CCBs have supplanted better-
substantiated therapies for hypertension.

A. Wazana, "Physicians and the Pharmaceutical Industry: Is a Gift Ever Just a Gift?," *Jama,
2000 283: 373-80.*

CONTEXT: Controversy exists over the fact that physicians have regular contact with the pharmaceutical
industry and its sales representatives, who spend a large sum of money each year promoting to them by
way of gifts, free meals, travel subsidies, sponsored teachings, and symposia. OBJECTIVE: To identify the
extent of and attitudes toward the relationship between physicians and the pharmaceutical industry and
its representatives and its impact on the knowledge, attitudes, and behavior of physicians. DATA
SOURCES: A MEDLINE search was conducted for English-language articles published from 1994 to
present, with review of reference lists from retrieved articles; in addition, an Internet database was
searched and 5 key informants were interviewed. STUDY SELECTION: A total of 538 studies that provided
data on any of the study questions were targeted for retrieval, 29 of which were included in the analysis.
DATA EXTRACTION: Data were extracted by 1 author. Articles using an analytic design were considered to
be of higher methodological quality. DATA SYNTHESIS: Physician interactions with pharmaceutical
representatives were generally endorsed, began in medical school, and continued at a rate of about 4
times per month. Meetings with pharmaceutical representatives were associated with requests by
physicians for adding the drugs to the hospital formulary and changes in prescribing practice. Drug
company-sponsored continuing medical education (CME) preferentially highlighted the sponsor's drug(s)
compared with other CME programs. Attending sponsored CME events and accepting funding for travel or
lodging for educational symposia were associated with increased prescription rates of the sponsor's
medication. Attending presentations given by pharmaceutical representative speakers was also associated
with nonrational prescribing. CONCLUSION: The present extent of physician-industry interactions appears
to affect prescribing and professional behavior and should be further addressed at the level of policy and
education.

J. Avorn, and D. H. Solomon, "Cultural and Economic Factors That (Mis)Shape Antibiotic Use:

The use of antibiotics in both ambulatory and inpatient settings is heavily shaped by cultural and economic
factors as well as by microbiological considerations. These nonpharmacologic factors are relevant to
clinicians and policymakers because of the clinical and fiscal toll of inappropriate antibiotic prescribing,
including excessive use, preventable adverse effects, and the increasing prevalence of resistant
organisms. An understanding of the determinants of antibiotic consumption is critical to explain current
patterns of use and to devise programs to reduce inappropriate use. Patient motivations include the desire
for a tangible product of the clinical encounter coupled with incorrect perceptions of the effectiveness of
antibiotics, particularly in viral infections. Physician behavior can be explained by such factors as lack of
information, a desire to satisfy patient demand, and pressure from managed care organizations to speed
throughput. Marketing campaigns directed at both physicians and patients further serve to increase demand, especially for newer, costlier products. Studies of antibiotic use patterns in inpatient and outpatient care consistently demonstrate considerable inappropriate prescribing, which is likely to exacerbate the emergence of resistant organisms. Several approaches have been shown to improve the rationality of antibiotic use. Computer-based algorithms or reminders can prompt physicians to improve antibiotic choices at the time of prescribing; paper-based order entry forms can achieve the same goal. Interactive educational outreach ("academic detailing") is a practical implementation of social marketing principles to improve antibiotic use. Public education programs directed at consumers can help to reduce the inappropriate patient demand that helps to drive much improper antibiotic prescribing.


Data were collected from physicians attending a medical conference. This exploratory study was primarily interested in two areas. First, the investigators were interested in better understanding physicians' responses to different promotional tactics typically used by the pharmaceutical industry. Pharmaceutical representatives were most useful, followed by drug samples and infomercials in medical journals. Direct mail, promotional faxes, and promotional products were used less by physicians. Second, the investigators were interested in learning what information sources influenced physicians' drug choices. Physicians were primarily influenced by their prior experience with a drug, then by drug compendiums, and journal articles. Physicians were also influenced by information provided by the industry and other factors, like the drug's price and their patients' financial situations. Managerial implications for marketing to physicians and ideas for future research are discussed.


CONTEXT: The long-term effect of policies restricting contact between residents and pharmaceutical company representatives (PCRs) during internal medicine training is unknown. The McMaster University Department of Medicine in Hamilton, Ontario, implemented a policy restricting PCR contact with trainees in 1992, whereas the Department of Medicine at the University of Toronto, Toronto, Ontario, has no such policy. OBJECTIVE: To determine if the presence of a restrictive policy and the frequency of contact with PCRs during internal medicine training predict attitudes and behavior several years after completion of training. DESIGN, SETTING, AND PARTICIPANTS: Retrospective analysis of the attitudes and behavior of 3 cohorts of physicians: University of Toronto trainees, prepolicy McMaster trainees, and postpolicy McMaster trainees. Surveys were mailed to 242 former University of Toronto and 57 former McMaster trainees who completed their internal medicine training between 1990 and 1996, with response rates of 163 (67%) and 42 (74%), respectively. MAIN OUTCOME MEASURES: Physician attitude, assessed by a question about the perceived helpfulness of PCR information, and behavior, assessed by whether physicians met with PCRs in the office and the frequency of contacts with PCRs (current contact score, consisting of conversations with PCRs, PCR-sponsored events attended, gifts, honoraria, and consulting fees received). RESULTS: In both the unadjusted and multiple regression analyses, postpolicy McMaster trainees were less likely to find information from PCRs beneficial in guiding their practice compared with Toronto and prepolicy McMaster trainees, with unadjusted odds ratios (ORs) of 0.44 (95% confidence interval [CI], 0.20-0.94) and 0.39 (95% CI, 0.13-1.22), respectively. All 3 groups were equally likely to report that they met with PCRs in their office in the past year (88%). Postpolicy McMaster trainees had a lower current contact score compared with Toronto (9.3 vs 10.9; P = .04) and prepolicy McMaster trainees (9.3 vs 10.8; P = .18). In multiple regression models, greater frequency of contact with PCRs during training was a predictor of increased perceived benefit of PCR information (OR, 1.29; 95% CI, 1.13-1.47) and was positively correlated with the current contact score (partial r = 0.49; P < .001). Number of PCR-sponsored rounds attended during training was not a consistent predictor of attitudes or behavior. CONCLUSIONS: Policies restricting PCR access to internal medicine trainees and the amount of contact sponsored rounds attended during training was not a consistent predictor of attitudes or behavior.


Narrative discussion of the role of pharmaceutical promotion in shaping the definition of disease categories and affecting physician prescribing patterns.
Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits
Harvard Medical School, Brigham & Woman’s Hospital,
Division of Pharmacoepidemiology and Pharmacoeconomics


The pharmaceutical industry affects physicians' clinical decision-making, especially their prescribing behaviour. However, little is known of the interactions between medical students and the pharmaceutical industry. The purpose of the present study was to examine the extent and perceived influence of pharmaceutical promotion on Finnish medical students and students' attitudes towards such promotion. Altogether 952 students (34%) responded to an anonymous questionnaire that was distributed to all Finnish medical students at varying levels of study. Students reported that they attended presentations by pharmaceutical company representatives on a frequent basis. A total of 44% attended at least twice a month. Students regarded the pharmaceutical industry as one of their most important sources of pharmaceutical information. The importance attached to pharmaceutical promotion as a source of pharmaceutical information and the intensity of pharmaceutical marketing increased over the course of medical studies. Although most students were not in favour of reducing promotion, the students largely believed that such activities would affect their future prescribing behaviour, and the awareness of this influence increased over the course of studies. The fact that medical students are commonly exposed to pharmaceutical promotion should be addressed in medical education.


Position paper on physician-industry interactions.


PURPOSE: Little is known about the knowledge and skills internal medicine residents need to interact appropriately with pharmaceutical industry representatives. The authors conducted a needs assessment of current knowledge and preferences for potential components of a new educational initiative among residents. METHOD: In 2001, a two-page questionnaire using a five-point ordinal scale was mailed to all internal medicine residents and faculty at one institution. Analysis included use of Wilcoxon two-sample test. RESULTS: Response rates were 97% (85/88) for residents and 79% (86/109) for faculty. Residents and faculty's knowledge about formal position statements or literature on the impact of marketing strategies on prescribing patterns, drug marketing costs, or how pharmaceutical representatives are trained to interact with physicians was very limited. Most responders felt residents should learn to critically interpret promotional materials, recognize potential for conflict of interest, and consider how patients perceive the physician-pharmaceutical industry relationship. More faculty than residents valued including position statements (66% versus 39%, p <.001) and literature exploring the impact of marketing on prescribing patterns (70% versus 41%, p <.001) in education. Only one-half or fewer favored small-group discussions, lecture series, critical-reading skills seminars, or panel discussions. CONCLUSIONS: Internal medicine residents and faculty reported low levels of knowledge about physician-pharmaceutical industry relationships. Some consensus about educational components existed, but optimal educational formats remain uncertain. A six-hour curriculum to address this complex, emotionally charged topic was developed, implemented, and evaluated.


PURPOSE: The purpose of the study was to determine whether access to drug samples influences resident prescribing decisions. SUBJECTS AND METHODS: The authors observed 390 decisions to initiate drug therapy by 29 internal medicine residents over a 6-month period in an inner-city primary care clinic. By random selection, half of the residents agreed not to use available free drug samples. Five drug class pairs were chosen for study prospectively. Highly advertised drugs were matched with drugs commonly used for the same indication that were less expensive, available over-the-counter, or available in generic formulation. RESULTS: Resident physicians with access to drug samples were less likely to choose unadvertised drugs (131/202 decisions) than residents who did not have access to samples (138/188 decisions; P = .04) and less likely to choose over-the-counter drugs (51/202, 73/188; P = .003). There was a trend toward less use of inexpensive drugs. CONCLUSION: Access to drug samples in clinic influences resident prescribing decisions. This could affect resident education and increase drug costs for patients.

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PURPOSE: To compare group versus individual academic detailing to increase diuretic or beta-blocker use in hypertension. METHODS: We conducted a cluster-randomized controlled trial in a large health maintenance organization. Subjects (N=9820) were patients with newly treated hypertension in the year preceding the intervention (N=3692), the 9 months following the intervention (N=3556), and the second year following intervention (N=2572). We randomly allocated 3 practice sites to group detailing (N=227 prescribers), 3 to individual detailing (N=235 prescribers), and 3 to usual care (N=319 prescribers).

Individual detailing entailed a physician-educator meeting individually with clinicians to address barriers to prescribing guideline-recommended medications. The group detailing intervention incorporated the same social marketing principles in small groups of clinicians. RESULTS: In the first year following the intervention, the rates of diuretic or beta-blocker use increased by 13.2% in the group detailing practices, 12.5% in the individual detailing practices, and 6.2% in the usual care practices. As compared with usual care practices, diuretic or beta-blocker use was more likely in group detailing practices (adjusted odds ratio (OR), 1.40; 95% confidence interval (CI), 1.11 - 1.76) and individual detailing practices (adjusted OR, 1.30; 95% CI, 0.95 - 1.79). Neither intervention affected blood pressure control. Two years following this single-visit intervention, there was still a trend suggesting a persistent effect of individual (OR, 1.22; 95% CI, 0.92 - 1.62), but not group, detailing (OR, 1.06; 95% CI, 0.80 - 1.39), as compared with usual care. CONCLUSION: Both group and individual academic detailing improved antihypertensive prescribing over and above usual care but may require reinforcement to sustain improvements.


Surveillance of physicians' prescribing patterns and the accumulation and sale of these data for pharmaceutical marketing are currently the subjects of legislation in several states and action by state and national medical associations. Contrary to common perception, the growth of the health care information organization industry has not been limited to the past decade but has been building slowly over the past 50 years, beginning in the 1940s when growth in the prescription drug market fueled industry interest in understanding and influencing prescribing patterns. The development of this surveillance system was not simply imposed on the medical profession by the pharmaceutical industry but was developed through the interactions of pharmaceutical salesmen, pharmaceutical marketers, academic researchers, individual physicians, and physician organizations. Examination of the role of physicians and physician organizations in the development of prescriber profiling is directly relevant to the contemporary policy debate surrounding this issue.


Review of strategies used by sales representatives to foster relationships with physicians and influence prescribing habits.


BACKGROUND: Sales visits by pharmaceutical representatives ("drug detailing") are common, but little is known about the content of these visits or about the impact of visit characteristics on prescribing behavior. In this study, we evaluated the content and impact of detail visits for gabapentin by analyzing market research forms completed by physicians after receiving a detail visit for this drug. METHODS AND FINDINGS: Market research forms that describe detail visits for gabapentin became available through litigation that alleged that gabapentin was promoted for "off-label" uses. Forms were available for 97 physicians reporting on 116 detail visits between 1995 and 1999. Three-quarters of recorded visits (91/116) occurred in 1996. Two-thirds of visits (72/107) were 5 minutes or less in duration, 65% (73/113) were rated of high informational value, and 39% (42/107) were accompanied by the delivery or promise of samples. During the period of this study, gabapentin was approved by the US Food and Drug Administration only for the adjunctive treatment of partial seizures, but in 38% of visits (44/115) the "main message" of the visit involved at least one off-label use. After receiving the detail visit, 46% (50/108) of physicians reported the intention to increase their prescribing or recommending of gabapentin in the future. In multivariable analysis, intent to increase future use or recommendation of gabapentin...
was associated with receiving the detail in a small group (versus one-on-one) setting and with low or absent baseline use of the drug, but not with other factors such as visit duration, discussion of "on-label" versus "off-label" content, and the perceived informational value of the presentation. CONCLUSIONS: Detail visits for gabapentin were of high perceived informational value and often involved messages about unapproved uses. Despite their short duration, detail visits were frequently followed by physician intentions to increase their future recommending or prescribing of the drug.


ABSTRACT: BACKGROUND: The efficacy of academic detailing in changing physicians knowledge and practice has been the subject of many primary research publications and systematic reviews. However, there is little written about the features of academic detailing that physicians find valuable or that affect their use of it. The goal of our project was to explore family physicians (FPs) perceptions of academic detailing and the factors that affect their use of it. METHODS: We used 2 methods to collect data, a questionnaire and semi-structured telephone interviews. We mailed questionnaires to all FP's in the Dalhousie Office of Continuing Medical Education database and analyzed responses of non-users and users of academic detailing. After a preliminary analysis of questionnaire data, we conducted semi-structured interviews with 7 FP's who did not use academic detailing and 17 who did use it. RESULTS: Overall response rate to the questionnaire was 33% (289/869). Response rate of non-users of academic detailing was 15% (60/393), of users was 48% (229/476). The 3 factors that most encouraged use of academic detailing were the topics selected, the evidence-based approach adopted, and the handout material. The 3 factors that most discouraged the use of academic detailing were spending office time doing CME, scheduling time to see the academic detailer, and having CME provided by a non-physician. Users of academic detailing rated it as being more valuable than other forms of CME. Generally, interview data confirmed questionnaire data with the exception that interview informants did not view having CME provided by a non-physician as a barrier. Interview informants mentioned that the evidence-based approach adopted by academic detailing had led them to more critically evaluate information from other CME programs, pharmaceutical representatives, and journal articles, but not advice from specialists. CONCLUSIONS: Users of academic detailing highly value its educational value and tend to view information from other sources more critically because of its evidence-based approach. Non-users are unlikely to adopt academic detailing despite its high educational value because they find using office time for CME too much of a barrier. To reach these physicians with academic detailing messages, we will have to find other CME formats.


Editorial on appropriateness of marketing materials handed out in clinical settings


Review of observational studies between physician and sales representative contacts reporting on the quality of information obtained. Concluding that representatives present biased information about their products.


BACKGROUND: Although pharmaceutical sales representatives provide physicians with information on new products, these encounters have rarely been studied in practice settings. We examined these interactions among practicing internists and assessed whether prior residency policies limiting pharmaceutical sales
representative access affected the subsequent behavior of practitioners. METHODS: We conducted a mail survey of the internal medicine staffs of a medical school hospital and two affiliated community hospitals. A second request was sent to nonresponders. After the second mailing, a random sample of nonresponders was compared with a similar sample of respondents. Multivariate odds ratios (OR) and 95% confidence intervals (CI) were estimated with logistic regression. RESULTS: Of the 346 (40%) internists who responded, 22% were women and 60% were trained in university hospitals. There were no differences in gender, subspecialization, or type of training when survey responders and nonresponders were compared. Two hundred eighty-seven (83%) physicians had met with pharmaceutical sales representatives within the previous year, of whom 248 (86%) had received drug samples. Having had a policy that limited access to pharmaceutical sales representatives during residency did not affect the subsequent likelihood of seeing these representatives (P = 0.20) or accepting samples in practice (P = 0.99). Those describing themselves as busy practitioners were significantly less likely to abstain from meeting pharmaceutical sales representatives (OR = 0.2, 95% CI: 0.1 to 0.6, P < 0.001). Those with very frequent contacts (>10 times/month) were virtually all busy practitioners. CONCLUSIONS: Encounters between physicians and pharmaceutical sales representatives are common in internal medicine practice, especially in busy offices. Policies designed to limit pharmaceutical sales representative access during residency do not appear to affect the subsequent likelihood of meeting with pharmaceutical sales representatives or accepting samples.


Study finding that public-private collaborations between NHS and pharmaceutical industry to use sales representative for health marketing purposes did not lead to changes in prescribing behavior.


This paper provides an in-depth, qualitative analysis of the physicians' decision process for drug prescription. Drugs in the considered therapeutic classes are mainly prescribed by specialists, treating patients with obligatory medical insurance, for a prolonged period of time. The research approach is specifically designed to capture the full complexity and sensitive nature of the physician's choice behavior, which appears to be more hybrid and less rational in nature than is often assumed in quantitative, model-based analyses of prescription behavior. Several interesting findings emerge from the analysis: (i) non-compensatory decision rules seem to dominate the decision process, (ii) consideration sets are typically small and change-resistant, (iii) drug cost is not a major issue for most physicians, (iv) detailing remains one of the most powerful pharmaceutical marketing instruments and is highly appreciated as a valuable and quick source of information, and (v) certain types of non-medical marketing incentives (such as free conference participation) may in some situations also influence drug choices.


Integrative review of the literature on effectiveness of direct-to-physician marketing, principally on effects and durability of detailing.


CONTEXT: General practitioners are frequently involved in clinical trials sponsored by pharmaceutical companies but the effects of participation on their prescribing patterns have not been evaluated. OBJECTIVE: To determine how conducting a company-sponsored clinical trial influenced physicians' adherence to international treatment recommendations and their prescribing of the pharmaceutical company's drugs. DESIGN, SETTING, AND PATIENTS: Observational cohort study in Funen County, Denmark, comparing 10 practices that were conducting a trial on asthma medicine with 165 control (non-trial-conducting) practices. The study population included 5439 patients treated with asthma drugs from the trial-conducting practices and 59,574 patients from the control practices. Practices conducted the trial...
between April 26, 2001, and October 7, 2002. MAIN OUTCOME MEASURES: Adherence to guidelines measured as use of inhaled corticosteroids among asthma patients. Prevalence of use of the company’s drugs and the trial sponsor’s share of the total volume of asthma drugs prescribed. RESULTS: The baseline proportion of asthma patients using inhaled corticosteroids was 68.5% in trial-conducting and 69.1% in control practices. Conducting the trial did not influence guideline adherence (odds ratio [OR] after 2 years, 1.00; 95% confidence interval [CI], 0.84-1.19). In trial-conducting practices, the sponsoring company’s share of the total prescribed volume of asthma drugs increased compared with control practices (6.7%; 95% CI, 3.0%-11.7%). This could be attributed to a significantly higher preference for the company’s inhaled corticosteroids (OR, 1.26; 95% CI, 1.04-1.54) and trends toward increased prescribing of the company's other asthma drugs. CONCLUSION: Conducting a trial sponsored by a pharmaceutical company had no significant impact on physicians’ adherence to international treatment recommendations but increased their use of the trial sponsor's drugs.


This descriptive cross-sectional survey was conducted at University of Ilorin Teaching Hospital to examine the influence of drug promotion by drug companies on the prescription habits of doctors in the hospital. Self-administered questionnaires were used to collect information from 137 doctors selected across all the clinical and laboratory departments using proportionate sampling. Majority (89.0%) of the doctors had attended drug promotion forum and were exposed to 64 different branded drugs within 6 months to this study. Fifty percent of the doctors had prescribed promoted drugs for the first time within 6 months to this study and over two-thirds agreed that drug promotion materials served as incentives to prescribe promoted drugs in preference to their alternatives. More than two-thirds of the doctors did not prescribe in generic names, thus making them susceptible to prescribing promoted branded drugs. Drug promotion by drug companies influenced prescription habits of doctors in this teaching hospital. This finding though beneficial to the drug companies may not necessarily be cost-effective and to the benefit of the patients. Further studies and attention on this issue in developing countries is necessary with the ultimate aim of protecting the interest of patients in the face of rising cost of pharmaceuticals.


OBJECTIVE: To assess the effect of pharmaceutical advertising embedded in clinical software on the prescribing behaviour of general practitioners. DESIGN, PARTICIPANTS AND SETTING: Secondary analysis of data from a random sample of 1336 Australian GPs who participated in Bettering the Evaluation and Care of Health, a national continuous cross-sectional survey of general practice activity, between November 2003 and March 2005. The prescribing behaviour of participants who used the advertising software was compared with that of participants who did not, for seven pharmaceutical products advertised continually throughout the study period. MAIN OUTCOME MEASURES: Prescription for advertised product as a proportion (%) of prescriptions for all pharmaceutical products in the same generic class or group. RESULTS: GP age, practice location, accreditation status, patient bulk-billing status and hours worked were significantly associated (P < 0.05) with use of advertising software. We found no significant differences, either before or after adjustment for these confounders, in the prescribing rate of Lipitor (adjusted odds ratio [AOR], 0.90; P = 0.26); Micardis (AOR, 0.98; P = 0.91); Mobic (AOR, 1.02; P = 0.89); Norvasc (AOR, 1.02; P = 0.91); Natrilix (AOR, 0.80; P = 0.32); or Zanidip (AOR, 0.88; P = 0.47). GPs using advertising software prescribed Nexium significantly less often than those not using advertising software (AOR, 0.78; P = 0.02). When all advertised products were combined and compared with products that were not advertised, no difference in the overall prescribing behaviour was demonstrated (AOR, 0.96; P = 0.42). CONCLUSION: Exposure to advertisements in clinical software has little influence on the prescribing behaviour of GPs.


Background: Pharmaceuticals are big business, reporting strong market growth year after year. The ‘gatekeepers’ of this market are prescribers of medicines, who are the major target of pharmaceutical companies, utilizing direct and indirect influences. Methods: This paper draws on previous research investigating pharmaceutical company prescribing influences to develop a qualitative model demonstrating the synergism between commercial influences on prescribing. The generic model was used to explore a realistic but hypothetical scenario to ascertain the applicability of the model. Results and Discussion: A generic influence model was developed. The model was readily able to be adapted to reflect a realistic practice scenario. Conclusion: Prescriber awareness of the linkages between various seemingly separate
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marketing techniques could potentially improve medicines usage in an evidence-based practice paradigm. (copyright) 2008 The Authors.


BACKGROUND: Antihypertensive medications are widely prescribed by doctors and heavily promoted by the pharmaceutical industry. Despite strong evidence of the effectiveness and cost-effectiveness of thiazide diuretics, trends in both promotion and prescription of antihypertensive drugs favour newer, less cost-effective agents. Observational evidence shows correlations between exposure to pharmaceutical promotion and less ideal prescribing. Our study therefore aimed to determine whether print advertisements for antihypertensive medications promote quality prescribing in hypertension. METHODS: We performed a cross-sectional study of 113 advertisements for antihypertensive drugs from 4 general practice-oriented Australian medical publications in 2004. Advertisements were evaluated using a quality checklist based on a review of hypertension management guidelines. Main outcome measures included: frequency with which antihypertensive classes were advertised, promotion of thiazide class drugs as first line agents, use of statistical claims in advertisements, mention of harms and prices in the advertisements, promotion of assessment and treatment of cardiovascular risk, promotion of lifestyle modification, and targeting of particular patient subgroups. RESULTS: Thiazides were the most frequently advertised drug class (48.7% of advertisements), but were largely promoted in combination preparations. The only thiazide advertised as a single agent was the most expensive, indapamide. No advertisement specifically promoted any thiazide as a better first-line drug. Statistics in the advertisements tended to be expressed in relative rather than absolute terms. Drug costs were often reported, but without cost comparisons between drugs. Adverse effects were usually reported but largely confined to the advertisements’ small print. Other than mentioning drug interactions with alcohol and salt, no advertisements promoted lifestyle modification. Few advertisements (2.7%) promoted the assessment of cardiovascular risk. CONCLUSION: Print advertisements for antihypertensive medications in Australia provide some, but not all, of the key messages required for guideline-concordant care. These results have implications for the regulation of drug advertising and the continuing education of doctors.


OBJECTIVES: To describe the taxonomy of methods used by pharmaceutical companies to influence physicians' nonsteroidal anti-inflammatory drug (NSAID) prescribing behaviors and to elicit physicians' perceptions of and counterbalances to these influences. STUDY DESIGN: In-depth interviews analyzed using the constant comparative method of qualitative data analysis. METHODS: Qualitative interviews were conducted with physicians representing various clinical specialties. Interviews were transcribed and coded inductively using grounded theory. Recruitment was stopped at 25 participants after the attainment of thematic saturation, when no new concepts emerged from ongoing analysis of consecutive interviews. RESULTS: Physicians described a variety of influences that shaped their NSAID prescribing behaviors, including detailing and direct contact with pharmaceutical representatives, requests from patients inspired by direct-to-consumer advertisements, and marketing during medical school and residency training. Physicians described practice guidelines, peer-reviewed evidence, and opinions of local physician experts as important counterweights to pharmaceutical company influence. Local physician experts interpreted and provided context for new clinical evidence, practice guidelines, and NSAID-related marketing. CONCLUSIONS: The social and communicative strategies used by pharmaceutical companies can be adapted to improve physicians' adoption of guidelines for safer NSAID prescribing. Communicative interactions between local experts and other physicians who prescribe NSAIDs may be the critical target for future interventions to promote safer NSAID prescribing.


BACKGROUND: Pharmaceutical representative visits are believed to have substantial impact, but the effects on prescribing patterns have not been systematically evaluated. OBJECTIVE: This study investigates how pharmaceutical sales representative visits influenced physicians’ company-specific drug preferences and prevalence of steroid prescribing. METHODS: Observational cohort study in Funen County, Denmark, including 165 general practices visited 832 times by pharmaceutical representatives and 54 080 patients treated with asthma drugs. Visits were conducted from 2001 to 2003. Our main outcome measures were (i) company-specific drug preferences measured as the proportion of dispensings of the promoted drug among all dispensings of fixed combinations of inhaled corticosteroid and long-
acting beta2-agonists and (ii) the proportion of patients receiving repeated beta2-agonist dispensings who were treated with inhaled steroids. RESULTS: The first visit had a statistically significant effect on the GPs' drug preference in favour of the marketed drug [odds ratio (OR), 2.39; 95% confidence interval (CI), 1.72-3.32]. The effect on drug preference increased further after the second visit (OR, 1.51; 95% CI, 1.04-2.19), while there was no significant change after the third visit (OR, 1.06; 95% CI, 0.94-1.20). Pharmaceutical sales representative visits did not influence the overall treatment pattern with inhaled steroids (OR, 1.01; 95% CI, 0.97-1.06). CONCLUSIONS: Pharmaceutical sales representative visits markedly increased the market share of the promoted drug, but only the two first visits had significant impact. Visits had no significant impact on GPs' overall prescribing of inhaled steroids.


PURPOSE: Little is known about the impact of recent restrictions on pharmaceutical industry detailing and sampling on prescribing behavior, particularly within smaller, independent practices. The objective of this study was to evaluate the effect of a policy prohibiting prescription drug samples and pharmaceutical industry interaction on prescribing patterns in a rural family practice clinic in central Oregon. METHODS: Segmented linear regression models were used to evaluate trends in prescribing using locally obtained pharmacy claims. Oregon Medicaid pharmacy claims were used to control for secular prescribing changes. Total and class-specific monthly trends in branded, promoted, and average prescription drug costs were analyzed 18 months before and after policy implementation. RESULTS: Aggregate trends of brand name drug use did not change significantly after policy implementation. In aggregate, use of promoted agents decreased by 1.43% while nonpromoted branded agents increased by 3.04%. Branded drugs prescribed for respiratory disease declined significantly by 11.34% compared with a control group of prescribers. Relative to the control group, prescriptions of promoted cholesterol-lowering drugs and antidepressants were reduced by approximately 9.98% and 11.34%, respectively. The trend in average cost per prescription for lipid-lowering drugs was significantly reduced by $0.70 per prescription per month. Overall, average prescription drug costs increased by $5.18 immediately after policy implementation. CONCLUSIONS: Restriction of pharmaceutical industry representatives and samples from a rural family practice clinic produced modest reductions in branded drug use that varied by class. Although aggregate average costs increased, prescriptions for branded and promoted lipid-lowering agents and antidepressants were reduced.


This article examines the impact of direct-to-physician, direct-to-consumer, and other marketing activities by pharmaceutical companies on a mature drug category which is in the later stage of its life cycle and in which generics have accrued a significant market share. The main objective of this article is to quantitatively estimate the impact of pharmaceutical promotions on physician prescribing behavior for three different statin brands, after controlling for factors such as patient, physician and physician practice characteristics, generic pressure, et cetera. Using unique panel data of physicians, combined with patient pharmacy prescription records, the authors developed a physician level generalized linear regression model. The generalized estimating equations method was used to account for within physician serial correlations and estimate physician population averaged effects. The findings reveal that even though on average the marketing efforts affect the brand share positively, the magnitude of the effects is very brand specific. Generally, each statin brand has its own trend and because of this, the best choice of predictors for one brand could be suboptimal for another.


Background: The pharmaceutical industry spends billions of dollars annually to encourage clinicians to prescribe their medications. Small studies have demonstrated that one of the marketing strategies, the distribution of free sample medications, is associated with increased use of brand name medication over generic medication. Objectives: To determine the relationship between the presence of drug samples in primary care clinics and prescription of preferred drug treatments. Design: Cross-sectional survey. Participants: Primary care prescribers in the state of Vermont. Main Measurement: Prescribers were presented with two clinical vignettes and asked to provide the name of the medication they would prescribe in each case. We compared the responses of prescribers with and without samples in their clinics. Key Results: Two hundred six prescribers out of the total population of 631 returned the survey.

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and met the eligibility criteria. Seventy-two percent of prescribers had sample closets in their clinics.
Seventy percent of clinicians with samples would prescribe a thiazide diuretic for hypertension compared
to 91% in those without samples (P<0.01). For managing depression 91% of prescribers with samples
would have provided a generic medication in a patient with no health insurance, compared to 100% of
those without samples in their clinic (P=0.02). Conclusions: Clinicians with samples in their clinics were
less likely to prescribe preferred medications for hypertension and depression. (copyright) 2010 Society of
General Internal Medicine.

PROSPECTIVE STUDIES

R. F. Adair, and L. R. Holmgren, "Do Drug Samples Influence Resident Prescribing Behavior? A

PURPOSE: The purpose of the study was to determine whether access to drug samples influences resident
prescribing decisions. SUBJECTS AND METHODS: The authors observed 390 decisions to initiate drug
therapy by 29 internal medicine residents over a 6-month period in an inner-city primary care clinic. By
random selection, half of the residents agreed not to use available free drug samples. Five drug class pairs
were chosen for study prospectively. Highly advertised drugs were matched with drugs commonly used for
the same indication that were less expensive, available over-the-counter, or available in generic
formulation. RESULTS: Resident physicians with access to drug samples were less likely to choose
unadvertised drugs (131/202 decisions) than residents who did not have access to samples (138/188
decisions; P = .04) and less likely to choose over-the-counter drugs (51/202, 73/188; P = .003). There
was a trend toward less use of inexpensive drugs. CONCLUSION: Access to drug samples in clinic
influences resident prescribing decisions. This could affect resident education and increase drug costs for
patients.

M. L. Randall, J. R. Rosenbaum, R. M. Rohrbaugh, and R. A. Rosenheck, "Attitudes and
Behaviors of Psychiatry Residents toward Pharmaceutical Representatives before and after an

OBJECTIVE: The authors sought to determine the effect of an educational seminar on interactions with
pharmaceutical representatives on residents' attitudes and behavior. METHOD: A controlled trial of an
educational intervention was conducted. Residents at a university-affiliated residency program (N=32)
were divided into two groups: one group (N=18) received a 1-hour educational intervention, while the
other group (N=14) served as a control. Both groups completed a 33-item survey before the intervention
and 2 months after the intervention. RESULTS: Residents interacted substantially with pharmaceutical
representatives. The majority of residents found the interactions and gifts useful and believed their
prescribing practices were not influenced. Compared to the comparison group, the intervention group
significantly decreased the reported number of office supplies and noneducational gifts, but showed no
change in attitude toward pharmaceutical representatives and their gifts. CONCLUSION: One-time
educational interventions may have significant impact on psychiatric residents' targeted gift-accepting
behavior but little effect on attitudes.

Miroshnik, and S. B. Soumerai, "Group Versus Individual Academic Detailing to Improve the
Use of Antihypertensive Medications in Primary Care: A Cluster-Randomized Controlled Trial,"

PURPOSE: To compare group versus individual academic detailing to increase diuretic or beta-blocker use
in hypertension. METHODS: We conducted a cluster-randomized controlled trial in a large health
maintenance organization. Subjects (N=9820) were patients with newly treated hypertension in the year
preceding the intervention (N=3692), the 9 months following the intervention (N=3556), and the second
year following intervention (N=2572). We randomly allocated 3 practice sites to group detailing (N=227
prescribers), 3 to individual detailing (N=235 prescribers), and 3 to usual care (N=319 prescribers).
Individual detailing entailed a physician-educator meeting individually with clinicians to address barriers to
prescribing guideline-recommended medications. The group detailing intervention incorporated the same
social marketing principles in small groups of clinicians. RESULTS: In the first year following the
intervention, the rates of diuretic or beta-blocker use increased by 13.2% in the group detailing practices,
12.5% in the individual detailing practices, and 6.2% in the usual care practices. As compared with usual
care practices, diuretic or beta-blocker use was more likely in group detailing practices (adjusted odds
ratio (OR), 1.40; 95% confidence interval (CI), 1.11 - 1.76) and individual detailing practices (adjusted

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OR, 1.30; 95% CI, 0.95 - 1.79). Neither intervention affected blood pressure control. Two years following this single-visit intervention, there was still a trend suggesting a persistent effect of individual (OR, 1.22; 95% CI, 0.92 - 1.62), but not group, detailing (OR, 1.06; 95% CI, 0.80 - 1.39), as compared with usual care. CONCLUSION: Both group and individual academic detailing improved antihypertensive prescribing over and above usual care but may require reinforcement to sustain improvements.


An educational intervention was developed to improve family practice residents' ability to obtain useful information from pharmaceutical representatives. The curriculum is based on the traditional one-on-one drug detail. The objectives are to develop residents' skills in controlling the interview, promote skills for critically analyzing drug-promotional material, and discuss ethical issues. The contents include an assessment tool, suggested readings, and interview questions with rationale. After 5 years, residents' confidence in all areas of the curriculum improved significantly.


PURPOSE: There is increasing evidence that physicians may be compromised by their interactions with the pharmaceutical industry. The authors aimed to develop and determine the effect of an educational intervention to inform family medicine residents about pharmaceutical marketing. METHOD: Confidential, self-administered questionnaires were administered to family medicine residents at McMaster University, Hamilton, Canada, immediately before and after a two-part, 2.5-hour educational intervention. The curriculum consisted of (1) a faculty-led debate and discussion of a systematic review of physician-pharmaceutical industry interactions, and (2) an interactive workshop that included a presentation highlighting key empirical findings, a video illustrating techniques to optimize pharmaceutical sales representatives' visits, and small- and large-group problem-based discussions. Residents were asked about their attitudes toward five marketing strategies: drug samples, industry-sponsored continuing medical education, one-on-one interactions with sales representatives, free meals, and gifts worth less than CAN.


A review of the literature on the factors affecting drug prescribing in Western countries is given. Factors discussed are education, advertising, colleagues, control and regulation measures, demands from society and patients and doctor's characteristics. On the basis of the available literature the role of the drug industry seems especially important. Suggestions for further studies are given.


Little is known about the effect on clinical decision making of nonreimbursement for ineffective medical technologies. Using a time-series design, we studied the effects of cessation of government payment for 12 categories of drugs of questionable efficacy (Drug Efficacy Study Implementation drugs) in a random sample of the New Jersey Medicaid population (N=390 465) and in four cohorts of regular users of these products. We measured changes in the overall levels of prescriptions, expenditures, and physicians' use of substitute drugs. Although withdrawn drugs accounted for 7% of prescriptions in the base year, there was no measurable reduction in overall drug use or expenditures after the regulation; prescription rates actually rose from 0.86 to 1.00 monthly prescriptions per enrollee throughout the 42-month study. Controlling for preexisting trends, an estimated drop in the use of study drugs of 21.7 prescriptions per 1000 enrollees per month was offset by an increase in the use of substitute drugs of 33.7 prescriptions. Both desirable and unimproved therapeutic substitutions were observed. Used alone, curtailment of
reimbursement for marginally effective therapies results in both desirable and unintended clinical substitutions and may not reduce costs. Supplementing such restrictions with education may be necessary to promote practices that are more therapeutically and economically appropriate.

T. Randall, "Kennedy Hearings Say No More Free Lunch--or Much Else--from Drug Firms," JAMA, 1991 265: 440, 42-.

Senator Edward Kennedy held hearings on December 11-12 1990 to address drug pricing and drug promotion; concerning the AMA and PMA guidelines Kennedy noted "The principal question is qhetehr the industry and the medical profession can heal themselves or whether additional regulation or legislation is needed."


OBJECTIVE: To assess both the accuracy of scientific data presented in print pharmaceutical advertisements and the compliance of these advertisements with current Food and Drug Administration (FDA) standards. DESIGN: Cross-sectional survey. MEASUREMENTS: Each full-page pharmaceutical advertisement (n = 109) appearing in 10 leading medical journals, along with all available references cited in the advertisement (82% of the references cited were available) were sent to three reviewers: two physicians in the relevant clinical area who were experienced in peer review and one academic clinical pharmacist. Reviewers, 95% of whom responded, were asked to evaluate the advertisements using criteria based on FDA guidelines, to judge the educational value and overall quality of the advertisements, and to make a recommendation regarding publication. RESULTS: In 30% of cases, two or more reviewers disagreed with the advertisers' claim that the drug was the "drug of choice." Reviewers felt that information on efficacy was balanced with that on side effects and contraindications in 49% of advertisements but was not balanced in 40%. Reviewers agreed with advertisements' claims that the drug was safe in 86% of the cases but judged that headlines in 32% of the advertisements containing headlines misled the reader about efficacy. In 44% of cases, reviewers felt that the advertisement would lead to improper prescribing if a physician had no other information about the drug other than that contained in the advertisement. Fifty-seven percent of advertisements were judged by two or more reviewers to have little or no educational value. Overall, reviewers would not have recommended publication of 28% of the advertisements and would have required major revisions in 34% before publication. CONCLUSION: In the opinion of the reviewers, many advertisements contained deficiencies in areas in which the FDA has established explicit standards of quality. New strategies are needed to ensure that advertisements comply with standards intended to promote proper use of the products and to protect the consumer.


Editorial on characteristics of marketing materials in clinical settings, by the medical director of Public Citizens Health Research Group


OBJECTIVES: To describe material distributed to physicians by pharmaceutical companies; to describe characteristics of the drugs discussed in the material; to determine whether the material complies with Food and Drug Administration (FDA) regulations and whether it contains promotional and educational characteristics. DESIGN: Cross-sectional study. SETTING: An academic internal medicine residency program, a private internist's office, and a health maintenance organization (HMO). PATIENTS/PARTICIPANTS: A consecutive sample of 486 items, excluding gifts and drug samples, distributed by drug companies between August 11, 1993 and March 1, 1994. MEASUREMENTS AND MAIN RESULTS: Of the 486 items collected, 207 were reprints, 196 were advertisements, 51 were general information, and 32 were other. Reprints were delivered to residents significantly more often than to the HMO (p < .001) or to the private internist's office (p < .001). By contrast, the internist's office received a greater proportion of personal correspondence compared with the other locations (p < .001 for both). Of the drugs publicized, 10] were substantial improvements over other therapeutic choices. Forty-two percent of the items failed to comply with at least one of three FDA regulations assessed, including 17 items that discussed unapproved uses for drugs. Advertisements, as well as items that were not obviously promotional, contained promotional characteristics. Thirty-nine percent of the items offered scientific

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support for their claims. CONCLUSIONS: Little of the material distributed by pharmaceutical companies to physicians conveys information about important therapeutic breakthroughs; some of it fails to comply with FDA regulations. The material contains both educational and promotional characteristics.


We characterized the quantity and quality of graphs in all pharmaceutical advertisements, in the 10 U.S. medical journals. Four hundred eighty-four unique advertisements (of 3,185 total advertisements) contained 836 glossy and 455 small-print pages. Forty-nine percent of glossy page area was nonscientific figures/images, 0.4% tables, and 1.6% scientific graphs (74 graphs in 64 advertisements). All 74 graphs were univariate displays, 4% were distributions, and 4% contained confidence intervals for summary measures. Extraneous decoration (66%) and redundancy (46%) were common. Fifty-eight percent of graphs presented an outcome relevant to the drug's indication. Numeric distortion, specifically prohibited by FDA regulations, occurred in 36% of graphs.


In this article the authors deal with issues of drug utilisation from a clinical and policy perspective. They address the difficulties of managing drug therapy on a population level, which is known among professionals, as the problem of rational use of medicines. Various definitions and interpretations are presented and compared. This is followed by a presentation of the concerns associated with pharmaceutical marketing from a policy perspective, including the fear that the dominance of information produced by industry may lead to irrational drug use. Next, the authors review the tools for policy making including educational, managerial, and regulatory interventions. The (often overlapping) concepts of medicines management, clinical pharmacy and pharmaceutical care are then discussed to show how professionals, sometimes in collaboration with policymakers, have tackled the problem of nonrational use of medicines. The authors address the question as to whether the rational use of medicines a universal concept, whether it can be and whether it should be? They argue that, as with most concepts, the rational use of medicines must always be viewed in context. They conclude that pharmacy needs to adapt its way of thinking to include the issue of context. They point out that clinical pharmacists today already adapt their decisions to each patient and patient group. Policy-makers are encouraged to adopt a similar approach because populations as well as particular market situations vary and therefore policy solutions cannot be considered universal.

**RETROSPECTIVE STUDIES** (7)


Retrospective cohort study assessing probability for inappropriate prescription of a company-produced pharmaceutical agent within a group of residents exposed to a grand rounds presentation by a company employee as compared to residents not in attendance at the grand rounds.


Because of recent concerns about conflicts of interest and published research, the author analyzed 107 controlled clinical trials. Studies were classified as favoring either a new therapy or a traditional therapy,
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and as being supported by a pharmaceutical manufacturer or as being generally supported. Seventy-one
per cent of the trials favored new therapies; 43% of these were funded by pharmaceutical firms. Of the 31
trials favoring traditional therapy, only four (13%) were supported by a pharmaceutical firm. There was a
statistically significant association between the source of funding and the outcome of the study (p =
0.002). Few trials supported by manufacturers favored traditional therapy; some reasons for this finding may include selection of drugs likely to be proven efficacious, Type II errors (false-negative
studies), and fear of discontinuation of funding should such studies be submitted. Important clinical
information may be lost if negative studies are not published.

P. A. Rochon, J. H. Gurwitz, C. M. Cheung, J. A. Hayes, and T. C. Chalmers, "Evaluating the
Quality of Articles Published in Journal Supplements Compared with the Quality of Those

OBJECTIVES--To determine the relationship between the quality of articles and whether they were
published in a supplement or in the parent journal. DATA SOURCES AND STUDY SELECTION--All
randomized control trials of drug therapies in adults published in the American Journal of Cardiology, the
American Journal of Medicine and the American Heart Journal from January 1990 and obtained in
November 1992 by means of a MEDLINE search. A total of 318 abstracts appeared to meet our inclusion
criteria, and these articles were obtained and reviewed in further detail. An additional 76 were excluded.
DATA EXTRACTION--Three reviewers who were "blinded" and thus unaware of supplement status
independently assessed the quality of each of the remaining 242 articles according to a standard quality
scoring system. DATA SYNTHESIS--Overall, 67 (27.7%) of the articles were published in journal
supplements. Article quality scores ranged from 4.2% to 87.5%, with a mean (+/- SD) score of 37.2%
+/-.13.1%. Quality scores were lower in articles published in journal supplements than in those published
in the parent journal (t[240] = 2.61, P = .01). The mean quality score for articles published in journal
supplements was 33.6% +/- 12.8% compared with a score of 38.5% +/- 13.1% for articles published in
the parent journal. Supplement articles included in their final analysis a smaller proportion of the patients
initially randomized (t[75] = 2.8, P = .007). CONCLUSION--Our findings suggest that randomized control
trials published in journal supplements are generally of inferior quality compared with articles published in
the parent journal. The review process surrounding the publication of journal supplements should be
consistent with that of the parent journal.

B. B. McCormick, G. Tomlinson, P. Brill-Edwards, and A. S. Detsky, "Effect of Restricting Contact
between Pharmaceutical Company Representatives and Internal Medicine Residents on

CONTEXT: The long-term effect of policies restricting contact between residents and pharmaceutical
cOMPANY representativeS (PCRs) during internal medicine training is unknown. The McMaster University
Department of Medicine in Hamilton, Ontario, implemented a policy restricting PCR contact with trainees in
1992, whereas the Department of Medicine at the University of Toronto, Toronto, Ontario, has no such
policy. OBJECTIVE: To determine if the presence of a restrictive policy and the frequency of contact with
PCRs during internal medicine training predicts attitudes and behavior several years after completion of
training. DESIGN, SETTING, AND PARTICIPANTS: Retrospective analysis of the attitudes and behavior of 3
cohorts of physicians: University of Toronto trainees, prepolicy McMaster trainees, and postpolicy
McMaster trainees. Surveys were mailed to 242 former University of Toronto and 57 former McMaster
trainees who completed their internal medicine training between 1990 and 1996, with response rates of
150 (9.3 vs 10.8; P =.18). In multiple regression models, greater frequency of contact with PCRs during
training was a predictor of increased perceived benefit of PCR information (OR, 1.29; 95% CI, 1.13-1.47)
and was positively correlated with the current contact score (partial r = 0.49; P<.001). Number of PCR-
sponsored rounds attended during training was not a consistent predictor of attitudes or behavior.
CONCLUSIONS: Policies restricting PCR access to internal medicine trainees and the amount of contact
during residency appear to affect future attitudes and behavior of physicians.

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The relationships between direct-to-consumer advertising expenditures and the monthly frequencies of diagnoses and prescriptions written associated with the products advertised are examined. The analyses utilized quasi-experimental time-series techniques. Data from the National Ambulatory Medical Care Survey and Competitive Media Reporting were used to calculate monthly levels of the dependent and independent variables. The dependent variables included monthly frequencies of diagnoses for the products' FDA-approved indications, medications prescribed within the advertised pharmaceutical class, and medications prescribed for the specific advertised agent. The independent variables included monthly expenditures for advertising each pharmaceutical class and each specific agent. Several significant monthly relationships were found. The diagnoses of hyperlipidemia (p = 0.008) and the number of prescriptions written for antilipemics (p = 0.003) were positively associated with the advertising expenditure for antilipemics. The number of prescriptions written for Claritin (p = 0.004) and Zocor (p < 0.001) was positively related to the advertising expenditure for their respective pharmaceutical classes; the amount of prescriptions written for Hismanal (p = 0.007), Seldane (p < 0.001), and Zantac (p = 0.004) was negatively related to the advertising expenditure for their respective pharmaceutical classes. The number of prescriptions written for Claritin (p = 0.005) and Zocor (p < 0.001) was positively related to the advertising expenditure for each specific product; the amount of prescriptions written for Hismanal (p = 0.049) was negatively associated with the amount of money spent specifically advertising the agent. No significant associations were found in antihypertensives and drugs to treat benign prostatic hypertrophy. The results of the analyses suggest that the direct-to-consumer advertising expenditure is associated with physician diagnosing and physician prescribing for certain drugs and drug classes.


We characterized the quantity and quality of graphs in all pharmaceutical advertisements, in the 10 U.S. medical journals. Four hundred eighty-four unique advertisements (of 3,185 total advertisements) contained 836 glossy and 455 small-print pages. Forty-nine percent of glossy page area was nonscientific figures/images, 0.4% tables, and 1.6% scientific graphs (74 graphs in 64 advertisements). All 74 graphs were univariate displays, 4% were distributions, and 4% contained confidence intervals for summary measures. Extraneous decoration (86%) and redundancy (46%) were common. Fifty-eight percent of graphs presented an outcome relevant to the drug's indication. Numeric distortion, specifically prohibited by FDA regulations, occurred in 36% of graphs.


PURPOSE: American television viewers see as many as 16 hours of prescription drug advertisements (ads) each year, yet no research has examined how television ads attempt to influence consumers. This information is important, because ads may not meet their educational potential, possibly prompting consumers to request prescriptions that are clinically inappropriate or more expensive than equally effective alternatives. METHODS: We coded ads shown during evening news and prime time hours for factual claims they make about the target condition, how they attempt to appeal to consumers, and how they portray the medication and lifestyle behaviors in the lives of ad characters. RESULTS: Most ads (82%) made some factual claims and made rational arguments (86%) for product use, but few described condition causes (26%), risk factors (26%), or prevalence (25%). Emotional appeals were almost universal (95%). No ads mentioned lifestyle change as an alternative to products, though some (19%) portrayed it as an adjunct to medication. Some ads (18%) portrayed lifestyle changes as insufficient for controlling a condition. The ads often framed medication use in terms of losing (58%) and regaining control (85%) over some aspect of life and as engendering social approval (78%). Products were frequently (58%) portrayed as a medical breakthrough. CONCLUSIONS: Despite claims that ads serve an educational purpose, they provide limited information about the causes of a disease or who may be at risk; they show characters that have lost control over their social, emotional, or physical lives without the medication; and they minimize the value of health promotion through lifestyle changes. The ads have limited educational value and may oversell the benefits of drugs in ways that might conflict with promoting population health.
REVIEW ARTICLES


Discusses the problem of educating physicians regarding the increasing numbers of new pharmaceutical products, and the need for formalized continuing medical education. “Every year, greater and greater efforts are made in medical research and the results pour out in a multitude of books, journals, meetings, special reports, and drug company announcements. While the public expects immediate benefits from this vast effort, professionals in the medical world express growing concern over the need to keep the practicing physician abreast of the important developments in medical research...Yet the quality of medical care depends in part of the rapidity and soundness with which practicing physicians adjust their management of medical problems in the light of new knowledge. Indeed, one might go even further and hypothesize that one rough measure of a physician’s competence is his knowledge of recent research findings and his willingness to adopt those which may be applicable to his own practice.”


Bauer, a professor at Harvard Business School who performed several market research assessments for pharmaceutical firms, assesses available data on sources physicians use to evaluate new drug products.


Review article of 15 studies conducted between 1940 and 1969 exploring the comparative roles of pharmacists, patients, journals, peers, advertising, and pharmaceutical representatives in influencing prescribing decision making.


A review of the literature on the factors affecting drug prescribing in Western countries is given. Factors discussed are education, advertising, colleagues, control and regulation measures, demands from society and patients and doctor's characteristics. On the basis of the available literature the role of the drug industry seems especially important. Suggestions for further studies are given.


A review of the effect of advertising drug products in medical journals on the prescribing of drugs. The scope of advertising, the content of advertising, the latent effects of advertising, the effects of advertising on prescribing, and the social costs and benefits of advertising are discussed. Advertising for antibiotic and psychotropic drug products is reviewed in some detail. It is concluded that there is inconclusive evidence that the pharmaceutical industry, through journal advertising, is persuading physicians to prescribe drugs too often or unwisely, or both. It is suggested that pharmacists study the information needs of health care practitioners and provide good drug information services.


Seven percent of all health expenditures in the United States in 1987 was allocated for medications. Accurate prescribing decisions thus have crucial implications for both economic and clinical aspects of health care. A review of 44 empirical studies indicates that different strategies to improve the prescription practices of primary care physicians have proved effective to varying degrees; administrative reminders and feedback systems appear to be suitable for group practices, while one-on-one educational interventions may work well in less-structured office settings. Better-controlled trials and quasi-experimental designs, together with cost-benefit analyses, are still needed to enhance the efficacy and efficiency of prescribing practices.

Based on our review of existing written policies regarding pharmaceutical representative-resident interactions, we believe that residencies should develop more comprehensive policies. We present six topic areas that programs should address in formulating policies: 1) policy tone, 2) traffic control, 3) samples, 4) gifts, 5) screening of educational and promotional materials and events, and 6) honoraria, research funding, and other monetary exchanges.


Physician prescribing practices were the focus of a recent 1-day conference in Toronto. A BC hospital pharmacist outlined a successful initiative that provides physicians with impartial prescribing advice, saying it has resulted in considerable savings and improved prescribing practices in North Vancouver. Drugs of Choice author Dr. Joel Lexchin says such initiatives, called academic detailing, along with peer feedback, are cost-effective ways to improve prescribing habits.


BACKGROUND: Physicians’ financial relationships with the pharmaceutical industry are controversial because such relationships may pose a conflict of interest. It is unknown to what extent industry support of medical education and research influences the opinions and behavior of clinicians and researchers. The recent debate over the safety of calcium-channel antagonists provided an opportunity to examine the effect of financial conflicts of interest. METHODS: We searched the English-language medical literature published from March 1995 through September 1996 for articles examining the controversy about the safety of calcium-channel antagonists. Articles were reviewed and classified as being supportive, neutral, or critical with respect to the use of calcium-channel antagonists. The authors of the articles were asked about their financial relationships with both manufacturers of calcium-channel antagonists and manufacturers of competing products (i.e., beta-blockers, angiotensin-converting-enzyme inhibitors, diuretics, and nitrates). We examined the authors’ published positions on the safety of calcium-channel antagonists according to their financial relationships with pharmaceutical companies. RESULTS: Authors who supported the use of calcium-channel antagonists were significantly more likely than neutral or critical authors to have financial relationships with manufacturers of calcium-channel antagonists (96 percent, vs. 60 percent and 37 percent, respectively; P<0.001). Supportive authors were also more likely than neutral or critical authors to have financial relationships with any pharmaceutical manufacturer, irrespective of the product (100 percent, vs. 67 percent and 43 percent, respectively; P<0.001). CONCLUSIONS: Our results demonstrate a strong association between authors’ published positions on the safety of calcium-channel antagonists and their financial relationships with pharmaceutical manufacturers. The medical profession needs to develop a more effective policy on conflict of interest. We support complete disclosure of relationships with pharmaceutical manufacturers for clinicians and researchers who write articles examining pharmaceutical products.


OBJECTIVE: The purpose of this article is to discuss the principles of academic detailing, or educational outreach, in primary care and review the evidence of its effectiveness in, and potential for improving, mental health care. METHODS: The general educational research literature on improving physician performance was reviewed along with studies that were designed to test academic detailing. Four rigorous studies have tested this approach specifically on mental health care. These studies are reviewed in detail. RESULTS: Measuring pre-intervention performance to target those with increased educational needs and identifying barriers to change are associated with substantially improved program effectiveness. To change strongly held beliefs or to overcome patient demands, person-to-person contact with credible experts who provide structured alternatives is necessary. Brief reinforcement visits increase success rates.
Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits

Harvard Medical School, Brigham & Woman's Hospital,
Division of Pharmacoepidemiology and Pharmacoeconomics

and targeting programs to physicians at greatest need improves the cost effectiveness of educational interventions. CONCLUSIONS: Academic detailing is one of the few educational interventions that has consistently demonstrated improved physician performance. Educational outreach methods to improve mental health practices in primary care are in need of much additional research. Improving the detection of mental disorders and underuse of mental health treatment may prove to be more difficult than reducing the overuse of unnecessary medications.


CONTEXT: Controversy exists over the fact that physicians have regular contact with the pharmaceutical industry and its sales representatives, who spend a large sum of money each year promoting to them by way of gifts, free meals, travel subsidies, sponsored teachings, and symposia. OBJECTIVE: To identify the extent of and attitudes toward the relationship between physicians and the pharmaceutical industry and its representatives and its impact on the knowledge, attitudes, and behavior of physicians. DATA SOURCES: A MEDLINE search was conducted for English-language articles published from 1994 to present, with review of reference lists from retrieved articles; in addition, an Internet database was searched and 5 key informants were interviewed. STUDY SELECTION: A total of 538 studies that provided data on any of the study questions were targeted for retrieval, 29 of which were included in the analysis. DATA EXTRACTION: Data were extracted by 1 author. Articles using an analytic design were considered to be of higher methodological quality. DATA SYNTHESIS: Physician interactions with pharmaceutical representatives were generally endorsed, began in medical school, and continued at a rate of about 4 times per month. Meetings with pharmaceutical representatives were associated with requests by physicians for adding the drugs to the hospital formulary and changes in prescribing practice. Drug company-sponsored continuing medical education (CME) preferentially highlighted the sponsor’s drug(s) compared with other CME programs. Attending sponsored CME events and accepting funding for travel or lodging for educational symposia were associated with increased prescription rates of the sponsor’s medication. Attending presentations given by pharmaceutical representative speakers was also associated with nonrational prescribing. CONCLUSION: The present extent of physician-industry interactions appears to affect prescribing and professional behavior and should be further addressed at the level of policy and education.


The use of antibiotics in both ambulatory and inpatient settings is heavily shaped by cultural and economic factors as well as by microbiological considerations. These nonpharmacologic factors are relevant to clinicians and policymakers because of the clinical and fiscal toll of inappropriate antibiotic prescribing, including excessive use, preventable adverse effects, and the increasing prevalence of resistant organisms. An understanding of the determinants of antibiotic consumption is critical to explain current patterns of use and to devise programs to reduce inappropriate use. Patient motivations include the desire for a tangible product of the clinical encounter coupled with incorrect perceptions of the effectiveness of antibiotics, particularly in viral infections. Physician behavior can be explained by such factors as lack of information, a desire to satisfy patient demand, and pressure from managed care organizations to speed throughput. Marketing campaigns directed at both physicians and patients further serve to increase demand, especially for newer, costlier products. Studies of antibiotic use patterns in inpatient and outpatient care consistently demonstrate considerable inappropriate prescribing, which is likely to exacerbate the emergence of resistant organisms. Several approaches have been shown to improve the rationality of antibiotic use. Computer-based algorithms or reminders can prompt physicians to improve antibiotic choices at the time of prescribing; paper-based order entry forms can achieve the same goal. Interactive educational outreach ("academic detailing") is a practical implementation of social marketing principles to improve antibiotic use. Public education programs directed at consumers can help to reduce the inappropriate patient demand that helps to drive much improper antibiotic prescribing.


CONTEXT: Despite increasing awareness about the potential impact of financial conflicts of interest on biomedical research, no comprehensive synthesis of the body of evidence relating to financial conflicts of interest has been performed. OBJECTIVE: To review original, quantitative studies on the extent, impact, and management of financial conflicts of interest in biomedical research. DATA SOURCES: Studies were identified by searching MEDLINE (January 1980-October 2002), the Web of Science citation database, references of articles, letters, commentaries, editorials, and books and by contacting experts. STUDY
**Partial Bibliography on Pharmaceutical Promotion and Prescribing Habits**

Harvard Medical School, Brigham & Woman's Hospital,
Division of Pharmacoepidemiology and Pharmacoeconomics

SELECTION: All English-language studies containing original, quantitative data on financial relationships among industry, scientific investigators, and academic institutions were included. A total of 1664 citations were screened, 144 potentially eligible full articles were retrieved, and 37 studies met our inclusion criteria.

DATA EXTRACTION: One investigator (J.E.B.) extracted data from each of the 37 studies. The main outcomes were the prevalence of specific types of industry relationships, the relation between industry sponsorship and study outcome or investigator behavior, and the process for disclosure, review, and management of financial conflicts of interest.

DATA SYNTHESIS: Approximately one fourth of investigators have industry affiliations, and roughly two thirds of academic institutions hold equity in startups that sponsor research performed at the same institutions. Eight articles, which together evaluated 1140 original studies, assessed the relation between industry sponsorship and outcome in original research. Aggregating the results of these articles showed a statistically significant association between industry sponsorship and pro-industry conclusions (pooled Mantel-Haenszel odds ratio, 3.60; 95% confidence interval, 2.63-4.91). Industry sponsorship was also associated with restrictions on publication and data sharing. The approach to managing financial conflicts varied substantially across academic institutions and peer-reviewed journals.

CONCLUSIONS: Financial relationships among industry, scientific investigators, and academic institutions are widespread. Conflicts of interest arising from these ties can influence biomedical research in important ways.


PURPOSE: To increase nurse practitioners' (NPs) awareness of the conflict of interest that exists between the NPs' primary goal of making the best medication choices for patients and the potentially negative impact that the pharmaceutical industry's marketing strategies have on these choices.

DATA SOURCES: Selected healthcare professional, philosophical, and bioethical literature was reviewed.

CONCLUSIONS: Healthcare professionals are given gifts, dinners, and other inducements in the drug industry's effort to increase consumerism and drug sales. The current method of drug promotion increases sales but also increases healthcare expenses. Research also indicates that the pharmaceutical marketing strategies influence the judgments that NPs and other healthcare professionals make about patient care and drug prescriptions.

IMPLICATIONS: Guidelines are presented that can reduce the likelihood that any conflict of interest that exists will influence NPs' decisions about patient care.


Integrative review of literature on effectiveness of direct-to-physician marketing, principally on effects and durability of detailing.


OBJECTIVE: Medical school and residency are formative years in establishing patterns of prescribing. We aimed to review the literature regarding the extent of pharmaceutical industry contact with trainees, attitudes about these interactions, and effects on trainee prescribing behavior, with an emphasis on points of potential intervention and policy formation.

DESIGN: We searched MEDLINE from 1966 until May 2004 for English language articles. All original articles were included if the abstract reported content relevant to medical training and the pharmaceutical industry. Editorials, guidelines, and policy recommendations were excluded.

MEASUREMENTS AND MAIN RESULTS: Contact with pharmaceutical representatives was common among residents. The majority of trainees felt that the interactions were appropriate. A minority felt that their own prescribing could be influenced by contact or gifts, but were more likely to believe that others' prescribing could be influenced. Resident prescribing was associated with pharmaceutical representative visits and the availability of samples. A variety of policy and educational interventions appear to influence resident attitudes toward interactions with industry, although data on the long-term effects of these interventions are limited. Overall, residents reported insufficient training in this area.

CONCLUSIONS: The pharmaceutical industry has a significant presence during residency training, has gained the overall acceptance of trainees, and appears to influence prescribing behavior. Training programs can benefit from policies and curricula that teach residents about industry influence and ways in which to critically evaluate information that they are given. Recommendations for local and national approaches are discussed.
For each eligible article, a researcher independently extracted the data on the study methodology and outcomes. The data were then reviewed by a second researcher. Any disagreements were resolved by consensus. The data were analysed descriptively. The final analysis included 24 articles. The studies reviewed advertisements from 26 countries. The number of journals surveyed in each study ranged from four to 24 journals. Several outcome measures were examined including references and claims provided in advertisements, availability of product information, adherence to codes or guidelines and presentation of clinical claims. Most advertisements with quantitative information provided risk results as relative risk or a randomised control trial. Studies that assessed misleading claims had at least one advertisement with a misleading claim. Two studies found that less than 28% of claims were unambiguous clinical claims. Most advertisements with quantitative information provided risk results as relative risk reduction. Studies were conducted in 26 countries only and then the generalizability of the results is limited. CONCLUSIONS: Evidence from this review indicates that low quality of journal advertising is a global issue. As information provided in journal advertising has the potential to change doctors' prescribing behaviour, ongoing efforts to increase education about drug promotion are crucial. The results from our review suggest the need for a global pro-active and effective regulatory system to ensure that information provided in medical journal advertising is supporting the quality use of medicines.


BACKGROUND: Journal advertising is one of the main sources of medicines information to doctors. Despite the availability of regulations and controls of drug promotion worldwide, information on medicines provided in journal advertising has been criticized in several studies for being of poor quality. However, no attempt has been made to systematically summarise this body of research. We designed this systematic review to assess all studies that have examined the quality of pharmaceutical advertisements for prescription products in medical and pharmacy journals. METHODS AND FINDINGS: Studies were identified via searching electronic databases, web library, search engine and reviewing citations (1950 - February 2006). Only articles published in English and examined the quality of information included in pharmaceutical advertisements for prescription products in medical or pharmacy journals were included. For each eligible article, a researcher independently extracted the data on the study methodology and outcomes. The data were then reviewed by a second researcher. Any disagreements were resolved by consensus. The data were analysed descriptively. The final analysis included 24 articles. The studies reviewed advertisements from 26 countries. The number of journals surveyed in each study ranged from four to 24 journals. Several outcome measures were examined including references and claims provided in advertisements, availability of product information, adherence to codes or guidelines and presentation of risk results. The majority of studies employed a convenience-sampling method. Brand name, generic name and indications were usually provided. Journal articles were commonly cited to support pharmaceutical claims. Less than 67% of the claims were supported by a systematic review, a meta-analysis or a randomised control trial. Studies that assessed misleading claims had at least one advertisement with a misleading claim. Two studies found that less than 28% of claims were unambiguous clinical claims. Most advertisements with quantitative information provided risk results as relative risk reduction. Studies were conducted in 26 countries only and then the generalizability of the results is limited. CONCLUSIONS: Evidence from this review indicates that low quality of journal advertising is a global issue. As information provided in journal advertising has the potential to change doctors' prescribing behaviour, ongoing efforts to increase education about drug promotion are crucial. The results from our review suggest the need for a global pro-active and effective regulatory system to ensure that information provided in medical journal advertising is supporting the quality use of medicines.


BACKGROUND: The relationship between health professionals and the pharmaceutical industry has become a source of controversy. Physicians' attitudes towards the industry can form early in their careers, but little is known about this key stage of development. METHODS AND FINDINGS: We performed a systematic review reported according to PRISMA guidelines to determine the frequency and nature of medical students’ exposure to the drug industry, as well as students' attitudes concerning pharmaceutical policy issues. We searched MEDLINE, EMBASE, Web of Science, and ERIC from the earliest available dates through May 2010, as well as bibliographies of selected studies. We sought original studies that reported quantitative or qualitative data about medical students' exposure to pharmaceutical marketing, their attitudes about marketing practices, relationships with industry, and related pharmaceutical policy issues. Studies were separated, where possible, into those that addressed preclinical versus clinical training, and were quality rated using a standard methodology. Thirty-two studies met inclusion criteria. We found that 40%-100% of medical students reported interacting with the pharmaceutical industry. A substantial proportion of students (13%-69%) were reported as believing that gifts from industry influence prescribing. Eight studies reported a correlation between frequency of contact and favorable attitudes toward industry interactions. Students were more approving of gifts to physicians or medical students than to government officials. Certain attitudes appeared to change during medical school, though a time
trend was not performed; for example, clinical students (53%-71%) were more likely than preclinical students (29%-62%) to report that promotional information helps educate about new drugs.

CONCLUSIONS: Undergraduate medical education provides substantial contact with pharmaceutical marketing, and the extent of such contact is associated with positive attitudes about marketing and skepticism about negative implications of these interactions. These results support future research into the association between exposure and attitudes, as well as any modifiable factors that contribute to attitudinal changes during medical education. Please see later in the article for the Editors' Summary.

SALES REPRESENTATIVES (45)


This report describes a study made on drug presentations to groups of doctors in Helsinki. The method was silent observation of presentations given by medical representatives. Analysis of the content of the presentations revealed that side-effects and contraindications were often neglected; the drug presented was always recommended as the drug of choice; other forms of treatment were seldom mentioned. References to Finnish doctors doing clinical trials with the drugs were often made.


Analysis of physician-pharmaceutical relationships from perspective of business ethics vs. medical ethics.


The goal of this study was to focus on the adoption process for a specific new drug upon its introduction to the marketplace. The reception of temazepam by doctors was investigated in interviews with 124 specialists and general practitioners. Their response to this new drug at different stages of the adoption process was related to contact with drug information sources and to characteristics of the doctor and practice. Within about 13 months after its release, 71% were familiar with temazepam, 48% had prescribed it, and 27% now preferred it to the alternatives. Contact with the detailman regarding this drug was the most consistent predictor of favourable reception. Results suggest that the adoption of the new drug was related to commercial forces rather than to a doctor's professional involvements.


We surveyed faculty and residents from seven hospitals affiliated with three academic internal medicine training programs about their perceptions of the informational and service benefits vs the risks of ethical compromise involved in interactions with pharmaceutical sales representatives. Questionnaires were returned by 467 (81%) of 575 physicians surveyed. Residents and faculty generally had somewhat negative attitudes toward the educational and informational value of detailing activities at their institutions but indicated that representatives supported important conferences and speakers. Residents were more likely than faculty to perceive contacts with sales representatives as potentially influencing physician decision making. Sixty-seven percent of faculty and 77% of residents indicated that physicians could be compromised by accepting gifts. More than half of the physicians who suggested that such compromise was possible indicated that acceptance of gifts worth more than +100 from drug companies would be likely to compromise a physician's independence and objectivity. A majority of both faculty and house staff favored eliminating presentations by pharmaceutical representatives at their hospitals. Only 10% thought they had had sufficient training during medical school and residency regarding professional interaction with sales representatives.


Supported in part by the Attorneys General Prescriber Education Grant Program
OBJECTIVE: To determine the nature, frequency and effects of internal medicine housestaff and faculty contacts with pharmaceutical representatives (PRs). DESIGN AND SETTING: The authors surveyed internal medicine faculty at seven midwest teaching hospitals and housestaff from two of the teaching programs. The survey asked about type and frequency of contacts with PRs and behavior that might be related to these contacts. T-tests and logistic regression were used to estimate the relationship between reported physician contacts and behavioral changes. PARTICIPANTS: Two hundred forty faculty (78%) and 131 house officers (75%) responded to the survey. RESULTS: Faculty and housestaff averaged 1.5 brief contacts per month with PRs. Housestaff averaged more than one meal/month at pharmaceutical company expense. Twenty-five percent of faculty and 32% of residents reported changing their practices at least once based on PR contact. Independent predictors of faculty change in practice were brief or extended conversations and free meals. Predictors of faculty requests for formulary addition were brief conversations and receipt of honoraria or research support. Only brief conversations independently predicted housestaff changes in practice. CONCLUSION: Academic housestaff and faculty have frequent PR contact; such contact is related to changes in behavior. The potential for influence of PRs in academic medical centers should be recognized, and their activities should be evaluated accordingly.


This study revealed a significant impact on physician prescribing practices by PSRs, based on the results of evaluations of each agent’s average number of new prescriptions per month, number of grams dispensed per month, and dollar values of those prescriptions. Comparisons of these data to regional, national, and world trends revealed no correlation.


BACKGROUND. Residents frequently interact with pharmaceutical representatives during their training. The purpose of this study was to determine the prevalence of policies restricting or regulating the interactions of pharmaceutical representatives with family medicine residents. METHODS. A descriptive, cross-sectional survey was sent to all 386 accredited family practice residency programs. Programs were surveyed for the presence of restrictions or policies regarding the following circumstances and activities through which pharmaceutical representative-resident interactions could occur: (1) contact during working hours, (2) clinic drug samples, (3) personal samples for residents, (4) displays, (5) distribution of literature, (6) gifts and outings, and (7) group presentations. RESULTS. Overall, residency programs tended to allow most of these activities and had only informal guidelines regarding pharmaceutical representative interaction. Written policies were present in 58% of the programs. Prohibitions of some type were present in 41% of the programs. A higher prevalence of written policies was noted in military programs, larger programs, and programs located in hospitals with only family practice residents. CONCLUSIONS. There are wide variations among family practice residency programs regarding the regulation of pharmaceutical representative-resident interactions. In view of the educational mission of residency training programs and the recent concern over the ethics of the relationship between the medical profession and the pharmaceutical industry, it would be prudent for all residencies to develop written policies addressing the activities of pharmaceutical representatives in training sites.


Physicians in northwestern Pennsylvania were surveyed to identify the factors that influenced their attitudes toward pharmaceutical sales representatives (PSRs). The results suggest that physicians’ attitudes were influenced by the information and educational support they received from PSRs, selling techniques used by the PSRs to promote their products, and the volume of patients they saw.


Although UCLA had established policies and procedures for visiting pharmaceutical representatives, changes in both the pharmaceutical business environment and in UCLA's physical environment mandated an update. To deal with the changes, a multidisciplinary team comprised of various departmental staff members met to develop a new vendor representative visitation policy that included the practice of drug sample distribution. More stringent registration requirements and shared responsibility for policy enforcement are the key elements of the new policy.

Supported in part by the Attorneys General Prescriber Education Grant Program

In this paper we examine empirically the role of information in facilitating and explaining growth of the overall antiulcer drug market, as well as in shaping the changing market shares of the four patented products. The dissemination of information is due largely to the use of marketing channels, such as visits by manufacturers' representatives to physicians (called "detailing"), advertising in medical journals, and most recently, by direct-to-consumer advertising. We examine these and also explore pricing policies, product differentiation, and order-of-entry effects.


OBJECTIVE--To provide quantitative data about the accuracy of the information about drugs presented to physicians by pharmaceutical sales representatives. DESIGN--One hundred six statements about drugs made during 13 presentations by pharmaceutical representatives were analyzed for accuracy. Statements were rated inaccurate if they contradicted the 1993 Physicians' Desk Reference or material quoted or handed out by the sales representative. SETTING--University teaching hospital. RESULTS--Twelve (11%) of 106 statements about drugs were inaccurate. All 12 inaccurate statements were favorable toward the promoted drug, whereas 39 (49%) of 79 accurate statements were favorable (P = .005). None of 15 statements about competitors' drugs were favorable, but all were accurate, significantly (P < .001) differing from statements about promoted drugs. In a survey of 27 physicians who attended these presentations, seven (26%) recalled any false statement made by a pharmaceutical representative, and 10 (37%) said information from the representatives influenced the way they prescribed drugs. CONCLUSIONS--Eleven percent of the statements made by pharmaceutical representatives about drugs contradicted information readily available to them. Physicians generally failed to recognize the inaccurate statements.


BACKGROUND: The pharmaceutical industry plays a large role in the lifelong learning of family physicians. Controversy exists over how to integrate this potential information source into residency curricula. METHODS: Based on a faculty and resident needs assessment, a curriculum was designed to teach the evaluation of pharmaceutical representatives' (PRs) presentations. The Pharmaceutical Representative Evaluation Form is the keystone of the curriculum. This evaluation form guides discussion of pharmaceutical presentation to facilitate understanding of the sales process and help residents confirm or dispute the presentation's content, based on the sales methods used. A second goal of the evaluation program is to improve the content of the PRs' presentations. RESULTS: Residents rapidly acquire the ability to identify potential fallacies of logic and other misleading sales techniques in representatives' presentations. Compared with pretest results, residents' posttest scores demonstrate an understanding that PRs and the acceptance of promotional items can affect their prescribing behavior. Most PRs are pleased that their role is seen as educational. CONCLUSIONS: Physicians must function more as information managers than as information repositories, and it is important that residents be able to obtain useful information from PRs. Our curriculum has been effective in increasing residents' abilities to evaluate the pharmaceutical sales process and allowing them to separate the inverted question mark wheat from the chaff inverted question mark contained in this ubiquitous source of information.


An educational intervention was developed to improve family practice residents' ability to obtain useful information from pharmaceutical representatives. The curriculum is based on the traditional one-on-one drug detail. The objectives are to develop residents' skills in controlling the interview, promote skills for critically analyzing drug-promotional material, and discuss ethical issues. The contents include an assessment tool, suggested readings, and interview questions with rationale. After 5 years, residents' confidence in all areas of the curriculum improved significantly.

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Differences between faculty and resident opinions were seen in two areas. Faculty were more likely than
other physicians' prescribing patterns could be negatively influenced through the acceptance of gifts (p <
practices (p < .01), that marketing gifts with no patient benefit may be inappropriate (p = .05), and that
After the intervention, residents showed an increased belief that PRs may use unethical marketing
demonstrated significant differences between the control and intervention groups for three attitude scales.
of contact with PRs in the outpatient clinic is excessive (p < .01). The postintervention survey of residents
residents to believe that PRs sometimes use unethical marketing practices (p < .05) and that the amount
would be accepted by physicians as one improvement.

Objectives: To assess primary care resident and faculty knowledge and attitudes concerning interactions between physicians and pharmaceutical representatives (PRs) and to measure changes in residents' knowledge and attitudes after an educational intervention, we conducted preintervention and postintervention surveys with a causal-comparative group in a university-based primary care residency program. All primary care internal medicine and internal medicine-pediatrics residents and faculty were given the voluntary survey. In general, residents and faculty demonstrated similar responses for the preintervention survey. Differences between faculty and resident opinions were seen in two areas. Faculty were more likely than residents to believe that PRs sometimes use unethical marketing practices (p < .05) and that the amount of contact with PRs in the outpatient clinic is excessive (p < .01). The postintervention survey of residents demonstrated significant differences between the control and intervention groups for three attitude scales. After the intervention, residents showed an increased belief that PRs may use unethical marketing practices (p < .01), that marketing gifts with no patient benefit may be inappropriate (p = .05), and that other physicians' prescribing patterns could be negatively influenced through the acceptance of gifts (p < .05). A brief educational intervention can change resident attitudes concerning physician interactions with PRs.


To assess primary care resident and faculty knowledge and attitudes concerning interactions between physicians and pharmaceutical representatives (PRs) and to measure changes in residents' knowledge and attitudes after an educational intervention, we conducted preintervention and postintervention surveys with a causal-comparative group in a university-based primary care residency program. All primary care internal medicine and internal medicine-pediatrics residents and faculty were given the voluntary survey. In general, residents and faculty demonstrated similar responses for the preintervention survey. Differences between faculty and resident opinions were seen in two areas. Faculty were more likely than residents to believe that PRs sometimes use unethical marketing practices (p < .05) and that the amount of contact with PRs in the outpatient clinic is excessive (p < .01). The postintervention survey of residents demonstrated significant differences between the control and intervention groups for three attitude scales. After the intervention, residents showed an increased belief that PRs may use unethical marketing practices (p < .01), that marketing gifts with no patient benefit may be inappropriate (p = .05), and that other physicians' prescribing patterns could be negatively influenced through the acceptance of gifts (p < .05). A brief educational intervention can change resident attitudes concerning physician interactions with PRs.


AIM: To determine the use of influence techniques by pharmaceutical representatives in their encounters with medical practitioners. METHOD: We identified six influence techniques from the marketing literature which are thought to be commonly used by sales people. These have been termed the principles of reciprocity, friendship/liking, commitment/consistency, social validation, authority, and scarcity. We examined the use of these techniques by analysing audio-recordings of pharmaceutical representatives' presentations to medical practitioners. RESULTS: Sixteen recordings, detailing 64 medicines, were obtained from seven medical practitioners. Reciprocity was the most commonly observed method of influence. Samples, gifts, printed material, patient information leaflets or invitations were offered in all encounters. Appeals to authority figures, where promotional claims were supported by reference to professors or specialists, specialist groups and specialist hospitals, were recorded. Social validation acts, where reference was made to the peer group were also common. Commitment acts were observed to occur in two ways; the first was as a direct request to use the product detailed and the second was as a series of questions or statements which gradually moved from pre-agreed areas to solicitation of a commitment to prescribe the drug. CONCLUSION: Influence techniques were found to be commonly used by pharmaceutical representatives when they detailed products to medical practitioners. Medical practitioners may not be aware of the potential effect these techniques can have on their prescribing practices. Knowledge of these techniques must be incorporated into educational programmes designed to provide health professionals with critical appraisal skills.
BACKGROUND: Although pharmaceutical sales representatives provide physicians with information on new products, these encounters have rarely been studied in practice settings. We examined these interactions among practicing internists and assessed whether prior residency policies limiting pharmaceutical sales representative access affected the subsequent behavior of practitioners. METHODS: We conducted a mail survey of the internal medicine staffs of a medical school hospital and two affiliated community hospitals. A second request was sent to nonresponders. After the second mailing, a random sample of nonresponders was compared with a similar sample of respondents. Multivariate odds ratios (OR) and 95% confidence intervals (CI) were estimated with logistic regression. RESULTS: Of the 346 (40%) internists who responded, 22% were women and 60% were trained in university hospitals. There were no differences in gender, subspecialization, or type of training when survey responders and nonresponders were compared. Two hundred eighty-seven (83%) physicians had met with pharmaceutical sales representatives within the previous year, of whom 248 (86%) had received drug samples. Having had a policy that limited access to pharmaceutical sales representatives during residency did not affect the subsequent likelihood of seeing these representatives (P = 0.20) or accepting samples in practice (P = 0.99). Those describing themselves as busy practitioners were significantly less likely to abstain from meeting pharmaceutical sales representatives (OR = 0.2, 95% CI: 0.1 to 0.6, P <0.001). Those with very frequent contacts (>10 times/month) were virtually all busy practitioners. CONCLUSIONS: Encounters between physicians and pharmaceutical sales representatives are common in internal medicine practice, especially in busy offices. Policies designed to limit pharmaceutical sales representative access during residency do not appear to affect the subsequent likelihood of meeting with pharmaceutical sales representatives or accepting samples.


BACKGROUND: Interactions between the pharmaceutical industry and physicians have been discussed in numerous publications; however, most articles are limited to surveys and self-report data and often focus on academic or training contexts. We describe the role of pharmaceutical representatives and the use of samples in community-based family practices, using data obtained by directly observing clinical encounters. METHODS: We collected detailed descriptive field notes of the direct observations of 53 primary care clinicians and 1588 patient encounters in 18 purposefully selected Nebraska family practices. We used a comparative case study design, that used depth interviews of clinicians and office staff, and included details of the interactions with pharmaceutical representatives and the use of samples in clinical encounters. RESULTS: Individual providers and practices displayed noticeable variation in their approaches to drug representatives and samples. We found formal strategies and policies in a minority of practices. Generally there was little structure in the organization and distribution of sample medications at the office level, and detailed patient education regarding these drugs was rarely observed in patient encounters. Nevertheless, samples were used in almost 20% of observed encounters, at times as starter dosages, but often as complete courses of treatment. The benefits derived from contact with the pharmaceutical industry varied substantially, but most often included free medication samples, meals, and patient education materials. CONCLUSIONS: Clinicians have a complex symbiosis with the pharmaceutical industry and need to critically evaluate their handling of samples and their contact with pharmaceutical representatives to optimize this relationship and ensure quality patient care. Clinics with specific policies for interactions with drug companies appear to derive more satisfaction from their encounters.


CONTEXT: Controversy exists over the fact that physicians have regular contact with the pharmaceutical industry and its sales representatives, who spend a large sum of money each year promoting to them by way of gifts, free meals, travel subsidies, sponsored teachings, and symposia. OBJECTIVE: To identify the extent of and attitudes toward the relationship between physicians and the pharmaceutical industry and its representatives and its impact on the knowledge, attitudes, and behavior of physicians. DATA SOURCES: A MEDLINE search was conducted for English-language articles published from 1994 to present, with review of reference lists from retrieved articles; in addition, an Internet database was searched and 5 key informants were interviewed. STUDY SELECTION: A total of 538 studies that provided data on any of the study questions were targeted for retrieval, 29 of which were included in the analysis.
DATA EXTRACTION: Data were extracted by 1 author. Articles using an analytic design were considered to be of higher methodological quality. DATA SYNTHESIS: Physician interactions with pharmaceutical representatives were generally endorsed, began in medical school, and continued at a rate of about 4 times per month. Meetings with pharmaceutical representatives were associated with requests by physicians for adding the drugs to the hospital formulary and changes in prescribing practice. Drug company-sponsored continuing medical education (CME) preferentially highlighted the sponsor's drug(s) compared with other CME programs. Attending sponsored CME events and accepting funding for travel or lodging for educational symposia were associated with increased prescription rates of the sponsor's medication. Attending presentations given by pharmaceutical representative speakers was also associated with nonrational prescribing. CONCLUSION: The present extent of physician-industry interactions appears to affect prescribing and professional behavior and should be further addressed at the level of policy and education.


This study investigates the influences of drug companies' advertising programs on physicians. Of the 446 physicians interviewed, 53.9 percent were visited by pharmaceutical company representatives at least once a day, and 43.5 percent spent 15 minutes or more per day on these visits. With respect to the information delivered by the pharmaceutical company representatives, 67.7 percent of physicians thought it was not reliable, and 62.8 percent reported that it had no effect on their prescription writing. The promotional gifts had little effect on prescriptions for 43.9 percent of physicians, and 80.3 percent reported that these gifts were distributed unequally among doctors according to the drugs they prescribed. Only 23.5 percent of physicians supported the prohibition of promotion programs; 90.6 percent of physicians agreed that drugs are too expensive, and 82.9 percent agreed on the presence of overprescription. The authors evaluate these results and provide some suggestions for improving the sources of information for drug prescribing.


Data were collected from physicians attending a medical conference. This exploratory study was primarily interested in two areas. First, the investigators were interested in better understanding physicians' responses to different promotional tactics typically used by the pharmaceutical industry. Pharmaceutical representatives were most useful, followed by drug samples and infomercials in medical journals. Direct mail, promotional faxes, and promotional products were used less by physicians. Second, the investigators were interested in learning what information sources influenced physicians' drug choices. Physicians were primarily influenced by their prior experience with a drug, then by drug compendiums, and journal articles. Physicians were also influenced by information provided by the industry and other factors, like the drug's price and their patients' financial situations. Managerial implications for marketing to physicians and ideas for future research are discussed.


CONTEXT: The long-term effect of policies restricting contact between residents and pharmaceutical company representatives (PCRs) during internal medicine training is unknown. The McMaster University Department of Medicine in Hamilton, Ontario, implemented a policy restricting PCR contact with trainees in 1992, whereas the Department of Medicine at the University of Toronto, Toronto, Ontario, has no such policy. OBJECTIVE: To determine if the presence of a restrictive policy and the frequency of contact with PCRs during internal medicine training predict attitudes and behavior several years after completion of training. DESIGN, SETTING, AND PARTICIPANTS: Retrospective analysis of the attitudes and behavior of 3 cohorts of physicians: University of Toronto trainees, prepolicy McMaster trainees, and postpolicy McMaster trainees. Surveys were mailed to 242 former University of Toronto and 57 former McMaster trainees who completed their internal medicine training between 1990 and 1996, with response rates of 163 (67%) and 42 (74%), respectively. MAIN OUTCOME MEASURES: Physician attitude, assessed by a question about the perceived helpfulness of PCR information, and behavior, assessed by whether physicians met with PCRs in the office and the frequency of contacts with PCRs (current contact score, consisting of conversations with PCRs, PCR-sponsored events attended, gifts, honoraria, and consulting fees received). RESULTS: In both the unadjusted and multiple regression analyses, postpolicy McMaster trainees were less likely to find information from PCRs beneficial in guiding their practice compared with
Toronto and prepolicy McMaster trainees, with unadjusted odds ratios (ORs) of 0.44 (95% confidence interval [CI], 0.20-0.94) and 0.39 (95% CI, 0.13-1.22), respectively. All 3 groups were equally likely to report that they met with PCRs in their office in the past year (88%). Postpolicy McMaster trainees had a lower current contact score compared with Toronto (9.3 vs 10.9; P = .04) and prepolicy McMaster trainees (9.3 vs 10.8; P = .18). In multiple regression models, greater frequency of contact with PCRs during training was a predictor of increased perceived benefit of PCR information (OR, 1.29; 95% CI, 1.13-1.47) and was positively correlated with the current contact score (partial r = 0.49; P<.001). Number of PCR-sponsored rounds attended during training was not a consistent predictor of attitudes or behavior.

CONCLUSIONS: Policies restricting PCR access to internal medicine trainees and the amount of contact during residency appear to affect future attitudes and behavior of physicians.


There is much literature regarding the interaction of pharmaceutical sales representatives and physicians. However, there is little information available regarding their interactions with psychiatric residents. This paper attempts to quantify the impact of pharmaceutical sales visits upon prescriptions written for newly admitted patients in a psychiatric residency training clinic. A retrospective chart review of 47 consecutive patients was conducted. At the time of review all included patients had been admitted to the clinic for less than 3 months. Their psychiatric medication regimens were followed for 3 months. Initiation of new psychotropics was recorded. Data was also collected regarding the number of sales visits which typically occur at resident luncheons. Statistical analysis compared the number of new medication starts to the number of sales visits. Twelve pharmaceutical companies made sales visits. Eleven out of 12 companies' visits were statistically associated with an increase in new medication starts (p < 0.05). As the number of sales visits increased, a greater statistical significance was noted. This study is one of the first to quantify pharmaceutical industry's impact on psychiatric residents' prescribing practices. It appears that psychiatric residents preferentially start companies' medications shortly after sales visits. Furthermore, as sales visits increase in frequency, more of their medications may be started in newly admitted psychiatric outpatients.


Narrative discussion of the role of pharmaceutical promotion in shaping the definition of disease categories and affecting physician prescribing patterns.


PURPOSE: While much is known about the interactions between the pharmaceutical industry and physicians, very little is known about pharmaceutical marketing directed toward medical students. This study sought to characterize the extent and forms of medical students' exposure to pharmaceutical industry marketing. METHOD: In 2001-02, an anonymous, 17-item questionnaire was distributed to 165 preclinical and 116 clinical students at the University of Minnesota Medical School-Twin Cities. The main outcome measures were the number and forms of exposures to pharmaceutical industry marketing reported by medical students and whether students had discussed these exposures with teachers or advisors. Preclinical and clinical students were compared using chi(2) analysis (p < .05). RESULTS: One hundred fourteen (69.1%) preclinical students and 107 (92.2%) clinical students responded. Nearly all students reported at least one exposure to pharmaceutical industry marketing. Seventy-six (71.7%) clinical students compared to 38 (33.3%) preclinical students recalled over 20 exposures (p < .005). Clinical students were more likely to have received a free meal (p < .01), textbook (p < .005), pocket text (p < .005), or trinket (p < .005) than were their preclinical colleagues. Most students (68.2%) had not discussed pharmaceutical marketing with an instructor or advisor; 59 (55.7%) clinical students as compared to 87 (80.6%) preclinical students recalled no such discussion (p < .005). CONCLUSION: Medical students have extensive exposure to pharmaceutical industry marketing during their early years of training. Given existing evidence that such exposure influences physicians' practice and prescribing patterns, the authors propose that medical school curricula include formal instruction to prepare students to critically assess these contacts.

Anthropologists of medicine and science are increasingly studying all aspects of pharmaceutical industry practices--from research and development to the marketing of prescription drugs. This article ethnographically explores one particular stage in the life cycle of pharmaceuticals: sales and marketing. Drawing on a range of sources-investigative journalism, medical ethics, and autoethnography--the author examines the day-to-day activities of pharmaceutical salespersons, or drug reps, during the 1990s. He describes in detail the pharmaceutical gift cycle, a three-way exchange network between doctors, salespersons, and patients and how this process of exchange is currently in a state of involution. This gift economy exists to generate prescriptions (scripts) and can mask and/or perpetuate risks and side effects for patients. With implications of pharmaceutical industry practices impacting everything from the personal-psychological to the global political economy, medical anthropologists can play a lead role in the emerging scholarly discourse concerned with critical pharmaceutical studies.


This paper provides an in-depth, qualitative analysis of the physicians' decision process for drug prescription. Drugs in the considered therapeutic classes are mainly prescribed by specialists, treating patients with obligatory medical insurance, for a prolonged period of time. The research approach is specifically designed to capture the full complexity and sensitive nature of the physician's choice behavior, which appears to be more hybrid and less rational in nature than is often assumed in quantitative, model-based analyses of prescription behavior. Several interesting findings emerge from the analysis: (i) non-compensatory decision rules seem to dominate the decision process, (ii) consideration sets are typically small and change-resistant, (iii) drug cost is not a major issue for most physicians, (iv) detailing remains one of the most powerful pharmaceutical marketing instruments and is highly appreciated as a valuable and quick source of information, and (v) certain types of non-medical marketing incentives (such as free conference participation) may in some situations also influence drug choices.


Since the late 1800s, changes in the advertising and marketing of medicinal drugs have produced heated debates in the United States. With the emergence of the modern prescription drug between 1938 and 1951, concerns that once focused primarily on patients' use of over-the-counter drugs were broadened to include physicians and their "doctors' drugs" as well. The medical profession's growing control over their patients' drug choices inevitably heightened the scrutiny of their own performance as consumers. Although deeply divided over issues of the patient's role in medical decision making, consumer activists and physician reformers expressed similar concerns about the impact of aggressive pharmaceutical marketing and advertising on the doctor-patient relationship, and starting in the late 1950s they employed strikingly similar strategies to counter the new corporate "medicine show." Yet their efforts to promote a more rational use of prescription drugs have usually been too little and too late to offset the effectiveness of pharmaceutical advertising and marketing activities.


Background. Community pharmacists, pharmaceutical industry and differences in prescribing between GPs. Objective. To explore the role of the pharmacists and pharmaceutical industry representatives. Methods. A cross-sectional survey was undertaken of 1434 GPs in The Netherlands in 2001. Prescribing indicators based on general practice guidelines were used to assess the quality of prescribing. Three constructs, based on survey questions, were used as possible determinants for the quality of prescribing: cooperation with the pharmacist; quality of the Pharmacotherapeutic audit meeting (PTAM); and the GP's attitude towards the pharmacist's role. Data were collected about the frequency of visits by pharmaceutical industry representatives. Responses from 324 solo GPs were analysed using multiple linear regression. Results. Response rate: 71%. For the 324 solo GPs the average score for the 20 prescribing indicators was 64% (SD 3.7). For the non-solo GPs this score was 65% (SD 3.8, P < 0.05). The differences between solo and group practices were: the number of visits from pharmaceutical industry representatives (5.7 versus 3.8 visits per month), full time GPs (93% versus 50%), the number of patients per GP (2151, SD 693 versus 1506, SD 742), and the presence of a GP trainer (21 versus 38%). Of the solo GPs, 4.6% are female, compared with 26% of the GPs in non-solo practices. The quality of prescribing in solo practices was not correlated with the GP's attitude towards the pharmacist's role, the
way in which GPs cooperated with pharmacists or the quality of the PTAM. More frequent visits from pharmaceutical industry representatives was associated with a lower quality of prescribing. Conclusion. There was a negative correlation between quality of prescribing by solo GPs and frequency of visits by pharmaceutical industry representatives. In day-to-day practice, no measurable effects of the cooperation between solo GP and pharmacist on the quality of prescribing were observed. (copyright) The Author (2005). Published by Oxford University Press. All rights reserved.


Integrative review of literature on effectiveness of direct-to-physician marketing, principally on effects and durability of detailing


CONTEXT: While exposure to and attitudes about drug company interactions among residents have been studied extensively, relatively little is known about relationships between drug companies and medical students. OBJECTIVE: To measure third-year medical students' exposure to and attitudes about drug company interactions. DESIGN, SETTING, AND PARTICIPANTS: In 2003, we distributed a 64-item anonymous survey to 1143 third-year students at 8 US medical schools, exploring their exposure and response to drug company interactions. The schools' characteristics included a wide spectrum of ownership types, National Institutes of Health funding, and geographic locations. In 2005, we conducted a national survey of student affairs deans to measure the prevalence of school-wide policies on drug company-medical student interactions. MAIN OUTCOME MEASURES: Monthly frequency of students' exposure to various activities and gifts during clerkships, and attitudes about receiving gifts. RESULTS: Overall response rate was 826/1143 (72.3%), with range among schools of 30.9%-90.7%. Mean exposure for each student was 1 gift or sponsored activity per week. Of respondents, 762/818 (93.2%) were asked or required by a physician to attend at least 1 sponsored lunch. Regarding attitudes, 556/808 (68.8%) believed gifts would not influence their practices and 464/804 (57.7%) believed gifts would not affect colleagues' practices. Of the students, 553/604 (80.3%) believed that they were entitled to gifts. Of 183 students who thought a gift valued at less than $50 was inappropriate, 158 (86.3%) had accepted one. The number of students who simultaneously believed that sponsored grand rounds are educationally helpful and are likely to be biased was 452/758 (59.6%). Students at 1 school who had attended a seminar about drug company-physician relationships were no more likely than the nonattending classmates to show skepticism. Of the respondents, 704/822 (85.6%) did not know if their school had a policy on these relationships. In a national survey of student affairs deans, among the 99 who knew their policy status, only 10 (10.1%) reported having school-wide policies about these interactions. CONCLUSIONS: Student experiences and attitudes suggest that as a group they are at risk for unrecognized influence by marketing efforts. Research should focus on evaluating methods to limit these experiences and affect the development of students' attitudes to ensure that physicians' decisions are based solely on helping each patient achieve the greatest possible benefit.


OBJECTIVE: Medical school and residency are formative years in establishing patterns of prescribing. We aimed to review the literature regarding the extent of pharmaceutical industry contact with trainees, attitudes about these interactions, and effects on trainee prescribing behavior, with an emphasis on points of potential intervention and policy formation. DESIGN: We searched MEDLINE from 1966 until May 2004 for English language articles. All original articles were included if the abstract reported content relevant to medical training and the pharmaceutical industry. Editorials, guidelines, and policy recommendations were excluded. MEASUREMENTS AND MAIN RESULTS: Contact with pharmaceutical representatives was common among residents. The majority of trainees felt that the interactions were appropriate. A minority felt that their own prescribing could be influenced by contact or gifts, but were more likely to believe that others' prescribing could be influenced. Resident prescribing was associated with pharmaceutical representative visits and the availability of samples. A variety of policy and educational interventions appear to influence resident attitudes toward interactions with industry, although data on the long-term effects of these interventions are limited. Overall, residents reported insufficient training in this area. CONCLUSIONS: The pharmaceutical industry has a significant presence during residency training, has gained the overall acceptance of trainees, and appears to influence prescribing behavior. Training
programs can benefit from policies and curricula that teach residents about industry influence and ways in which to critically evaluate information that they are given. Recommendations for local and national approaches are discussed.


OBJECTIVE: To assess the opinions and practice patterns of obstetrician-gynaecologists on acceptance and use of free drug samples and other incentive items from pharmaceutical representatives. METHODS: A questionnaire was mailed in March 2003 to 397 members of the American College of Obstetricians and Gynecologists who participate in the Collaborative Ambulatory Research Network. RESULTS: The response rate was 55%. Most respondents thought it proper to accept drug samples (92%), an informational lunch (77%), an anatomical model (75%) or a well-paid consultantship (53%) from pharmaceutical representatives. A third (33%) of the respondents thought that their own decision to prescribe a drug would probably be influenced by accepting drug samples. Respondents were more likely to think the average doctor's prescribing would be influenced by acceptance of the items than theirs would be (p<0.002). Respondents who distributed drug samples to patients indicated doing so because of patients' financial need (94%) and for their convenience (76%) and less so as a result of knowledge of the efficacy of the sample product (63%). A third (34%) of respondents agreed that interactions with industry should be more strictly regulated. CONCLUSION: Obstetrician-gynaecologists largely indicated that they would act in accordance with what they think is proper regarding accepting incentive items from pharmaceutical representatives. Although accepting free drug samples was considered to be appropriate more often than any other item, samples were most commonly judged to be influential on prescribing practices. The widely accepted practice of receiving and distributing free drug samples needs to be examined more carefully.


Review of strategies used by sales representatives to foster relationships with physicians and influence prescribing habits.


OBJECTIVE: To examine the extent and composition of pharmaceutical industry representatives' marketing techniques with a particular focus on drug sampling in relation to drug age. DESIGN: A group of 47 GPs prospectively collected data on drug promotional activities during a six-month period, and a sub-sample of 10 GPs furthermore recorded the representatives' marketing techniques in detail. SETTING: Primary healthcare. SUBJECTS: General practitioners in the County of Funen, Denmark. MAIN OUTCOME MEASURES: Promotional visits and corresponding marketing techniques. RESULTS: The 47 GPs recorded 1050 visits corresponding to a median of 19 (range 3 to 63) per GP in the six months. The majority of drugs promoted (52%) were marketed more than five years ago. There was a statistically significant decline in the proportion of visits where drug samples were offered with drug age, but the decline was small OR 0.97 (95% CI 0.95;0.98) per year. Leaflets (68%), suggestions on how to improve therapy for a specific patient registered with the practice (53%), drug samples (48%), and gifts (36%) were the most frequently used marketing techniques. CONCLUSION: Drug-industry representatives use a variety of promotional methods. The tendency to hand out drug samples was statistically significantly associated with drug age, but the decline was small.


OBJECTIVE: The interaction between physicians and the pharmaceutical industry has become a subject of increased interest and concern. This study surveyed a national sample of psychiatrists practicing within Department of Veterans Affairs (VA) medical centers in 2005. It specifically focused on the experiences of these physicians with representatives of the manufacturers of second-generation antipsychotics. METHODS: VA psychiatrists were invited by e-mail to complete a Web-based questionnaire about their contact with representatives of each of the relevant pharmaceutical companies. Respondents were then questioned about several potential assertions about treatment effectiveness, side effects, and costs of these drugs. RESULTS: Of the 1,833 potential participants, 639 (35%) visited the Web site and completed the questionnaire. Among the responders, 558 (87%) reported at least one contact with company
representatives. In the year before the survey the percentage of respondents reporting contact with representatives of each individual company varied from 58% to 70%. The three most commonly reported assertions made at any time in the past through direct speech during those meetings were that the representative's second-generation antipsychotic resulted in “a decreased risk of extrapyramidal symptoms” (79%), “greater symptom reduction than placebo” (78%), or “better negative symptom control than conventional antipsychotics” (77%). Statements least likely to be reported included that drugs resulted in “better positive symptom control than conventional antipsychotics” (36%), “better positive or negative symptom control than another atypical antipsychotic” (38%), and “increased risk of the development of diabetes mellitus” (39%). CONCLUSIONS: Comparing assertions reportedly made to VA psychiatrists with package insert information suggests that many assertions made by drug company representatives are inconsistent with prescribing information approved by the U.S. Food and Drug Administration, although assertions consistent with package insert information were more common than inconsistent ones.


BACKGROUND: Sales visits by pharmaceutical representatives (“drug detailing”) are common, but little is known about the content of these visits or about the impact of visit characteristics on prescribing behavior. In this study, we evaluated the content and impact of detail visits for gabapentin by analyzing market research forms completed by physicians after receiving a detail visit for this drug. METHODS AND FINDINGS: Market research forms that describe detail visits for gabapentin became available through litigation that alleged that gabapentin was promoted for “off-label” uses. Forms were available for 97 physicians reporting on 116 detail visits between 1995 and 1999. Three-quarters of recorded visits (91/116) occurred in 1996. Two-thirds of visits (72/107) were 5 minutes or less in duration, 65% (73/113) were rated of high informational value, and 39% (42/107) were accompanied by the delivery or promise of samples. During the period of this study, gabapentin was approved by the US Food and Drug Administration only for the adjunctive treatment of partial seizures, but in 38% of visits (44/115) the "main message" of the visits involved at least one off-label use. After receiving the detail visit, 46% (50/108) of physicians reported the intention to increase their prescribing or recommending of gabapentin in the future. In multivariable analysis, intent to increase future use or recommendation of gabapentin was associated with receiving the detail in a small group (versus one-on-one) setting and with low or absent baseline use of the drug, but not with other factors such as visit duration, discussion of "on-label" versus "off-label" content, and the perceived informational value of the presentation. CONCLUSIONS: Detail visits for gabapentin were of high perceived informational value and often involved messages about unapproved uses. Despite their short duration, detail visits were frequently followed by physician intentions to increase their future recommending or prescribing of the drug.


BACKGROUND: Interactions between physicians and drug representatives are common, even though research shows that physicians understand the conflict of interest between marketing and patient care. Little is known about how physicians resolve this contradiction. OBJECTIVE: To determine physicians' techniques for managing cognitive inconsistencies within their relationships with drug representatives. DESIGN, SETTING, AND PARTICIPANTS: Six focus groups were conducted with 32 academic and community physicians in San Diego, Atlanta, and Chicago. MEASUREMENTS: Qualitative analysis of focus group transcripts to determine physicians' attitudes towards conflict of interest and detailing, their beliefs about the quality of information conveyed and the impact on prescribing, and their resolution of the conflict between detailers' desire to sell product and patient care. RESULTS: Physicians understood the concept of conflict of interest and applied it to relationships with detailers. However, they maintained favorable views of physician-detailer exchanges. Holding these mutually contradictory attitudes, physicians were in a position of cognitive dissonance. To resolve the dissonance, they used a variety of denials and rationalizations: They avoided thinking about the conflict of interest, they disagreed that industry relationships affected physician behavior, they denied responsibility for the problem, they enumerated techniques for remaining impartial, and they reasoned that meetings with detailers were educational and benefited patients. CONCLUSIONS: Although physicians understood the concept of conflict of interest, relationships with detailers set up psychological dynamics that influenced their reasoning. Our findings suggest that voluntary guidelines, like those proposed by most major medical societies, are inadequate. It may be that only the prohibition of physician-detailer interactions will be effective.

CONTEXT: Research suggests that pharmaceutical marketing influences prescribing and may cause cognitive dissonance for prescribers. This work has primarily been with physicians and physician-trainees. Questions remain regarding why prescribers continue to meet with pharmaceutical representatives (PRs).

OBJECTIVE: To describe the reasons that prescribers from various health professions continue to interact with PRs despite growing evidence of the influence of these interactions. DESIGN, SETTING, AND PARTICIPANTS: Multi-disciplinary focus groups with 61 participants held in practice settings and at society meetings. RESULTS: Most prescribers participating in our focus groups believe that overall PR interactions are beneficial to patient care and practice health. They either trust the information from PRs or feel that they are equipped to evaluate it independently. Despite acknowledgement of study findings to the contrary, prescribers state that they are able to effectively manage PR interactions such that their own prescribing is not adversely impacted. Prescribers describe few specific strategies or policies for these interactions, and report that policies are not consistently implemented with all members of a clinic or institution. Some prescribers perceive an inherent contradiction between academic centers and national societies receiving money from pharmaceutical companies, and then recommending restriction at the level of the individual prescriber. Prescribers with different training backgrounds present a few novel reasons for these meetings. CONCLUSIONS: Despite evidence that PR detailing influences prescribing, providers from several health professions continue to believe that PR interactions improve patient care, and that they can adequately evaluate and filter information presented to them by PRs. Focus group comments suggest that cultural change is necessary to break the norms that exist in many settings. Applying policies consistently, considering non-physician members of the healthcare team, working with trainees, restructuring the current primary care model and offering convenient, individualized, non-biased educational options may aid success.


BACKGROUND: Pharmaceutical representative visits are believed to have substantial impact, but the effects on prescribing patterns have not been systematically evaluated. OBJECTIVE: This study investigates how pharmaceutical sales representative visits influenced physicians’ company-specific drug preferences and prevalence of steroid prescribing. METHODS: Observational cohort study in Funen County, Denmark, including 165 general practices visited 832 times by pharmaceutical representatives and 54 080 patients treated with asthma drugs. Visits were conducted from 2001 to 2003. Our main outcome measures were (i) company-specific drug preferences measured as the proportion of dispensings of the promoted drug among all dispensings of fixed combinations of inhaled corticosteroid and long-acting beta2-agonists and (ii) the proportion of patients receiving repeated beta2-agonist dispensings who were treated with inhaled steroids. RESULTS: The first visit had a statistically significant effect on the GPs’ drug preference in favour of the marketed drug [odds ratio (OR), 2.39; 95% confidence interval (CI), 1.72-3.32]. The effect on drug preference increased further after the second visit (OR, 1.51; 95% CI, 1.19-1.93), while there was no significant change after the third visit (OR, 1.06; 95% CI, 0.94-1.20). Pharmaceutical sales representative visits did not influence the overall treatment pattern with inhaled steroids (OR, 1.01; 95% CI, 0.97-1.06). CONCLUSIONS: Pharmaceutical sales representative visits markedly increased the market share of the promoted drug, but only the two first visits had significant impact. Visits had no significant impact on GPs’ overall prescribing of inhaled steroids.


BACKGROUND: Physicians and pharmaceutical sales representatives (PSR) are in regular contact. The goal of the present study is systematically to assess the kind of contacts that take place and their quality with a survey of physicians in private practice. A further goal is to determine whether alternatives to current practices can be envisioned. METHODS: 100 physicians in each of three specialties (neurology/psychiatry, general medicine, and cardiology) were surveyed with a questionnaire containing 37 questions. 208 (69.3%) questionnaires were anonymously filled out and returned. RESULTS: 77% (n = 160) of all physicians were visited by PSR at least once a week, and 19% (n = 39) every day. Pharmaceutical samples, items of office stationery and free lunches were the most commonly received gifts. 49% (n = 102) stated that they only occasionally, rarely, or never receive adequate information from PSR, and 76% (n = 158) stated that PSR often or always wanted to influence their prescribing patterns. Only 6% (n = 13) considered themselves to be often or always influenced, while 21% (n = 44) believed this of their colleagues. The physicians generally did not believe that PSR visits and drug company-sponsored

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independently by two authors and a narrative synthesis performed following the MOOSE guidelines. Of the appraisal criteria (18), leaving 58 included studies with 87 distinct analyses. Data were extracted (138 studies). Articles were then excluded because they did not fulfil inclusion criteria (179) or quality. Studies were excluded where insufficient study information precluded appraisal. Randomized and observational studies evaluating information from pharmaceutical companies and measures of physicians' prescribing were independently appraised for methodological quality by two authors. Studies were excluded where insufficient study information precluded appraisal. The full text of 255 articles was retrieved from electronic databases (7,185 studies) and other sources. Randomized and observational studies evaluating information from pharmaceutical companies and measures of physicians' prescribing were independently appraised for methodological quality by two authors. Studies were excluded where insufficient study information precluded appraisal. The full text of 255 articles was retrieved from electronic databases (7,185 studies) and other sources. Randomized and observational studies evaluating information from pharmaceutical companies and measures of physicians' prescribing were independently appraised for methodological quality by two authors. Studies were excluded where insufficient study information precluded appraisal. The full text of 255 articles was retrieved from electronic databases (7,185 studies) and other sources.

**BACKGROUND:** Previous surveys on the relationship between physicians and pharmaceutical representatives (PRs) have been of limited quality. The purpose of our survey of practicing physicians in Japan was to assess the extent of their involvement in pharmaceutical promotional activities, physician characteristics that predict such involvement, attitudes toward relationships with PRs, correlations between the extent of involvement and attitudes, and differences in the extent of involvement according to self-reported prescribing behaviors. METHODS AND FINDINGS: From January to March 2008, we conducted a national survey of 2621 practicing physicians in seven specialties: internal medicine, general surgery, orthopedic surgery, pediatrics, obstetrics-gynecology, psychiatry, and ophthalmology. The response rate was 54%. Most physicians met with PRs (98%), received drug samples (85%) and stationery (96%), and participated in industry-sponsored continuing medical education (CME) events at the workplace (80%) and outside the workplace (93%). Half accepted meals outside the workplace (49%) and financial subsidies to attend CME events (49%). Rules at the workplace banning both meetings with PRs and gifts predicted less involvement of physicians in promotional activities. Physicians valued information from PRs. They believed that they were unlikely to be influenced by promotional activities, but that their colleagues were more susceptible to such influence than themselves. They were divided about the appropriateness of low-value gifts. The extent of physician involvement in promotional activities was positively correlated with the attitudes that PRs are a valuable source of information and that gifts are appropriate. The extent of such involvement was higher among physicians who prefer to ask PRs for information when a new medication becomes available, physicians who are not satisfied with patient encounters ending only with advice, and physicians who prefer to prescribe brand-name medications. CONCLUSIONS: Involvement in pharmaceutical promotional activities is widespread among practicing physicians in Japan. The extent of such involvement varies according to certain physician characteristics. As a group, they are at risk for influence by promotional activities.


**BACKGROUND:** Pharmaceutical companies spent $57.5 billion on pharmaceutical promotion in the United States in 2004. The industry claims that promotion provides scientific and educational information to physicians. While some evidence indicates that promotion may adversely influence prescribing, physicians hold a wide range of views about pharmaceutical promotion. The objective of this review is to examine the relationship between exposure to information from pharmaceutical companies and the quality, quantity, and cost of physicians' prescribing. METHODS AND FINDINGS: We searched for studies of physicians with prescribing rights who were exposed to information from pharmaceutical companies (promotional or otherwise). Exposures included pharmaceutical sales representative visits, journal advertisements, attendances at pharmaceutical sponsored meetings, mailed information, prescribing software, and participation in sponsored clinical trials. The outcomes measured were quality, quantity, and cost of physicians’ prescribing. We searched Medline (1966 to February 2008), International Pharmaceutical Abstracts (1970 to February 2008), Embase (1997 to February 2008), Current Contents (2001 to 2008), and Central (The Cochrane Library Issue 3, 2007) using the search terms developed with an expert librarian. Additionally, we reviewed reference lists and contacted experts and pharmaceutical companies for information. Randomized and observational studies evaluating information from pharmaceutical companies and measures of physicians’ prescribing were independently appraised for methodological quality by two authors. Studies were excluded where insufficient study information precluded appraisal. The full text of 255 articles was retrieved from electronic databases (7,185 studies) and other sources (138 studies). Articles were then excluded because they did not fulfil inclusion criteria (179) or quality appraisal criteria (18), leaving 58 included studies with 87 distinct analyses. Data were extracted independently by two authors and a narrative synthesis performed following the MOOSE guidelines. Of the set of studies examining prescribing quality outcomes, five found associations between exposure to pharmaceutical company information and lower quality prescribing, four did not detect an association, and one found associations with lower and higher quality prescribing. 38 included studies found associations.
between exposure and higher frequency of prescribing and 13 did not detect an association. Five included studies found evidence for association with higher costs, four found no association, and one found an association with lower costs. The narrative synthesis finding of variable results was supported by a meta-analysis of studies of prescribing frequency that found significant heterogeneity. The observational nature of most included studies is the main limitation of this review. CONCLUSIONS: With rare exceptions, studies of exposure to information provided directly by pharmaceutical companies have found associations with higher prescribing frequency, higher costs, or lower prescribing quality or have not found significant associations. We did not find evidence of net improvements in prescribing, but the available literature does not exclude the possibility that prescribing may sometimes be improved. Still, we recommend that practitioners follow the precautionary principle and thus avoid exposure to information from pharmaceutical companies. Please see later in the article for the Editors' Summary.


BACKGROUND: The prescribing patterns depend on the physicians' attitudes and their subjective norms towards prescribing a particular drug, as well as on their personal experience with a particular drug. The physicians are affected by their interactions with pharmaceutical industry. OBJECTIVE: The objectives were to develop a scale for assessment of pharmaceutical sales representatives (PSRs) by the family doctors (FDs) and to determine factors for their evaluation. METHOD: Cross-sectional anonymous postal study. We included a random sample of 250 Slovenian FDs. Settings. Slovenian FDs' surgeries. MAIN OUTCOME MEASURE: The score of various items regarding FDs' assessment of PSRs on a 7-point Likert scale. RESULTS: We got 163 responses (65.2% response rate). The most important characteristic of PSRs, as rated by respondents on the scale from 1 to 7, was the fact that they did not mislead when presenting products' information. The second most important characteristic was the ability to provide objective information about the product. The first three most important characteristics, as rated by the respondents by themselves, were 'Shows good knowledge on the promoted subject', 'Provides objective product information' and 'Makes brief and exact visits'. Cronbach's alpha of the composite scale was 0.844. Factor analysis revealed three PSRs' factors: selling skills, communicating skills and sense of trustworthiness. CONCLUSION: FDs evaluate PSRs mainly by their managerial skills and trustworthiness. The scale proved to be a reliable tool for assessing PSRs by FDs.