

Factors affecting non-attendance in an ophthalmic outpatient department

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SUMMARY

The object of the study was to establish the non-attendance rates in an ophthalmic outpatient department and any non-attendance patterns that may be useful in managing future outpatient resources. A detailed retrospective survey of monthly non-attendance rates was carried out in the outpatient department of a dedicated eye hospital over a 1 year period looking at differences in non-attendance between morning and afternoon clinics and new and review patients. A total of 43,004 scheduled outpatient appointments predominantly from the suburban population of the Merseyside region were made at St Paul's Eye Hospital from the 1 February 1990 to 31 January 1991. Five thousand four hundred and twenty-four appointments were missed giving an overall non-attendance rate of 12.6%. Non-attendance rates for morning and afternoon appointments were 12.0% and 13.0%, respectively: and for new and review patients, 11.9% and 12.8%, respectively. Logistic regression analysis showed that patients with afternoon appointments were on average 1.10 times more likely to non-attend than morning patients ($P=0.002$), and that review patients were 1.09 times more likely to non-attend than new patients ($P=0.04$). In order to maximize outpatient department efficiency, a reduction in non-attendance is essential. Establishing patterns for non-attendance provides us with a framework around which we can plan measures to compensate for outpatient non-attendance.

INTRODUCTION

Outpatient services form a major component of health care in the National Health Service. In 1986 nearly 38 million outpatient appointments were made in England and Wales¹. Successful management of an outpatient service is a costly undertaking requiring funding for the building itself, employment of medical and clerical staff, and use of paramedical services particularly the ambulance service. Some specialities such as ophthalmology provide a predominantly outpatient based service placing a greater strain on existing outpatient facilities. The recent introduction of the *Patient's Charter*² has guaranteed that all patients attending an outpatient department should be seen within 30 minutes of their appointment time and this, combined with the ever increasing financial constraints being placed upon the health care system, has demanded more efficient management of outpatient resources.

One of the major problems facing outpatient managers is patients who fail to keep their appointments. These patients 'waste' a slot, resulting in non-optimal use of clinic time, and therefore contribute to longer waiting lists. In order to

determine any trends in patient non-attendance we analysed non-attendance data over a 1 year period at St Paul's Eye Hospital (Liverpool, UK). Possible factors affecting non-attendance such as morning or afternoon appointments and new or review patient appointments were analysed.

METHODS

The study was undertaken at St Paul's Eye Hospital (SPEH), Liverpool, Merseyside. The Mersey Regional Health Authority serves a population of approximately 800 000 people in a predominantly suburban setting. Accurate records of patient attendance are collected on a daily and weekly basis by a hospital clerk and are collated into monthly reviews, from which we analysed in detail, a 12 month period from February 1990 to January 1991. Morning clinics run between 0930 h and 1230 h while afternoon clinics run between 1400 h and 1700 h. Differences in non-attendance rates between new and review patients, morning and afternoon appointments and specialist and non-specialist clinics were calculated.

Statistical analysis was performed using the statistical package GLIM (Generalized Linear Interaction Modelling)³. Logistic regression was used to independently assess the effect of each factor (morning versus afternoon, new versus review patients) on the rate of non-attendance after adjusting for the effects of the other factors found to be significant.

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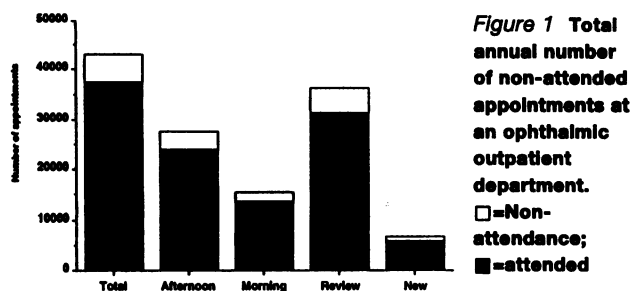


Figure 1 Total annual number of non-attended appointments at an ophthalmic outpatient department. □=Non-attendance; ■=attended

Odds ratios (with 95% confidence intervals, CI) were calculated to quantify the magnitude of these effects.

RESULTS

A total of 43 004 scheduled outpatient appointments were made at SPEH over the 1 year period (1 February 1990 to 31 January 1991). Of these, 5424 failed to attend (Figures 1 and 2) giving an overall non-attendance rate of 12.6%, with a monthly range of 11.8% in November to 13.4% in September. No monthly or seasonal trend in non-attendance was noted.

The morning appointments totalled 15 493 of which 1860 did not attend, giving a non-attendance rate of 12.0% (Figures 1 and 2). Afternoon appointments totalled 27 511, 3564 of which were not attended giving a non-attendance rate of 13.0%. New appointments totalled 6785, of which 806 failed to attend representing a non-attendance rate of 11.9%. Review patients totalled 36 219, of which 4618 [12.8%] failed to attend. Logistic regression analysis of our data revealed that patients with afternoon appointments were 1.10 [95% CI (1.04, 1.17)] times more likely to non-attend than patients with morning appointments ($P=0.002$). Review patients were 1.09 [95% CI (1.00, 1.18)] times more likely to non-attend than new patients ($P=0.04$; Table 1).

DISCUSSION

One of the major factors contributing to inefficient use of outpatient time is the problem of non-attendance. Non-

attendance gives rise to further problems: (a) wasting of outpatient slots; (b) non-attenders have to be accommodated in another clinic; and (c) waiting lists for clinic appointments and subsequent treatment are delayed resulting in prolonged patient morbidity.

Various estimates of non-attendance have been made (mostly for new clinic appointments). Carpenter *et al.* showed a non-attendance rate of 31.4% for new patients in a psychiatric clinic⁴, while Davies quoted an overall non-attendance rate of between 12–15% for clinics in general⁵. Two papers also compare the non-attendance rates for referrals to peripheral and regional units. Leese *et al.* showed a non-attendance rate of 10% and 14% for new patients and of 14% and 22% for review patients to regional and district ear, nose and throat (ENT) clinics, respectively⁶, Dickey *et al.* showed a difference of 23% and 9% non-attendance for new patients referred to regional and peripheral neurology clinics, respectively⁷.

Most previous studies have looked at individual patient variables which can help to predict an increased risk of non-attendance such as young age^{4,7,8}, male sex^{7,8}, duration of illness^{7,9}, source of referral^{4,7} and suburban address⁷. Frankel *et al.*⁸ have used questionnaires to determine patients' reasons for non-attendance. The most common excuses were: being on holidays; unable to get off work; and the hospital altering appointments. The important role of hospital clerical organization affecting non-attendance is emphasized, with the affected non-attenders being given significantly shorter notice of their appointments than attenders thus, stressing that service aspects may account for a significant proportion of non-attendance.

In this study general trends underlying outpatient non-attendance in an ophthalmology department were examined. An overall non-attendance rate of 12.6% was found. Review patients were 1.09 times more likely to non-attend than new patients. Similar observations have been made in ENT clinics⁷ although those results were not statistically analysed. One possible explanation for this is that many review patients are long-term attenders with chronic but often

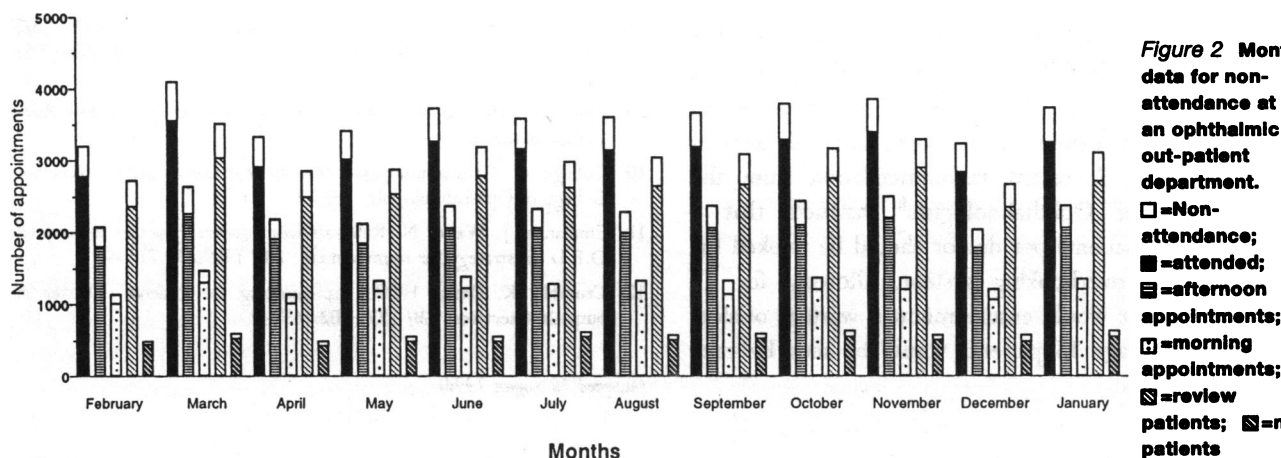


Figure 2 Monthly data for non-attendance at an ophthalmic out-patient department. □=Non-attendance; ■=attended; ▨=afternoon appointments; ▤=morning appointments; ▧=review patients; ▩=new patients

Table 1 Logistic regression analysis for non-attendance

	Appointments			
	Morning	Afternoon	Review	New
Booked	15493	27511	36219	6785
Non-attendance	1860	3564	4618	806
Non-attendance (%)	12.0	13.0	12.8	11.9
Odds ratio	1.10		1.09	
P value	0.002		0.04	

stable conditions such as glaucoma or diabetes for which often no additional treatment is required. These patients may therefore feel that, as attendance is unlikely to alter their treatment, missing an occasional appointment will be of no harm.

We found that our afternoon clinic patients are 1.10 times more likely to non-attend than morning clinic patients. At SPEH the majority of the morning clinics are special interest clinics whereas the afternoon clinics are usually general ophthalmology clinics. The patients in these special interest clinics attend more frequently, spend more time with the doctor and also see the consultant more frequently and thus, form a subgroup of patients with more serious disease and a greater awareness of their problem providing the motivation to maintain regular follow up. This discrepancy in attendance between morning and afternoon clinics may therefore represent a tendency for patients to attend specialist clinics more rigidly rather than a morning-afternoon imbalance, or may represent a combination of these two factors. Statistically we were unable to evaluate these factors separately as the morning/specialist clinic groups and the afternoon/general clinic were almost identical.

In order to maximize outpatient efficiency and resources it is essential to reduce the number of non-attenders. This is a virtually impossible task due to the many factors contributing to non-attendance. Thus an alternative approach can be used. A 12.6% non-attendance rate represents a one in eight patient non-attendance rate thus wasting an appointment slot. To overcome this problem a system of overbooking clinics could be introduced to provide 'substitute' patients to fill those slots left unfilled by non-attenders. A recent recommendation from the Royal College of Ophthalmologists⁸ instructs that a maximum of 15 patients per doctor should be booked for each clinic. An overbooking system, allowing for 17 patients per doctor would ensure minimal wastage of slots such that on average 15 patients would be seen by each doctor in the clinic.

Planning of overbooking is a difficult task which must be tailored to regional and individual speciality variations^{6,7}. Other measures which may improve outpatient efficiency include guidelines for referring patients from general practice¹¹ and a rigid booking system for new and review patients. The introduction of more specialist clinics may encourage better patient attendance. In some units, despite maximal modification of outpatient resources, the service may still remain overwhelmed and the requirements of the *Patient's Charter* not achieved. In such situations expansion of the existing service will be necessary¹².

CONCLUSION

Non-attendance is one of the major factors contributing to inefficient running of outpatient services. Individual patient factors resulting in non-attendance are varied and therefore often difficult to eliminate. Our study identifies trends underlying non-attendance including patients with afternoon appointments and review patients. This allows us to make adjustments to our clinics to overcome this inefficiency. The figures we quote are for our own specialty, in our own region. It is possible that a wide variation in non-attendance exists between different specialities and different regions.

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