

disadvantaged according to most demographic parameters.

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Effectiveness of Mailed Appointment Reminders

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Several controlled studies have shown that high "no show" rates can be significantly reduced by the use of patient reminder systems.¹⁻³ No show rates in these studies ranged from 20 to 60 percent prior to implementation of the systems, which reduced the rates to 9 to 30 percent. The most effective means of improving compliance has been by personal contact with patients using outreach workers.⁴ Alpert found that lower no show rates may be anticipated in family oriented health centers, where comprehensive care is provided by a single practitioner for each family.⁵ By contrast, higher rates are observed when care is rendered on an acute basis to low income populations by impersonal providers. Hagerman studied the impact in a university based family practice center of a

reminder mailed four to five days in advance of appointments.⁶ The relatively low no show rate of 6 percent was lowered slightly but not significantly by reminders, to 3.6 percent. However, more cancellations were received from the mailed reminder group compared to controls (13.3 percent vs 6.5 percent) so that overall patient attendance was not increased.

In the Duke-Watts Family Medicine Center two problems relating to appointment keeping exist. The first is a no show rate of about eight percent among patients with scheduled return visits. The second problem is that patients who are asked by their physician to return in greater than two months time must be relied upon to self-schedule these remote appointments because of complexities in the provider scheduling system. They may fail to do so and thus become lost to follow-up. The purpose of this study is to determine the effect of mailed reminders on recalling patients who fail to keep scheduled appointments and on increasing the compliance with making and completing remote appointments.

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Table 1. Patient Recalls

	Cumulative Number (and Percent) of Patients Returning in Follow-Up Interval After No Show			
	≤ 30 Days	≤ 60 Days	≤ 3 Months	≤ 6 Months
Team A—card sent 50 patients from Team A	19 (38)	24 (48)	25 (50)	31 (62)
Team B—no card 50 patients from Team B	21 (42)	24 (48)	29 (58)	30 (60)

Methods

The study was conducted in the Duke-Watts Family Medicine Center, a teaching group practice in Durham, North Carolina. This is a fee-for-service family practice, with approximately 10,000 active patients and an average daily census of 100 outpatients who are seen by 39 residents, 4 fellows, and 6 faculty family physicians. Records of all patient encounters are stored in an in-house computer system, facilitating easy retrieval of basic encounter information. The practice is subdivided into four clinical teams. These teams are served by different primary care providers, but share some nursing and clerical personnel. The patient mix of the teams is similar.

For the study, appointment keeping behaviors of patients on two of the four clinical teams were compared. These behaviors were studied only in returning patients. New patients were not included. The study utilized two strategies:

1. Fifty patients from Team A and 50 patients from Team B who failed to keep their appointments were consecutively recorded during September and October of 1979. After it was determined that each patient had failed to keep his/her appointment and that no cancellation had been received, the patient's name and identification number were entered into a log and patients on Team A were mailed a pre-printed rescheduling card. Patients on Team B were sent no card. At the end of six months a search was made of the computer files to determine the visiting status of patients in both groups during that time.

2. A log was also maintained for 50 patients on Team A and on Team B who had been requested by providers to make remote appointments, ie, to call and schedule a return visit at some point beyond two months in the future. Patients from

Team A were mailed reminder cards one month in advance of the time they were to revisit. The patients from Team B again comprised the control group. None of the patients included in the no show study were included in the remote appointment study. Again, a computer search was made to determine how many patients had returned within two months of the intended remote appointment.

Results

Table 1 summarizes the follow-up data for the patient recall strategy. About 40 percent of both no show groups failed to return during the six-month follow-up period. At each successive interval, there was little difference between Teams A and B in the percent of patients returning.

For patients with remote appointments, 63 percent of those receiving a reminder card made a scheduled visit to their physicians during the two-month follow-up period compared to 58 percent for the controls. This small difference is not statistically significant ($\chi^2 = .17$, $P > .05$) nor likely to represent a real difference that was missed by sampling (β error probability $< .01$).

Comment

Missed appointments are an economic and educational liability for a teaching practice. Although there is an intuitive appeal in the process of mailing reminders prior to appointments to decrease the number of patients who fail to keep scheduled visits, Hagerman⁶ has shown that the decrease in no show rates induced by mailed reminders was

offset by increased telephone cancellations. Although uncertainties in clinic scheduling may be reduced, it does not appear this system is effective in enhancing patient attendance. It is also expensive in person hours and postage to mail reminders to every scheduled patient. With a low overall no show rate as experienced in the Duke-Watts Family Medicine Center (eight percent), an alternative approach of contacting only patients who failed appointments was undertaken. Although the postcard reminder showed no improvement in patient follow-up, almost half the patients who failed appointments did visit the clinic within the succeeding two months. This suggests that a small number of patients are lost to follow-up, about four to five percent of scheduled returns.

Patient compliance with requested remote appointments did not appear to be improved by postcard reminders. Again, the overall compliance of 60 percent, while less than optimal, may not be an unreasonable expectation for a primary care prac-

tice. Patients who require less intensive medical surveillance are likely to perceive less need for return visiting. So, although the concept of the mailed reminder is appealing, it appears that in a family practice clinic with good patient attendance behavior, it adds little to the effectiveness of the appointment system.

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Family Practice Residency-Community Clinic Linkages for Physician Exchange

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The issues of community clinic viability, physician training and practice in underserved communities, and family practice residency outreach programs are interrelated. With the expansion of federally funded clinics, primarily through the National Health Service Corps (NHSC), and the pressure in many states to have family practice residency programs directly involved with service to underserved communities, the issue of what

formal (and informal) linkages should exist between the two frequently arises. In an effort to address the problems associated with rural professional isolation, to place residency graduates in rural clinics, and to increase medical student preceptorship teaching, a plan for residency faculty-community physician exchange was developed. This project now links three rural clinics in northern California with a nearby family practice residency program.

Description of Exchange Project

The initial rural site was Guerneville, California, a town of approximately 3,000 people in the northern coastal mountains approximately 20

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