

Physicians' Perceptions of Prescription Drug Prices: Their Accuracy and Effect on the Prescribing Decision

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ABSTRACT. A survey of 100 primary care physicians found that, in general, these practitioners were unable to estimate accurately the costs of the drugs they commonly prescribe. A pattern of overestimating the costs of lower priced agents and underestimating the costs of higher priced agents suggests that physicians generalize prices for most drugs into a narrow range between \$1.00 and \$2.00 per day. Even though these physicians failed to estimate adequately the costs of the medications they prescribe, most claimed to consider the cost of medications when making the prescribing decision. These findings imply that actual costs have little or no actual effect on the prescribing decisions of most physicians. Should this be true, attempts to control health care costs that do not focus on physician education in the area of treatment costs may prove ineffective.

INTRODUCTION

Health care costs are currently the focus of considerable attention by all facets of society. Physicians, as the primary decision makers and resource allocators within the health care system, must bear a large share of the responsibility for controlling health care costs while providing the best possible care for their patients. Balancing

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these two responsibilities can only be accomplished when prescribers are made aware of the costs associated with the treatments they select for their patients.

While diagnosis and selection of the most appropriate therapy are the main focus of physician training, little, if any, attention in this training is paid to the cost of health care and the role of cost in affecting treatment choices. Efforts to contain health care costs, however, cannot be successful until the decision makers within the system—physicians—are cognizant of costs and consider them in their decisions. Several studies performed in the past found physicians, in general, to be unaware of and unaffected by the price of the medications they prescribe. Zelnio and Gagnon, in a review of studies spanning over 25 years, found physicians to be consistently unaware of the prices of the medications they prescribed (1). The current focus of attention on rising health care costs should, it would seem, be expected to increase prescribers' concern for and knowledge of the costs incurred due to the treatments they prescribe. To assess the accuracy of physicians' knowledge of the cost of prescribed drug products, a survey of primary care providers was undertaken. Primary care physicians were chosen because of the higher likelihood that costs would play a role in their decisions and that they would be aware of the costs of selected therapies (2).

The objectives of this study were threefold: to assess primary care physicians' current levels of price awareness in comparison with previous findings, to measure these physicians' attitudes about the cost of pharmaceuticals, and to identify the common sources of medication price information used by physicians.

METHODOLOGY

Between February 1 and 12, 1993, primary care physicians were contacted by telephone and asked to participate in this study. Their names and telephone numbers were drawn from a nationwide list of physicians who had responded previously to telephone surveys conducted by the contracted interviewing agency (3). Five hundred physicians were contacted in total, with 100 agreeing to respond without receiving honoraria. The remaining 400 would agree to respond only in exchange for monetary compensation. Since none

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was offered or available for this study, those physicians requiring honoraria did not participate.

The physicians who did participate were asked to estimate their monthly use and the retail prices of 16 commonly prescribed pharmaceuticals and to state their level of confidence in their estimate. They were then queried as to sources and accuracy of price information and asked to respond to a series of statements dealing with health care costs and their own prescribing decisions. Their price estimates were compared with average retail prices paid by patients and third-party payers. These averages were acquired from IMS Americas' *Basic Data Report*, which is a virtual census of retail pharmaceutical activity.

Frequency distributions and cross tabulations of the data were generated and analyzed. When appropriate, statistical tests, including chi-square analysis and analysis of variance, were performed to determine differences among respondent types.

STUDY LIMITATIONS

Since the sample was drawn from physicians who had previously responded to telephone surveys, the sample cannot be considered random and, therefore, may not be representative of the entire population of primary care physicians. Additionally, only 20% of this sample agreed to participate, providing, in total, 2 potential sources of nonresponse bias. Still, the consistency of these findings with those of previous studies, which will be discussed, would appear to limit nonresponse bias as a source of error.

RESULTS AND DISCUSSION

A total of 100 primary care physicians participated in this study. The distribution of physicians by practice type, subspecialty (e.g., IM, GP, FP), age, gender, years in practice, and patient load is shown in Table 1. A qualitative comparison of these data with national-level information on family practitioners suggests this sample was approximately representative of primary care physicians.

TABLE 1. Physician Characteristics.

Specialty:	FP	<i>n</i> 26	Practice Type:	Solo	<i>n</i> 45
	GP	38		Group	33
	IM	31		Hospital Staff	21
	Other	5		HMO Staff	2
	Total	100			
Gender:	Female	<i>n</i> 13	Age:	Average 48.3	
	Male	87	Monthly Patient Load:	366	
Percentage of Patients Belonging to HMOs:					
	None	16%			
	25% or less	44%			
	26% to 50%	38%			
	51% to 100%	2%			

cians as a whole (4). The respondents were also asked to estimate the proportion of their patient loads that belong to HMOs (either IPA or staff model organizations).

Table 2 presents the drugs included in the study, the average physician estimates of the number of prescriptions written monthly for each agent, physicians' average estimate of daily drug cost (retail cost to patient), the actual national average daily costs for these agents, and the average level of physicians' confidence of the accuracy of their estimates of cost (5). Respondents were asked to estimate the costs of only the drugs they prescribed. No significant differences in accuracy, confidence, or attitudinal questions were found among physicians according to age, gender, specialty, practice setting, patient load, or intensity of HMO patient load. Only in the area of drug price information sources were differences found among respondent types, with staff physicians more likely to receive price-related information from pharmacists and less likely to receive patient feedback than private practice physicians.

All but one of the agents selected for this study are leaders in their respective classes and are likely to be frequently prescribed by primary care physicians. The one agent not fitting this description is Lotensin® (benazepril, CIBA-GEIGY), which was not

TABLE 2. Physician Estimate of Drug Prices, Actual Prices, and Confidence in Estimates

Product and Daily Dose	Number of Prescribing Physicians*	Average Monthly Prescriptions Written**	Average Estimate of Daily Cost (Std. Deviation)	Actual Patient Cost
Generic HCTZ 25mg QD	78	21.0	\$0.36 (0.32)	\$0.09
LANOXIN 0.25mg QD	78	22.1	\$0.58 (0.36)	\$0.12
LASIX 40mg BID	84	25.0	\$0.86 (0.68)	\$0.22
PREMARIN 0.625mg QD	72	24.0	\$0.82 (0.48)	\$0.35
Generic Ibuprofen 600mg TID	80	20.5	\$0.83 (0.56)	\$0.56
LOTENSIN 10mg QD	40	8.7	\$1.35 (0.55)	\$0.84
VASOTEC 10mg QD	79	18.3	\$1.38 (0.48)	\$0.86
MICRONASE 5mg BID	76	19.1	\$1.24 (0.66)	\$0.98
APAP w/ Cod #3 Q4h	65	25.0	\$0.91 (1.05)	\$1.06
ZANTAC 150mg QD	94	22.1	\$1.21 (1.28)	\$1.45
MEVACOR 20mg QD	78	13.6	\$1.98 (0.90)	\$1.74
PROCARDIA XL 60mg QD	80	16.2	\$1.78 (0.59)	\$1.85
FELDENE 20mg QD	65	11.5	\$1.63 (0.60)	\$2.25
VOLTAREN 50mg TID	69	13.1	\$1.94 (0.72)	\$2.51
CECLOR Susp 250mg/ml TID	53	12.6	\$3.47 (2.37)	\$5.06
AUGMENTIN 250mg TID	75	19.5	\$3.01 (2.70)	\$5.30

*Physicians were asked to estimate only the prices of those agents they had prescribed in the past month.

**Average number of prescriptions written monthly for the agent by those physicians who currently prescribed the agent.

**Confidence measured on a scale where 1 = "Not sure at all" and 7 = "Sure"

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