Prescription-Filling Patterns of Patients in a Family Practice

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What patients do with prescriptions is clearly a fundamental question in the practice of ambulatory medicine.[1] In approaching this question, Luckman et al[2] have made a useful distinction between primary compliance, or the filling of a prescription, and secondary compliance, the actual taking of the medication as prescribed, each of these lending itself to separate study.

Secondary compliance has been investigated using a variety of methods, summarized by Marston,[3] including measurement of observable drug effects,[4] serum and urine drug levels,[5] pill counts,[6] recording medication dispensers,[7] or combinations of methods. The reported secondary compliances range broadly, from 19 percent to 88 percent, when studied in association with a variety of social and economic variables.

There is less literature concerning primary compliance, or the actual filling of prescriptions. It might at first appear that secondary compliance implies primary, because a prescription cannot be taken unless it is filled; but this assumption is not necessarily true, as most studies of secondary compliance have included only patients whose medications had been supplied to them, and there is no way of knowing whether they would have filled a prescription.

A pioneering study of primary compliance was published by Luckman et al,[2] using the population of a neighborhood health center where prescriptions from two care sites were filled at no cost. They found that only 61 percent of prescriptions from one site and 30 percent from the other were filled for a specified series of disease states. Inui,[8] using pharmacy records, reported that 40 to 64 percent of long-term refill prescriptions were filled in a Veterans Administration hospital setting. Rashid[9] studied prescription filling in three English practices and found it to vary by drug type. His patients filled approximately 80 percent of their prescriptions; however, the results may have been affected by patients' knowledge that they were being studied.

In one's own setting, it may be difficult to predict what patients do with prescriptions from these widely varying findings. Moreover, both patient self-reports[10] and physicians' estimates[11] of prescription filling have been shown to be highly unreliable. The study reported here involved a different approach that was devised to examine prescription-filling practices of patients in a specific community setting.

METHODS

The subjects were patients at the North Memorial Family Practice Clinic, which serves a predominately low-income population in the northwest quadrant of the Twin Cities metropolitan area, accepts a wide range of payment plans, and participates in two health maintenance organizations. Approximately 40 percent of the population is covered by Medicaid and another 40 percent by private reimbursement. Patients are under no clinic-imposed constraints or incentives in their choice of a pharmacy.

As no central bank of pharmacy data exists in the Twin Cities, and because pharmacies used by patients are scattered over a wide geographic area, the following method was devised to determine prescription-filling patterns. During the four-week study period (February 21 to March 18, 1983) all prescriptions were written on blanks that were orange rather than the usual white. Some other local clinics also used colored blanks, so this was not in itself necessarily a sign to patients that a study was in progress.

Ten days after the end of the study period, all pharmacies within the study area were asked to examine the readily identified orange prescriptions they had filled and provide data about them. Although the University of Minnesota human subjects committee had approved the project design, pharmacies showed wide variation in their willingness to provide such information.

Efforts were made to contact by telephone all patients

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whose prescriptions were not found, as this was the only available means of verifying that a prescription was definitely not filled.

RESULTS

The 485 prescriptions fell into three categories: those confirmed filled within ten days of issue (78 percent), those confirmed not filled within ten days (7 percent), and those whose status could not be confirmed (15 percent). The latter group included cases in which the patient or pharmacy did not wish to participate as well as those in which the patient identified a pharmacy that could not or would not confirm the filling.

Sixty-eight percent of the prescriptions were confirmed filled on the same day written. Information on filling by type of drug is available from the authors.

COMMENT

While the proven primary compliance rate in this study was 78 percent, the actual rate may have been higher, as only 7 percent of the prescriptions were confirmed not filled within ten days of issue, and also because failure to fill within ten days did not mean (as with refills of chronic medicines) that a prescription would never be filled.

There had been concern among physicians in the clinic that many prescriptions given to outpatients were not being filled, particularly as the clinic serves a relatively high proportion of patients for whom the cost of prescriptions is a significant hardship. They were pleased to find that the percentage of prescriptions that their patients filled was comparable to the higher values found in the literature. Obviously, however, the many variables in this study prevent generalizing its conclusions to other practices or settings.

A fundamental assumption in ambulatory care is that patients do not simply discard their prescriptions, but actually do take the medications prescribed. Studies such as this should be helpful in documenting to what extent primary compliance actually occurs in practice. Repeated testing of such assumptions is fundamental to the science of ambulatory medicine.

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