Communication

Testing the Mailed Appointment Reminder in Family Practice

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"No shows" for office appointments are both detrimental to the quality and continuity of patient care and costly to the office-based family physician. Previous studies,[1-3] all using outpatient clinic populations, have looked at various techniques for reducing "no show" rates. Uniformly, it was found that a simple mailed reminder significantly lowered the number of missed appointments (reductions by 31 to 74 percent reported).[1-3]

In an effort to assess the applicability of the mailed reminder in reducing the number of "no shows" in a family practice setting, the following study was carried out at the McMaster University-Henderson Family Practice Centre which serves a patient population of approximately 2,300 families* who reside mainly in a middle-class area of Hamilton.

Methods

The McMaster University-Henderson Family Practice Centre is a collection of six separate practices. The nucleus of each consists of a staff family physician, a nurse, and two to three family practice residents at various levels of training. Patients belonging to each team are, as a rule, seen by the same physician throughout the duration of his/her residency. The clinic provides primary, continuing, and comprehensive health care to any and all members of each family in its patient population, making use of the available ancillary and consultant services.

The method employed in this study is comparable to that used to conduct similar studies in outpatient clinic settings[1-3] to evaluate the mailed reminder system. All patients who were scheduled to be seen between September 30, 1977 and November 4, 1977, whose appointment was made one week or more in advance, were included in the study. Half of these patients were randomly assigned to a control group which received no mailed reminder. The other half formed a group in which each patient was mailed a personally addressed envelope four to five weekdays in advance of his/her actual appointment date. Each envelope contained a brief form letter to which was added the patient's appointment time and date as well as the name of the physician to be seen. For each day included in the study the receptionist recorded the following outcomes: (1) appointment kept, (2) "no

*In June 1977 the McMaster University-Henderson Family Practice Centre reported a total of 2,297 families on their active patient population list.

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Table 1. Rates for No show and Cancelled Appointments
(Appointments booked one week or more in advance)

Group	Total Appointments	Number No Show	Number Cancelled
Control—No mailed reminder	446	27 (6.05%)	29 (6.50%)
Mailed reminder	437	16 (3.66%)	58 (13.27%)
Overall χ^2=13.358, df=2, P=.001			

show'' (cancellations made less than four hours before appointment time were considered a ''no show''), and (3) cancellation (must be made four hours or more in advance of appointment time).

Multiple appointments within the study period were considered on an individual basis but consecutive appointments for members of the same family were processed as one unit with respect to the mailed appointment reminder.

In addition, during the above described five-week study period, similar records were kept on all the remaining appointments which were booked less than one week in advance.

A sample inquiry of 196 patients revealed that 93 percent actually received their mailed reminder.

Results

A total of 883 appointments were included in this study. The ''no show'' rate for the group receiving the mailed reminder was 3.66 percent compared to a ''no show'' rate of 6.05 percent for those not reminded. The relative risk of ''not showing'' if one does not receive a mailed reminder is calculated to be 1.65 times greater than if one does. However, the difference between the two ''no show'' rates is not statistically significant ($\chi^2 = 2.73$, df = 1, P = .099). The cancellation rate for the group receiving the mailed reminder was 13.27 percent, more than twice that of the control group (6.50 percent). The difference between these two cancellation rates is highly significant ($\chi^2 = 11.39$, df = 1, P<.001) (Table 1).

This study's protocol allows a contrast to be drawn between clinic appointments made a week or more in advance and those booked less than a week ahead. With neither group being subjected to a mailed reminder, it was found that those booking one week or more in advance would, as a group, miss and/or cancel their appointments almost twice as often as those booking less than one week ahead (Table 2). These observations are significant, $\chi^2 = 5.80$ and 5.28, P = .016 and .021, for ''no show'' and cancellation rates, respectively.

Discussion

Some patients break their appointments. The literature suggests numerous explanations for this behavior,[4-9] but is somewhat more limited in offering workable solutions to the problem.

At the commencement of this study, the simple mailed reminder system appeared to be a promising remedy to a seemingly ubiquitous family practice problem. However, this experience does not

Table 2. Rates for No show and Cancelled Appointments
(Appointments booked less than one week in advance vs those booked one week or more ahead)

Group	Total Appointments	Number No Show	Number Cancelled
Booked one week or more in advance	446	27 (6.05%)	29 (6.50%)
Booked less than one week in advance	1,127	38 (3.37%)	43 (3.82%)
Overall χ^2=11.611, df=2, P=.003			

support the outpatient clinic findings of Schroeder, Nazarian, and Gates,[1-3] as the tendency for a patient not to show up for his appointment was not reduced by reminding him of his appointment.

Does this somewhat unexpected result lend support to the notion that the public views and reacts differently to family medicine than to outpatient clinic medicine? Perhaps. With a control "no show" rate of a mere six percent, a statement in itself, further marked improvement by any means must be viewed as difficult. In addition, the mailed reminder did have some effect on our "well-trained" family practice patients, since those who were reminded were found to be more than twice as likely to cancel their appointments long enough ahead of time (four hours or more) to adequately allow refilling of their time slot. Appointment breaking by outpatients has been reported to be independent of the length of time in advance that an appointment is scheduled.[1,3-5] This study, however, shows a significant difference in missed appointment and cancellation rates centered around one week's advanced booking.

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