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Reducing non-attendance at outpatient clinics

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Outpatient non-attendance is a common source of inefficiency in a health service, wasting time and resources and potentially lengthening waiting lists.

A prospective audit of plastic surgery outpatient clinics was conducted during the six months from January to June 1997, to determine the clinical and demographic profile of non-attenders. Of 6095 appointments 16% were not kept. Using the demographic information, we changed our follow-up guidelines to reflect risk factors for multiple non-attendances, and a self-referral clinic was introduced to replace routine follow-up for high risk non-attenders. After these changes, a second audit in the same six months of 1998 revealed a non-attendance rate of 11%—i.e. 30% lower than before.

Many follow-up appointments are sent inappropriately to patients who do not want further attention. This study, indicating how risk factor analysis can identify a group of patients who are unlikely to attend again after one missed appointment, may be a useful model for the reduction of outpatient non-attendance in other specialties.

INTRODUCTION

In 1984 it was estimated that of 35.5 million National Health Service (NHS) outpatient appointments booked, 5 million were broken¹ at a cost of up to £266 million. More recent Department of Health figures indicate that as much as £360 million is now wasted each year². 6 million appointments, at an average cost of £61 each, were missed in 1996–1997, accounting for 12% of all appointments made. In addition 156 000 patients (4.6%) did not turn up for scheduled operations.

Non-attendance at outpatient clinics is thus not only wasteful of resources but may also increase patient morbidity and lengthen waiting lists, extending the waiting time for an outpatient appointment from between one week to up to six months³. The main reasons for patient non-attendance are often specialty non-specific, and include simply forgetting, illness, work commitments and transport difficulties^{4–18}. The time interval from referral to the appointment date also seems to influence attendance, with those patients receiving appointments beyond two months¹⁹ or within one week⁶ of referral least likely to attend.

Despite attempts to reduce non-attendance rates by raising public awareness (Figure 1) and by specifically addressing these various causal factors, non-attendance remains persistently troublesome throughout the NHS. Telephone and postal reminders can help^{13,20} but may not

be cost-effective if up to 60% of unkept appointments remain unkept⁸.

More convincing successes have been gained by restoring the responsibility for making new appointments



Figure 1 Public awareness campaign launched by the Exeter and District Community Health Service Trust, autumn 1998 (Reproduced with permission)

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to the patients themselves. When provided with a freephone telephone number by one hospital, 88% of new gynaecology referral patients arranged their own appointments, of which only 2.5% were missed²¹. Another promising strategy has been recently piloted whereby patients are provided with a copy of their referral letter²². In one general practice this reduced the non-attendance rate for referrals from 6% to zero.

It seems, therefore, that compensating for non-attendances by overbooking, rather than by trying to reduce non-attendance rates, can no longer be considered conducive to the efficient running of an outpatient service. Here we report a study of the factors relevant to attendance and non-attendance by plastic surgery outpatients.

PATIENTS AND METHOD

176 outpatient clinics were audited during the study period from 1 January 1997 to 30 June 1997. Most of these were at the Royal Devon and Exeter Hospital, although peripheral clinics were also held at Axminster, Barnstaple, Taunton, and Torbay hospitals. Only one clinic per week was regularly conducted by a registrar alone, while all others were attended by one of three consultants.

At the completion of each clinic, the notes for those patients who did not attend were examined by the registrar or the consultant, and an audit questionnaire was completed in each case. For new patients, this questionnaire recorded the source of the referral (general practitioner [GP], another consultant, accident and emergency department), the provisional diagnosis and the triage category (urgent, soon, routine). For follow-up patients, treatment already received (if any) and the time since operation were noted. For all patients, the number of consecutive non-attenders (N-As), the decision to send a further appointment or to discharge, and whether or not the patient's GP was informed of their non-attendance, were recorded.

An anonymous questionnaire was also sent to the patient, along with an explanatory letter and freepost return envelope. This questionnaire requested the age, sex and occupation of the patient and, by listing several possible reasons for missing appointments, asked patients to account for their non-attendance. Reasons not covered by our list could be specified in the 'other' category. Lastly, patients were asked to describe briefly what treatment they had already received, whether they were happy with their care overall, whether they felt their problem to have resolved, and whether or not they were back at work.

RESULTS—PART 1

Doctor questionnaire

Of the 6095 appointments booked into the 176 clinics held during the six month period, 892 were missed by 731

patients, an overall N-A rate of 15%, equivalent to about 5 appointments per clinic. New referrals had a slightly lower N-A rate (13%) than follow-up appointments (15%). The highest number of N-As, 197, was recorded during the first month of the study, while the average monthly figure was 149.

Of the new referrals (24%), who comprised a quarter of the trial, 85% of N-As were referred by their GP, the remainder being consultant and casualty referrals. 61% of new referrals were triaged as 'routine' while 19% were deemed 'urgent' and 20% needed to be seen 'soon'.

According to the British Association of Plastic Surgeons system, the main group of missed appointments were hand trauma (23%), followed by excision of benign skin lesions (14%), basal cell or squamous cell carcinomas (10%) and melanomas (5%) (Figure 2). 62% of the appointments were missed in the year after surgery. A first N-A was recorded 536 times, a second consecutive N-A 219 times, a third 105 times, a fourth 18 times and a fifth 8 times (for 6 patients the data were unavailable). Hence some patients missed appointments more than once within the study period. 596 patients failed to attend once during the study period, 110 patients missed two consecutive appointments, and 24 patients missed three consecutive appointments. Only one patient missed four consecutive appointments during the audit.

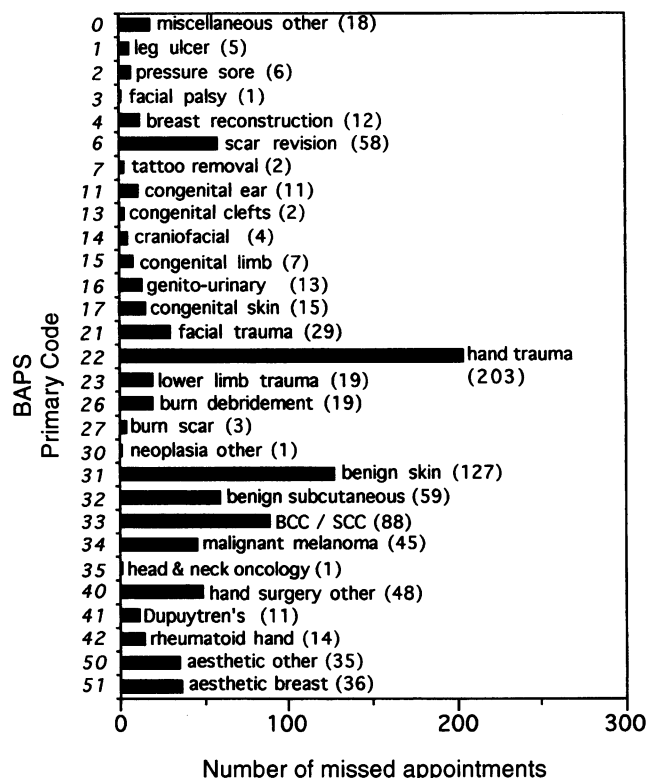


Figure 2 Distribution of unkept appointments according to British Association of Plastic Surgeons primary coding

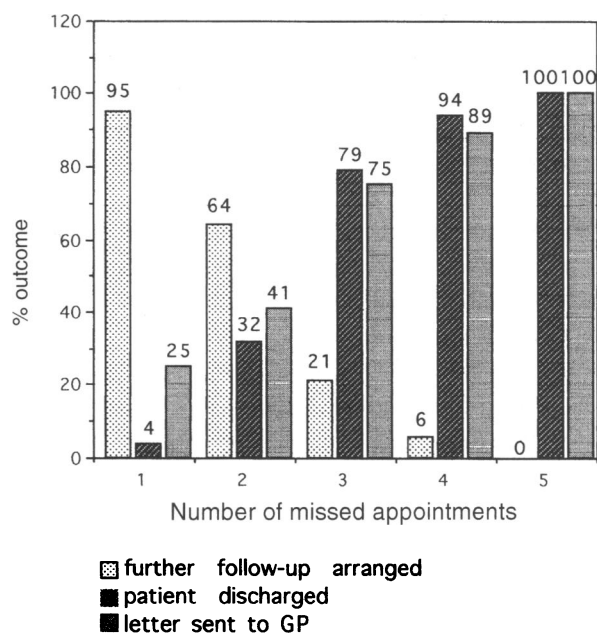


Figure 3 Percentage of patients receiving a further follow-up appointment or discharged following a given missed appointment

The decision to send a further appointment after non-attendance broadly reflected the number of consecutive appointments missed (Figure 3). After one missed appointment, 95% of patients were sent another appointment. After two consecutive N-As this fell to 64% and after three, 21%. Only 6% of patients were sent for again after four consecutive N-As; after five, all patients were discharged. Correspondence with patients' GPs largely correlated with discharge rates.

Patient questionnaire

731 patients received a questionnaire during the course of the study and 250 of these were returned, a response rate of 34% (male:female ratio 1:1.04). 65% of patients were among the working population but 27% were retired.

The reasons for non-attendance could be broadly divided into those attributable to hospital factors (41%) and those determined by the patient (59%) (Figure 4). Of the latter, 35% simply forgot, 14% had work-related reasons, 10% were ill, and 10% could not get transport to the hospital. However, a substantial proportion of patients, 16%, gave reasons about which the hospital could have done nothing, such as poor weather making the journey difficult. Hospital factors were blamed by 41% of respondents for their non-attendance, including a failure of the hospital to inform them of their appointment (40%) and the appointment having been formally cancelled in advance by either the patient (33%) or the hospital (10%).

At the time of completing the questionnaire, 94% of respondents were happy with their care overall, 61% felt

that their problem was already resolved and 75% had returned to work.

Statistical analysis

The aim of the first audit was to identify factors which might influence a patient's likelihood of not attending. Several trends may be observed in the above results, but two factors only were found significant. By means of χ^2 analysis, comparison of appointments missed for a first time with serially missed appointments (multiple N-As) identified predictors of multiple non-attendance as (1) coding for hand trauma (relative risk 1.4, $P < 0.01$) and (2) after one missed appointment, time since surgery greater than three months (relative risk 1.9, $P < 0.01$). After one 'hand trauma' N-A, the chance of a subsequent appointment being missed was 50%. Similarly, after one N-A, the risk of a further N-A within three months of surgery was calculated at 26%, rising to 49% after three months.

INTERVENTION

As a result of this audit, areas of inefficiency became apparent. Our follow-up guidelines were amended to ensure that wherever there may be an element of concern (such as treatment for skin cancers, congenital malformations, or complex hand trauma), patients were sent a

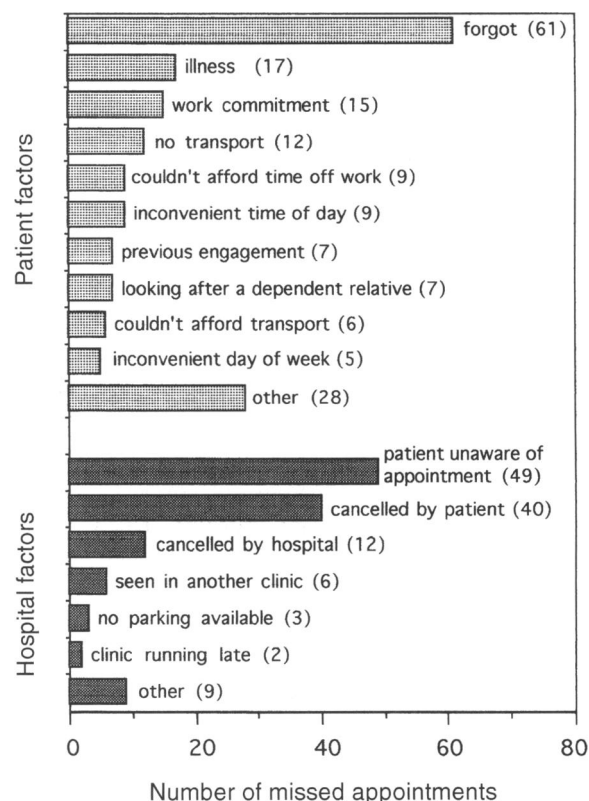


Figure 4 Factors contributing to non-attendance according to the patient questionnaire

further appointment, perhaps even after several N-As. Otherwise all patients were discharged after two non-attendances. However, on the basis of the risk factor analysis for multiple N-As, those patients non-attending for the first time, if beyond 3 months from a minor procedure (such as excision of a benign skin lesion) or if originally treated for a minor hand injury, were either discharged or sent details of a new 'self-referral' clinic—essentially the existing registrar clinic to which patients could directly gain access. This empowered patients to telephone for a further appointment if they so desired, thereby returning responsibility for care, where appropriate, to the patient.

Second audit

Changes to our follow-up guidelines, and the new self-referral clinic, were introduced in October 1997. Three months later, a second audit was begun to assess the impact of these changes during an equivalent time period from January to June 1998. During this period, however, only clinics at the Royal Devon and Exeter Hospital were audited (120 in total). Information regarding the number of patients who did not keep appointments, the number to whom self-referral advice letters were sent, and the number requesting self-referral clinic appointments was collected prospectively.

RESULTS—PART 2

During the second audit, 7135 appointments were booked of which 787 were missed. This N-A rate, at 11%, was 30% lower than that in the main hospital for the equivalent period of 1997 (16%). 107 self-referral clinic advice letters were sent to patients who did not attend outpatients for a first time who met the criteria established by our unit follow-up guidelines (1.1 per clinic on average). Only 2 of these 107 patients asked to be seen again.

DISCUSSION

NHS Executive data for 1996–1997 identified 94 000 missed appointments in plastic surgery clinics in England alone, with a mean national N-A rate within the specialty of around

16% (Table 1)²³. The N-A rate for the Royal Devon and Exeter Healthcare NHS Trust during the 1997 audit was also 16%, while our overall N-A rate, including peripheral clinics, was 15%. This compares favourably with non-attendance rates recorded by other specialties^{10–14,17,24–25}. A sizeable increase in the number of appointments booked at the main hospital in the second year raises a question whether like is being compared with like. Part of the explanation may be an increase in the activity of the self-referral clinic. There was no obvious change in the nature of the population attending outpatient clinics in the second year.

The main reasons for non-attendance—namely, forgetting, illness, work commitments, transport and administrative problems on the part of the hospital—were similar to those reported previously^{4–14}. Of the administrative failures, common errors were failure of notification and cancellation.

The large number of missed appointments relating to hand trauma and excision of benign skin lesions during the six month period was in proportion to the overall case mix in the unit. Nevertheless, unnecessarily booked appointments are often missed because the patient believes the problem to have resolved. Additionally, some follow-up patients may be long-term attenders, with chronic disorders changing little from one appointment to another. They may account for high N-A rates among certain other patient groups, such as melanoma review patients.

The number of N-As prevented by changes to our follow-up guidelines may be estimated by comparison of rates before and after intervention. On this basis, we would have expected 1141 patients not to keep appointments during the second audit, whereas only 787 did so; thus 354 potentially wasted appointments were avoided. Furthermore, the near-zero uptake of self-referral clinic appointments validates exclusion of this targeted patient group ($n=107$) from further follow-up in main outpatient clinics.

Clearly there is a massive financial incentive to reducing high numbers of missed appointments. In our study, the cost of 354 missed appointments (if each one is valued at £61²) equates to over £20 000. At a national level, there

Table 1 KHO9 data relating to plastic surgery outpatient attendance 1992–1997

	<i>First seen</i>	<i>First N-A</i>	<i>F/u seen</i>	<i>F/u N-A</i>	<i>Overall N-A %</i>
1996–1997	168 000	23 000	414 000	71 000	16.15
1995–1996	162 000	23 000	394 000	66 000	16.01
1994–1995	142 000	19 500	349 000	58 000	15.78
1993–1994	89 000	12 000	222 000	37 000	15.76
1992–1993	117 000	17 500	357 000	59 000	16.12

F/u = follow-up; N-A = non-attendance

were 94 000 plastic surgery non-attendances recorded for the year 1996–1997 (Table 1): reducing this by 30% (28 000) implies a cost saving of around £1.7 million.

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