

# INTERACTIONS WITH THE PHARMACEUTICAL INDUSTRY: EXPERIENCES AND ATTITUDES OF PSYCHIATRY RESIDENTS, INTERNS AND CLERKS

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## Abstract • Résumé

**Objective:** To examine the type and number of interactions of psychiatry residents, interns and clerks with sales representatives of pharmaceutical companies and the attitudes of physicians-in-training toward these interactions.

**Design:** Survey conducted with the use of a self-report questionnaire.

**Setting:** Seven teaching hospitals affiliated with the Department of Psychiatry, University of Toronto.

**Participants:** All 105 residents, interns and clerks training in psychiatry at the seven teaching hospitals between October 1993 and February 1994 were eligible; 74 completed questionnaires, for a response rate of 70%. One respondent was excluded from the analysis.

**Outcome measures:** Number of personal meetings and "drug lunches" attended, number of drug samples and promotional items received and estimated value of gifts received by each physician-in-training during a 1-year period as well as attitudes of residents, interns and clerks about interactions with pharmaceutical representatives.

**Results:** Median number of personal meetings reported was 1 (range 0 to 35), of drug lunches attended was 10 (range 0 to 70), of promotional items received was 2 (range 0 to 75) and of drug samples received was 1 (range 0 to 20). Trainees' median estimate of the value of gifts received was \$20 (range \$0 to \$800). Fewer than one third felt that pharmaceutical representatives were a source of accurate information about drugs; however, 71% (52/73) disagreed with the statement that representatives should be banned from making presentations. Although only 15% (11/73) felt they had sufficient training about meeting with pharmaceutical representatives, 34% (25/73) felt that discussions with representatives would have no impact on their prescribing practices, and 56% (41/73) felt that receiving gifts would have no impact on prescribing. Fewer than half said they would maintain the same degree of contact with representatives if they did not receive promotional gifts. The more money and promotional items a physician-in-training had received, the more likely he or she was to believe that discussions with representatives did not affect prescribing ( $p < 0.05$ ). Clerks, interns and junior (first-year and second-year) residents attended two to three times more drug lunches than senior (third-year and fourth-year) residents, and significantly more junior than senior residents felt that pharmaceutical representatives have a valuable teaching role. Junior residents were three times more likely than senior residents to have received drug samples.

**Conclusions:** Interactions between pharmaceutical representatives and psychiatry residents, interns and clerks are common. The physicians-in-training perceive little educational value in these contacts and many, especially clerks, interns and junior residents, disavow the potential of these interactions to influence prescribing. Therefore, supervisors of postgraduate medical training programs may wish to provide instruction concerning potential conflicts of interest inherent in these types of interactions.

**Objectif :** Examiner le type et le nombre de contacts entre les résidents, les internes et les commis en formation en psychiatrie, d'une part, et les représentants aux ventes de sociétés pharmaceutiques, d'autre part, ainsi que les attitudes des médecins en formation à l'égard de ces contacts.

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**Conception :** Enquête par questionnaire à remplir soi-même.

**Contexte :** Sept hôpitaux d'enseignement affiliés au Département de psychiatrie de l'Université de Toronto.

**Participants :** Les 105 résidents, internes et commis en formation en psychiatrie aux sept hôpitaux d'enseignement entre octobre 1993 et février 1994 étaient admissibles; 74 ont rempli le questionnaire, ce qui a donné un taux de réponse de 70 %. Un répondant a été exclu de l'analyse.

**Mesures des résultats :** Nombre de contacts en personne et de «promo-déjeuners», nombre d'échantillons de médicaments et d'articles promotionnels reçus, valeur estimative des cadeaux reçus par chaque médecin en formation pendant 1 an, attitudes des résidents, des internes et des commis au sujet des contacts avec les représentants de sociétés pharmaceutiques.

**Résultats :** Le nombre médian de contacts personnels signalés s'est établi à 1 (fourchette de 0 à 35), de promo-déjeuners, à 10 (fourchette de 0 à 70), d'articles de promotion reçus, à 2 (fourchette de 0 à 75) et d'échantillons de médicaments reçus, à 1 (fourchette de 0 à 20). L'estimation médiane de la valeur des cadeaux reçus a été établie par les médecins en formation à 20 \$ (fourchette de 0 \$ à 800 \$). Moins du tiers étaient d'avis que les représentants de sociétés pharmaceutiques étaient une source exacte d'information sur les médicaments, mais 71 % (52/73) n'étaient pas d'accord pour interdire aux représentants d'effectuer des présentations. Même si 15 % (11/73) seulement pensaient avoir reçu suffisamment de formation en des rencontres avec des représentants de sociétés pharmaceutiques, 34 % (25/73) étaient d'avis que les entretiens avec les représentants n'auraient aucune incidence sur leurs habitudes d'ordonnance et 56 % (41/73) étaient d'avis que les cadeaux reçus n'auraient aucun effet sur leurs habitudes d'ordonnance. Moins de la moitié ont déclaré qu'ils auraient les mêmes contacts avec les représentants, même sans recevoir de cadeaux promotionnels. Plus un médecin en formation a reçu d'argent et d'articles promotionnels, plus il aura de chances de croire que les entretiens avec des représentants n'affecteront pas ses habitudes d'ordonnance ( $p < 0,05$ ). Les commis, les internes et les résidents débutants (première et deuxième années) ont assisté à deux ou trois fois plus de promo-déjeuners que les résidents principaux (troisième et quatrième années) et beaucoup plus de résidents débutants que de résidents principaux étaient d'avis que les représentants de sociétés pharmaceutiques ont un rôle pédagogique valable à jouer. Les résidents débutants étaient trois fois plus susceptibles que les résidents principaux d'avoir reçu des échantillons de médicaments.

**Conclusion :** Les contacts entre les représentants de sociétés pharmaceutiques et les résidents, les internes et les commis en psychiatrie sont fréquents. Les médecins en formation y voient peu de valeur éducative et beaucoup d'intervenants, et surtout de commis, d'internes et de résidents débutants, nient que ces contacts pourraient avoir un effet sur leurs habitudes d'ordonnance. C'est pourquoi les superviseurs de programmes de formation médicale postdoctorale voudront peut-être donner des cours sur les conflits d'intérêts possibles inhérents à de telles relations.

Pharmaceutical companies direct extensive marketing efforts toward many professional groups including pharmacists, administrators, nurses, psychologists and, of course, physicians.<sup>1</sup> In the United States drug companies spend a total of \$10 billion a year on promotion.<sup>2</sup> They spent an estimated \$5000 per physician in the United States in 1988<sup>2</sup> and more than \$13 000 per physician in 1993.<sup>3</sup> Comparable Canadian figures are not readily available; however, a recent publication by the Pharmaceutical Manufacturers Association of Canada stated that companies spent \$286 million in 1992 for journal advertising, direct mail, product exhibitions, samples, product literature and translations of product literature.<sup>4</sup> This figure does not include expenses for marketing, sales personnel or overhead. According to a federal Commission of Inquiry on the Pharmaceutical Industry,<sup>5</sup> these expenses account for 55% of promotional expenditures; therefore, it may be estimated that approximately \$349 million out of a total expenditure of \$635 million was spent on sales representatives in 1992.

Lexchin<sup>6</sup> recently reviewed more than 227 articles and 2000 documents on interactions between physicians

and the pharmaceutical industry. He concluded that there is strong evidence that interaction with the pharmaceutical industry influences the prescribing behaviour of physicians. Company-funded continuing medical education,<sup>7</sup> "all-expenses-paid" trips to symposia<sup>8</sup> and detailing<sup>6,9</sup> appear to have a powerful effect on the prescribing behaviour of physicians. Lurie and associates<sup>10</sup> found that 32% of residents reported that they changed their prescribing habits as a result of contact with pharmaceutical representatives.

In Canada and the United States, a remarkable amount of promotion is aimed at physicians-in-training.<sup>11</sup> Lichstein, Turner and O'Brien<sup>12</sup> surveyed 272 directors of internal medicine programs in the United States and found that residents met with sales representatives from pharmaceutical companies during working hours in 84% of programs. In addition, pharmaceutical companies sponsored conferences in 89% of settings. There has been no comparable study in Canada; however, pharmaceutical representatives are in regular contact with house staff.<sup>11</sup>

Universities and professional bodies in both countries

have started to create guidelines for the relationship between the pharmaceutical industry and health care professionals.<sup>13-16</sup> In Lichstein and colleagues'<sup>12</sup> survey, only 35% of departments had formal policies on industry-resident interaction, and only 26% provided any formal instruction in this area. The type of instruction provided was not described. The authors commented that interaction between the industry and residents has developed, for the most part, in an unplanned and uncontrolled fashion.

One of the few published accounts in Canada of attempts to tackle the issue concerns the residency program in internal medicine at McMaster University, Hamilton, Ont.<sup>11</sup> The faculty of the program set out to define carefully and explicitly the relationship that should exist between physicians-in-training and the pharmaceutical industry. They developed a set of guidelines to end "drug lunches," to bar industry representatives from formal residency educational events and to refuse funding from any company if the grant was contingent on the inclusion of materials specified by that company. This policy was modified to require that all educational material be submitted to the director of each clinical teaching unit, to be made available only if deemed valuable. The guidelines meant that pharmaceutical representatives were not to provide noneducational benefits to residents, that funding of events — but not participation by pharmaceutical representatives — was to be allowed and that faculty control of the content of sponsored activities was to be maintained.<sup>11</sup>

Many faculties are now rushing to develop guidelines, yet few studies have looked at the actual amount of interaction between house staff and pharmaceutical representatives and the attitudes of house staff toward such interactions. McKinney and collaborators<sup>17</sup> surveyed 190 residents in internal medicine about their perceptions of the risks and benefits involved in interactions with pharmaceutical sales representatives. They reported that residents had a generally negative attitude toward the educational and informational value of detailing, with 77% of residents reporting that they could be compromised by receiving gifts. Most respondents favoured eliminating presentations at their hospitals, and only 10% felt they had sufficient training on interaction with sales representatives during medical school and residency.

McKinney and collaborators<sup>17</sup> called for replication of their study in other disciplines and centres so that the results could serve as a guide for policy and educational programs. In response to this challenge, this study was designed to answer the following questions. How much interaction is there between pharmaceutical sales representatives and psychiatry residents, interns and clerks at the University of Toronto? What is the attitude of physicians-in-training toward these interactions?

## METHODS

A questionnaire concerning the interactions of clerks, interns and residents with pharmaceutical representatives during the past year and attitudes toward those interactions was distributed to trainees at seven teaching institutions affiliated with the Department of Psychiatry of the University of Toronto. Four were general hospitals (Wellesley Hospital, Mount Sinai Hospital, Toronto Hospital — General Division and Sunnybrook Health Science Centre), two were psychiatric hospitals (Clarke Institute of Psychiatry and Queen Street Mental Health Centre) and one was a children's hospital (Hospital for Sick Children). All residents undergoing rotations at these centres through the Department of Psychiatry and interns undergoing rotations through the psychiatry service were eligible. In addition, clinical clerks in psychiatry at the Clarke Institute of Psychiatry were surveyed during the study period. The survey was conducted between October 1993 and February 1994. Questionnaires were distributed through the chief residents at each site. Although approximately 104 trainees (74 residents, 9 interns and 21 clinical clerks) were available for the survey, fewer than that number may have attended meetings at which the surveys were distributed. Surveys were completed and returned to the investigator anonymously via interhospital mail.

## SURVEY INSTRUMENT

The questionnaire consisted of three parts. The first involved demographic information including sex, position and hospital placement. The second consisted of six questions concerning the extent of the trainee's interaction with pharmaceutical representatives, including personal meetings, "drug lunches" and drug samples, promotional items and gifts received during the previous year. The third involved nine questions about attitudes toward interactions with sales representatives. Trainees were asked to report their degree of agreement with a series of statements about such interactions. Responses were rated on a Likert scale from strongly agree (1) to strongly disagree (5). The questions were modelled after the survey questions used and reported by McKinney and collaborators.<sup>17</sup> Evidence for the validity of this instrument, based on expert review and factor analysis, was provided by those investigators. The questionnaire is available from these authors upon request.

## ANALYSIS

The data were analysed in several ways. To examine differences in the trainees' interaction with pharmaceutical representatives by position, a one-way analysis of

variance (ANOVA) was performed with the position as the independent variable and the five types of interaction — personal meetings, drug lunches and receipt of promotional items, samples and gifts — as the dependent variable. Responses to questions about attitudes are reported here as percentages of those surveyed who agreed or disagreed with statements or were neutral. To examine the relation between reported attitudes of trainees and their actual interaction with pharmaceutical representatives, a correlation matrix was created and the Spearman rank correlation was used to detect differences by position.

## RESULTS

Seventy-four psychiatry residents, interns and clinical clerks — approximately 70% of those eligible — completed the questionnaire. The demographic profile of respondents is given in Table 1. Clerks and third-year residents were slightly overrepresented, whereas second-year and fourth-year residents were underrepresented. One respondent had been in general practice in the year before the survey and was not in an educational training program. This respondent's answers were significantly different from those of the house staff; the respondent reported four to five times as many samples received, funds accepted and other interactions as other respondents. To avoid skewing the results, this respondent was excluded from the analysis.

Table 2 gives the median and mean numbers of trainee interactions with pharmaceutical representatives in the 1-year period before the survey. The median estimate of the value of gifts received per respondent was

\$20, and the mean estimate was \$60, with a range of \$0 to \$800. Of 73 house staff, 31 (43%) reported receiving books, 14 (19%) videos, 2 (3%) funds to attend conferences, 27 (37%) dinner and 3 (4%) money.

An ANOVA was performed to examine the interaction between the trainees' position and degree of contact with sales representatives. Table 3 shows that position had a significant effect on three of the five types of interaction. Specifically, position accounted for a statistically significant portion of the variance ( $p < 0.05$ ) in the number of personal meetings, which was highest among fourth-year residents; the number of drug lunches attended, which was highest among interns and junior (first-year and second-year) residents; and the number of drug samples received, which was highest among junior residents.

The third section of the survey examined trainees' attitudes toward such interactions. Most disagreed with statements that representatives should be banned from institutions and that trainees had sufficient training about interactions. More than 40% felt that representatives have an important teaching role, and 77% felt that representatives supported important conferences and speakers; however, less than a third felt that representatives provided useful and accurate information on new and established drugs. Although 43% disagreed with the statement that they would maintain the same degree of contact with representatives if no gifts were distributed, 35% felt that discussion with representatives had no impact on prescribing, and 57% felt that accepting promotional items had no impact on prescribing (Table 4).

Reported attitudes were examined with the use of a correlation matrix to determine whether there was any relation to position or to actual number of interactions with pharmaceutical representatives. Generally, no relation was found; however, there were two significant correlations. The amount of money residents reported having received was positively correlated with their stating that they would have the same degree of contact with representatives if no promotional gifts were offered ( $r_s = 0.31$ ,  $p < 0.01$ ). Also, the number of promotional items received was positively correlated with the belief that

Table 1: Demographic profile of respondents

Sex or position	No. (and %) of respondents or nonrespondents*	
	Respondents	Nonrespondents
<b>Sex</b>		
Male	40 (55)	14 (45)
Female	33 (45)	17 (55)
<b>Position</b>		
Clerk	17 (23)	4 (13)
Intern	6 (8)	3 (10)
Resident		
First-year	13 (18)	5 (16)
Second-year	9 (12)	7 (23)
Third-year	17 (23)	5 (16)
Fourth-year	11 (15)	7 (23)
Total	73	31

\*Percentages may not sum to 100 because of rounding.

Table 2: Reported interactions with sales representatives in a 1-year period

Type of interaction	No. of interactions per respondent (n = 73)	
	Mean	Median (and range)
Personal meetings attended	3	1 (0-35)
Drug lunches attended	14	10 (0-70)
Promotional items received	6	3 (0-75)
Drug samples received	2	1 (0-20)

discussions with representatives have no impact on prescribing behaviour ( $r_s = 0.24, p < 0.04$ ).

Significant differences in attitude according to position were also found. "Pharmaceutical representatives have an important teaching role" met with the agreement of 41% of clerks, 34% of interns and 46% of first-year residents, but only 12% of third-year and 9% of fourth-year residents ( $p < 0.005$ ). The extent of agreement with the statement that discussions with sales representatives have no impact on prescribing declined with seniority; 50% or more of clerks, interns and first-year residents agreed, whereas only 23% of second-year and third-year residents, and 9% of fourth-year residents, endorsed this view ( $p < 0.005$ ).

## DISCUSSION

The results of this study are limited by several factors. First, this is a self-report survey of a type of behaviour that has ethical implications; therefore, the responses are

susceptible to a social-desirability bias (respondents are more likely to report behaviour and attitudes that are socially desirable). This bias was partially addressed by the anonymous completion and return of the questionnaire. The survey instrument itself was validated at another site in a different medical program, and the scale was not validated before being applied to this population. However, this shortcoming does not affect the results unduly, since no total score is derived from the scale and the data are reported item by item. The most important limitation of the study is that retrospective self-report is not the same as actual observation of behaviour. A future study could examine the interaction of house staff and sales representatives prospectively. Finally, the sample surveyed is not representative of the population of house staff who were undertaking training through the Department of Psychiatry at the University of Toronto. As noted earlier, clerks and third-year residents were slightly overrepresented, and second-year and fourth-year residents were underrepresented.

**Table 3: Reported interactions with pharmaceutical representatives and value of gifts received in a 1-year period, by training position**

Type of interaction	Clerk	Intern	Resident				F* (p value)
			First-year	Second-year	Third-year	Fourth-year	
Personal meetings attended, mean no.	1.2	0.8	2.7	1.6	1.4	7.5	3.08 (< 0.02)
Drug lunches attended, mean no.	12.2	30.8	17.7	15.6	8.5	9.7	3.04 (< 0.05)
Promotional items received, mean no.	5.5	6.7	5.8	4.3	3.1	12.1	1.18 (NS†)
Drug samples received, mean no.	1.3	1.3	4.8	3.1	1.1	1.6	3.03 (< 0.02)
Gifts received, estimated mean value, \$	22	58	108	79	74	76	0.68 (NS)

\*Result of analysis of variance with position as the independent variable and number or value of interactions as the dependent variable.  
†NS = not significant.

**Table 4: Attitudes of trainees toward interaction with pharmaceutical company representatives**

Statement	Response; no. (and %*) of respondents (n = 73)		
	Agree	Neutral	Disagree
Pharmaceutical representatives have an important teaching role	21 (29)	21 (29)	31 (42)
Representatives provide useful and accurate information on new drugs	23 (32)	23 (32)	27 (37)
Representatives provide useful and accurate information on established drugs	18 (25)	29 (40)	26 (36)
Representatives should be banned from making presentations	7 (10)	14 (19)	52 (71)
I have had sufficient training about interacting with pharmaceutical representatives	11 (15)	11 (15)	51 (70)
I would maintain the same degree of contact with representatives if no gifts were distributed	33 (45)	9 (12)	31 (42)
Discussion with representatives does <i>not</i> have an impact on my prescribing behaviour	25 (34)	12 (16)	36 (49)
Accepting promotional items has <i>no</i> impact on my prescribing	41 (56)	11 (15)	20 (27)
Pharmaceutical representatives support important conferences and speakers	56 (77)	11 (15)	6 (8)

\*Percentages may not sum to 100 because of rounding.

Even if the results do reflect the responses of trainees in the seven teaching institutions, they may not represent the experience at other Toronto hospitals, which may have different guidelines and educational programs to address the interactions between the profession and pharmaceutical representatives. By the same token, caution should be used in generalizing the results to departments of psychiatry at other medical schools and to other university programs.

Given these limitations, several fascinating results emerge. First, there are significant levels of interaction between pharmaceutical representatives and psychiatry residents, interns and clerks. The mean reported numbers of trainees accepting samples, attending lunches and meeting with representatives are high, but the ranges reported are astounding. Participants had received as much as \$800 in gifts and as many as 75 promotional items and 20 samples in the past year. Some had attended 70 drug lunches and 35 personal meetings with representatives. Given that only 15% of trainees felt they had received enough education about interacting with representatives, medical educators should be concerned about this high level of interaction.

Although fewer than one third of respondents felt that pharmaceutical representatives were an accurate source of information about drugs, 71% disagreed with banning pharmaceutical representatives from making presentations. Furthermore, although respondents perceived little educational value in contacts, they largely disavowed the potential of interaction to influence prescribing. The large number of trainees who agreed with the statement that they cannot be influenced by discussions (35%) or the receipt of gifts (57%) suggests some naïveté about the influence of the pharmaceutical industry on prescribing. Curiously, fewer than half of respondents said they would maintain the same degree of contact if promotional gifts were not distributed.

These results are similar to those reported by McKinney and collaborators.<sup>17</sup> Respondents in their survey felt that they lacked the training to deal with pharmaceutical representatives, yet expressed a similar, and perhaps stronger, disavowal of the potential influence of meetings with sales people or receipt of gifts on prescribing. Like the respondents in my survey, they felt that pharmaceutical representatives are not generally a source of accurate information on new or established drugs. One notable difference is that the subjects in McKinney and collaborators' survey felt that pharmaceutical representatives should be banned from institutions, a view strongly opposed by the sample in my survey. This may reflect differences in the culture between the two centres where the surveys were conducted. However, the large number of similarities among groups in different specialties, cities and countries with very different health care systems speaks to the universality of the issue.

Taken together, the results of both surveys suggest that there is a demand for formal training, particularly in the early years of residency or internship, on the nature of the relationship with the pharmaceutical industry and the potential ethical conflicts inherent in interaction with the industry. Clerks, interns and junior residents, who have many contacts with representatives and accept the largest number of samples, are also far more likely than senior residents to believe in the educational value of industry information and to deny any potential for influence on prescribing. Of greatest concern is the correlation between receipt of money or gifts from representatives and the view that this interaction does not affect degree of contact with representatives who, in turn, do not affect prescribing. As Robert F. Woollard<sup>18</sup> has stated, "There are few beliefs in current medical practice that are held with greater passion than physicians' confidence in their ability to resist the influence of the pharmaceutical industry on their professional behaviour."

Of all the interactions between house staff and the pharmaceutical industry, the giving of gifts is one of the most contentious. Much has been written about the issue; most guidelines established by professional bodies state that only gifts of a trivial nature or of no "substantial value" may be accepted. McKinney and collaborators<sup>17</sup> found that residents and faculty believed that gifts with a value of \$50 to \$100 or more could compromise their judgement. Others disagree. Waud<sup>19</sup> commented, "I find the statement 'any gift must leave the doctor's independence manifestly unimpaired' to be nonsense. Can any physician really believe that patients would be happy to know that their doctors were taking bribes, no matter what size?" Regardless of where the ethical line is drawn, most house staff surveyed for two studies feel that educational programs have not prepared them to deal with pharmaceutical representatives. A frank and open discussion about all aspects of physician-industry interaction, including the acceptance of gifts, is needed.

At the time of the survey I was not aware of any formal written guidelines at any of the institutions involved in the survey, the University of Toronto Medical School or Department of Psychiatry. The Royal College of Physicians and Surgeons of Canada and the College of Family Physicians of Canada referred me to guidelines on physicians and the pharmaceutical industry published by the CMA.<sup>14</sup> Given the absence of principles governing the unique aspects of resident contact with the pharmaceutical industry, Forrest and Ruedy<sup>20</sup> recently proposed postgraduate guidelines. Although their suggestions will not be reviewed here, they have been helpful in the development of guidelines of at least one of the institutions (Clarke Institute of Psychiatry) involved in my survey.

Furthermore, review of the creation of curricula to ad-

dress the interaction of trainees with the pharmaceutical industry is beyond the scope of this article. Only a few reports of such curricula exist,<sup>21-23</sup> and much more work is clearly needed in this area. It would be useful for national educational bodies — including the Royal College of Physicians and Surgeons of Canada, the College of Family Physicians of Canada, and the Association of Canadian Medical Colleges, in association with the CMA — to consider a joint initiative to elaborate guidelines and perhaps educational resources for trainees.

I thank Ms. Cathy Spegg for her hard work in providing data entry and analysis.

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