

## Can outpatient non-attendance be predicted from the referral letter? An audit of default at neurology clinics

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### Summary

Data obtained from new patient referral letters to regional and peripheral neurology clinics were studied prospectively over a 6-month period in an attempt to determine factors predicting non-attendance. Attendance at peripheral clinics was significantly better, confirming their value. At regional clinics, factors associated with non-attendance were male sex, patient age less than 50 years, urban home address, referral from Accident and Emergency Departments, symptom duration less than 12 months, and wait for appointment more than 2 months. Of these, referral source and waiting time were identified as factors which could be modified, confirming that this analysis of referral letters was a useful exercise.

### Introduction

High non-attendance rates at hospital outpatient clinics prevent the efficient use of outpatient facilities and waste diminishing resources. While considerable data are available for outpatients who default during ongoing clinic follow-up, particularly for chronic disorders such as diabetes mellitus and hypertension<sup>1,2</sup> after initial attendance, few have assessed patients who do not keep first appointments.

Studies published have assessed clinics in specialties other than internal medicine<sup>3,4</sup>, often outside the United Kingdom<sup>4</sup>. The present study was prompted by a high default rate at our new patient clinics and aimed to determine whether non-attendance could be predicted from details given in referral letters, which are the only data easily available to the physician about patients who fail to turn up.

### Methods

Over a 6-month period (February–July 1990) we prospectively studied patients referred routinely to four new patient neurology clinics based at the regional referral centre in Belfast and to three peripheral clinics held at district general hospitals serving rural populations. Patients were referred by general practitioners, from other hospital departments by both consultant and junior staff and from Accident and Emergency (A&E) departments, again by consultant and junior staff. All appointments studied were arranged through standard channels which did not vary depending on referral source or clinic location. Patients who gave advance warning of non-attendance or who had been allocated emergency appointments were excluded. Factors studied in relation to non-attendance were regional vs peripheral clinic appointment, patient sex, age, home address, referral source, symptom type,

symptom duration at the time of appointment, and duration of wait for appointment. Analysis was performed using chi-square with Yates's correction for 2×2 tables, with  $P < 0.05$  taken as significant.

### Results

During the study period, 362 patients (mean age 36 years, range 12–84) were allocated new patient appointments at the clinics studied. Of these, 293 (81%) were referred to regional and 69 (19%) to peripheral clinics. Of patients referred to regional clinics, 23% (66/293) did not attend, compared with 9% (6/69) of those referred peripherally ( $\chi^2=5.86$ , d.f.=1,  $P < 0.05$ ).

In view of this discrepancy, factors related to non-attendance at regional clinics were studied separately.

### Factors related to non-attendance at regional clinics

Table 1 shows that of the factors assessed, all were significantly related to non-attendance except the type of symptoms prompting referral. Thus, non-attenders were significantly more likely to be male, to be aged under 50 years, to have urban home addresses, to be referred from A & E departments, to have had symptoms of less than 12 months' duration, and to have been waiting more than 2 months for the initial outpatient appointment.

### Comparison of regional and peripheral clinic referrals

In contrast to patients referred to regional clinics, all those referred to peripheral clinics had rural addresses and none was referred from A & E departments. The waiting time for appointments was over 2 months for 80% (55/69) of patients referred to peripheral clinics compared with 42% (118/283) of those referred to regional clinics ( $\chi^2=30.57$ , d.f.=1,  $P < 0.001$ ). There was no significant difference in distribution of patient sex, age, symptom type or symptom duration between the two types of clinic.

### Discussion

Despite the implications of non-attendance on efficient use of outpatient facilities, there have been few studies of the problem within the National Health Service. While factors other than patient characteristics have been shown to be important in non-compliance, particularly administrative errors<sup>5</sup>, the referral letter is the only source of data readily available to the outpatient physician, and so any information contained therein which might predict non-attendance is clearly valuable. As all referrals were made through standard channels, it is unlikely that administrative errors accounted for differences in attendance among the groups studied.

Table 1. Factors assessed in relation to non-attendance at regional clinics

Factor	Non-attenders	Attenders	$\chi^2$	P
<b>Sex</b>				
Male	42 (31%)	93 (69%)	9.68	< 0.005
Female	24 (15%)	134 (85%)		
<b>Age*</b>				
< 50 years	57 (26%)	162 (74%)	4.70	< 0.05
≥ 50 years	9 (13%)	62 (87%)		
<b>Home address</b>				
Urban	51 (34%)	101 (66%)	20.71	< 0.001
Rural	15 (11%)	126 (89%)		
<b>Referral source</b>				
General Practitioner	47 (22%)	168 (78%)	26.86	< 0.001
A & E dept.	18 (51%)	17 (49%)		
Other hospital depts.	1 (2%)	42 (98%)		
<b>Symptom duration<sup>†</sup></b>				
< 12 months	47 (34%)	91 (66%)	24.03	< 0.001
≥ 12 months	14 (10%)	133 (90%)		
<b>Symptoms</b>				
Headache	26 (27%)	72 (73%)	3.29	N.S.
Blackouts/fits	8 (14%)	49 (86%)		
Other	32 (23%)	106 (77%)		
<b>Wait for appointment<sup>‡</sup></b>				
≤ 2 months	28 (17%)	137 (83%)	8.10	< 0.005
> 2 months	38 (32%)	80 (68%)		

\*3, †8, ‡10 missing observations

The most impressive finding in this study was the poor attendance rate among patients referred from A & E departments, of whom over half (51%) failed to attend. This default rate contrasted with that of patients referred from other hospital departments. Such patients may simply regard their local A & E departments as places of convenient, rapid reassurance and may not wish further referral; alternatively explanation of reasons for referral may not be adequate in the busy casualty department. Clearly, a policy of accepting referrals directly from A & E departments needs careful evaluation.

Although male sex, age and address were significantly related to non-attendance, it is difficult to envisage how outpatient policy could be altered to take these factors into consideration. Age, though not patient sex, has been shown elsewhere to be significantly related<sup>4,5</sup>.

The better attendance of patients with rural addresses, both at peripheral clinics and at regional clinics despite having further to travel, suggests that satellite clinics in medical specialties based at district general hospitals serving rural populations represent an efficient use of outpatient resources, although Leese *et al.*<sup>3</sup> reported significantly poorer attendance rates at district general compared with urban ENT clinics. The absence of patients from A & E departments, who tend in the district general hospitals to be referred to general medical clinics, was probably contributory to the better attendance rates at our rural clinic.

Symptom duration of less than 12 months was significantly related to non-attendance: symptoms of

short duration are more likely to be self-limiting. Similarly, it is likely that a higher proportion of patients who have had to wait for more than two months will have recovered from the problem prompting referral. Robin<sup>6</sup> has suggested that the waiting list may actually act as a screening mechanism to exclude patients with self-limiting illnesses.

In conclusion, although administrative errors may have contributed to overall non-attendance rates at our clinics, analysis of referral letters has identified long waiting lists and A & E referrals as factors related to default which may be potentially rectified.

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