

Why Do Patients Miss And Cancel Their Chronic Pain Management Appointments?

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Abstract

Non-attenders to hospital appointments in the National Health Service pose important medical and economical issues. The aim of this study was to investigate reasons patients failed to attend pain clinic appointments in order to tailor interventions at reducing missed appointment rates in the Pain Management Department at Sandwell and West Birmingham NHS Trust.

Retrospective analysis of 3,591 pain clinic and procedure appointments was performed over a 6-month period. 2,250 appointments were scheduled for pain clinic and 1,341 for pain procedures. 516 (23%) patients cancelled or did not attend their pain appointment; the most common reason was 'forgot' (30.2%). 288 (21.5%) cancelled or did not attend their pain procedure; the most common reason was 'sudden ill-health' (15.6%).

Our results suggest a large proportion of missed appointments could be avoided. We propose that creating a patient-centred approach including educational classes and reminder text messages could reduce the rates of non-attendance to pain clinic.

INTRODUCTION

In the National Health Service (NHS), rates of missed appointments are used as a performance measurement indicator of NHS Trusts. Missed and last-minute cancellation of hospital appointments are detrimental to any healthcare system. In the UK during the last decade, the percentage of missed or last-minute cancellations of outpatient appointments has been over 11%. This equates to more than 1 in 10 wasted outpatient appointments at an estimated cost to the NHS of £300 million per year, or £65 per appointment¹. Subsequently, waiting times are increased as missed appointments require rescheduling^{2,3}.

Several demographical and personal factors have been suggested to explain the reasons why patients miss appointments. However, the most frequently reported reason is 'patients forgetting that they have an appointment'^{3,4}.

To date, the majority of research in this area has been undertaken in psychiatry settings³. There have been studies in other specialties including paediatrics, HIV patients, gastroenterology and ophthalmology⁵⁻⁹. However, to our knowledge, there has been no research completed in the field of chronic pain management.

This study aims to collect data to determine the rates of, and reasons for, missed and last-minute cancellations of appointments within the department of pain management at Sandwell and West Birmingham Hospitals (SWBH) NHS Trust. This data will be analysed to estimate the proportion of missed appointments that are potentially preventable.

METHODOLOGY

Data was collected from the trust's computer system to calculate the number of outpatient appointments that had been scheduled between April and September 2011 within the hospital. The data was then divided into 'attended', 'cancelled', and 'missed appointments'.

The Pain Management Department at SWBH Trust comprises of clinics and a minor procedures unit. Pain clinic involves a multidisciplinary team (MDT) of clinicians, physiotherapists and psychological services. The minor procedures unit is located in the day case centre, Birmingham Treatment Centre (BTC). We analysed the rates of missed appointments to pain management clinics and BTC minor procedures unit in order to ascertain if patient demographics and clinical characteristics had any effect on attendance rates. The data collected for BTC minor

procedures unit included the patients' age and gender, the procedure time, day and month, the named consultant seen and the type of procedure performed. The data collected for pain management clinic included the patients' age and gender, month attended and the named consultant seen.

One of the authors attempted to contact each patient who missed or cancelled an appointment within the pain management department to determine the reason(s) for non-attendance. This was done by either a telephone call or a postal survey. Telephone numbers and addresses were obtained from the hospital's patient electronic records.

Patients were asked to complete a questionnaire, either via a telephone call or postal survey, with details of 16 possible reasons for non-attendance (Table 1).

We compared the missed appointment rates from other chronic disease management specialties (rheumatology, diabetes, and hypertension clinics) against chronic pain management. We also compared our missed appointment rates with all appointments in the hospital. However, this was for the time period between April 2011 and October 2011.

The preliminary data was entered into Microsoft Excel and analysed with SPSS version 17. Missing data was accounted for during analysis. The mean age was statistically tested using independent samples t-test and all other variants were analysed using chi-squared test.

RESULTS

There were 277,941 appointments issued to patients at Birmingham City Hospital between April and September 2011. Of these, 219,284 (78.9%) patients attended their appointments, 29,877 (10.7%) patients cancelled their appointments and 28,780 (10.4%) did not attend (Table 2).

BTC Minor Procedure Unit

There were 1,341 minor procedures scheduled between April and September 2011. 1,053 (78.4%) patients attended their procedure, 220 (16.4%) cancelled their procedure and 68 (5.1%) did not attend (DNA). Only 1,288 (96%) of these appointments had further data available on the hospital's computer system: age; gender; ethnicity; time, day and month of appointment; named consultant; type of procedure performed. The remaining 4% were not available due to missing data. Of this sample, 1,171 (90.1%) attended their appointments, 117 (9.1%) patients missed their appointments, 68 (5.9%) patients cancelled, and 49 (4.1%)

did not attend.

Age, Gender and Ethnicity

Younger patients were more likely to DNA their appointment in comparison with older patients, who are most likely either to attend or cancel their appointments. The mean age of patients who attended their appointments was 54.83 (SD 14.9, SEM 0.252) compared with 49.53 (SD 14.04, SEM 0.921) for patients who did not attend their appointment. This was significant ($p < 0.05$) according to an independent samples t-test, with 95% confidence intervals. The mean age of people who cancelled their appointments was 52.5 (SD 14.569, SEM 2.103), compared with a mean age of 47.4 of people who missed their appointments (SD 13.415, SEM 1.627). Independent students t-test revealed that this difference was not significant ($p = 0.56$). After coding age into ranges, our results showed that younger patients (35-64 years) are more likely to DNA appointments compared with patients over 65 years who are more likely to cancel their appointments beforehand ($p < 0.05$).

Men are more likely to DNA or cancel appointments than women. Our results showed that men had a cancellation rate of 6.3% and a DNA rate of 5.8%, compared with 4.7% and 2.6% in women ($p < 0.05$), respectively. The trend in results suggests that ethnicity may have an influence on whether patient's cancel or DNA their appointments however, this was not significant.

Appointment Characteristics

On reviewing the day of the week, Tuesday had the highest rates of missed appointments compared with other weekdays. The months with the highest missed appointment rates were April, May and July. However, these findings were not significant and not a true representation of all twelve months, as we reviewed data from April to September only. The time of appointment (am or pm) had no effect on the attendance status. The consultant anaesthetist or procedure type (See Table 3 for list of Procedures) had no significant effect on attendance.

Pain Clinic Appointments

There were 2,250 chronic pain clinic appointments scheduled between April and September 2011. 1,734 (77.1%) patients attended their appointments, 294 (13.1%) cancelled their appointments and 222 (9.9%) did not attend.

Demographics and Appointment Characteristics

Men who missed appointments were more likely to DNA than cancel, whereas women more commonly cancel their appointments beforehand. 15.5% of women cancelled appointments, compared with 8.5% men. 11.9% men did not attend their appointments compared with 8.8% women ($p < 0.05$). Our study did not show any significant effect of religion on attendance rates.

The months of August and May had the highest rates of missed appointments. As mentioned above this is not a true representation of the twelve months, as we collected data from April to September. Our study did not show any significant difference in the attendance rate among different consultants.

Compared with other Chronic Care Specialties

We compared the rate of Pain Management Department missed appointments with three other chronic disease management clinics at SWBH NHS Trust: rheumatology, diabetes and hypertension. The results represented below revealed that the Pain Management Department has lower rates of missed appointments compared with these chronic disease specialties. The diabetes department has the highest missed appointment rate with 27.11% of patients missing appointments. The BTC minor procedure unit's missed appointment rates are the lowest of the chronic care specialties with a rate of 8.16% (Figure 1).

Questionnaire Results

BTC Minor Procedure Unit

Data was collected for 112 patients who missed minor procedure list appointments. In this cohort, 87 (77.7%) patients had cancelled appointments and 25 (22.3%) were DNAs. From this sample, 18 patients (23.1%) had missed one or more appointments in the past.

The top 5 reasons patients gave for missing procedure list appointments were (Figure 2):

- Sudden ill-health (13.9%)
- Unsure needed procedure (11.1%)
- Needed time to think about procedure (11.1%)
- No longer wanted procedure (11.1%)
- Forgetting appointment (11%)

The top 5 reasons for cancelling procedure list appointments were:

- Sudden ill-health (15.6%)
- Other (12%)
- Work issues (9.6%)
- Transport issues (7.6%)

- Religious reasons (7.2%)

Pain Clinic Appointments

Data was collected for 124 patients who missed chronic pain clinic appointments. 81 (65%) patients had cancelled appointments and 43 (35%) were DNAs. 11 patients (8.3%) had missed appointments in the past.

The top 5 reasons patients gave for DNA pain clinic appointments were:

- Forgot (30.2%)
- Sudden ill health (27.9%)
- Other (25.6%)
- Unsuitable time (9.3%)
- No longer needed appointment (4.65%)

The top 5 reasons for cancelling pain clinic appointments were:

- Sudden ill health (41.3%)
- Unsuitable time (15.2%)
- Other (14.1%)
- Transport issues (4.35%)
- No longer needed (4.35%)

DISCUSSION

The overall rate of missed appointments at Birmingham City Hospital was 10.4%; lower than the national average of 10.7%. In comparison, the pain department had lower rates of missed appointments, but had higher rates of cancelled appointments. Missed appointments to the minor procedure unit were less than half that of the hospital trust's average at 5.02%. Compared to available literature, missed appointment rates to the pain department are favourable^{3, 5, 6-8, 10} including a similar study undertaken in inner city Birmingham⁹.

Patient demographics and clinical factors

Younger patients were significantly more likely to miss appointments in the Pain Management Department. This finding was reported in other studies, all of which showed a significant effect of age on attendance^{1, 3, 7, 11}.

Interestingly, men were more likely to miss minor procedure appointments and women more likely to miss pain clinic appointments. However, the Hospital Outpatient Activity 2009-10 (a large study involving over 3 million men and women) showed that men (9%) were more likely to DNA than women (7.3%). Other studies report conflicting results with regards to gender^{5, 7-9}. The true effect of gender on missed appointment rates requires further review. Ethnicity and religious factors had no bearing on attendance rates in this study.

From our results, the time of the patient's appointment had no effect on the attendance status. However, other literature reports higher missed appointment rates in the morning appointments^{7, 12}. In our study, although not clinically significant, most missed appointments in the pain clinic were in the morning. It is postulated that as these patients are often on a complex cocktail of analgesia, they often allow their morning dose of analgesia to take effect before embarking on their day's activities. Additionally, some of the night-time medications, specifically neuropathic agents and benzodiazepines, have an overhang effect into the morning. It is important to note that our pain clinic offers more appointments in the morning. Therefore, this may skew any effect of lower rates of missed appointments in the afternoon. By scheduling more afternoon appointments, we may reduce the rates of non-attendance.

Reasons for Non-Attendance

The most common reasons for DNA and cancellation of appointments in the pain department was due to 'sudden ill-health' (14-41%) and 'patients forgetting appointments' (11-30%), in keeping with the top reasons for missing appointments in current available literature^{1, 3, 6, 8}. Other common reasons were: 'transport issues', 'appointments no longer being wanted' or 'needed', 'patients needed more time to think about having the procedure' and 'unsuitable timing of appointment'.

We compared our study to a similar study undertaken at Birmingham and Midland Eye Hospital⁹. In this study, questionnaires were used where patients chose one option out of sixteen as to why they did not attend. It is interesting to see the two commonest reasons for non-attendance were 'you were unwell', and 'did not remember'. These are analogous to the two top reasons in our study. The Eye Hospital also represents inner city Birmingham, thus has a similar catchment area. However, this is a tertiary centre and therefore will cater for a wider area. One suggestion made here is to have better communication between patients and clerical staff by having a direct telephone line, avoiding the busy hospital switchboard. Additionally, this study split patients into 'new' or 'follow up', finding the DNA rate to be significantly higher in 'new' patients. It would be interesting to transfer this idea to our own study, as there may be a number of reasons for this finding, possibly including that these patients do not yet have any information on the proposed procedure.

The reasons for missed appointments tend to relate to patient

factors suggesting a patient-centred approach is key to encouraging attendance. Educational interventions such as injection classes and patient information leaflets may play a role in the cases where people were unsure if they still wanted or needed their appointments. Clearly forgetfulness is a huge factor causing patients to miss appointments. A reminder service such as text-message or telephone reminders could be introduced. This has proven successful in a recently published Cochrane review¹³.

Patient education programmes in chronic disease management including diabetes, hypertension and asthma support the fact that increased knowledge and awareness improves attendance rates¹⁰. 9% - 15% of patients missed or cancelled their chronic pain clinic appointments due to unsuitable timings. A flexible appointment system such as NHS 'Choose and Book' may allow patients to book their appointments at a time suitable for them, over the internet or via the telephone². An option for the pain department would be to introduce a similar 'Choose and Book' system to allow patients more flexibility with the timing of their appointments. Issues with transport accounted for 4-8% of appointments that were not attended. A clear solution for this would be to provide transport options for any patient that may have difficulty getting to their appointment.

Given the retrospective nature of this analysis, the obvious limitation to this study is that recall bias cannot be excluded. Patients may not have been able to provide accurate reasons for non-attendance during the telephone and postal survey responses due to the length of time between not attending the appointment and being contacted by the pain management department. Additionally, patients may not have wanted to disclose the actual reason that they missed appointments, as being contacted at home by a member of staff may appear accusatory to the patient. For interest, the authors compared the reasons patients had given to the survey with reasons that had been recorded on the hospital's computer system when appointments were cancelled. The reasons did not always match and this may be due to the aforementioned.

CONCLUSION

Missed appointments are an economical and resource-consuming problem. Although missed appointment rates to the Pain Management Department are favourable compared with national statistics, our results suggest there is a large proportion of missed appointments that could be avoided.

To reduce rates of non-attendance at the pain department, a patient-centred approach to arranging appointments should

be adopted, along with appropriate reminders and information provision. We propose that the introduction of telephone and text messaging reminder services, injection classes, patient information leaflets, a 'Choose and Book' system, and a 'Ring and Ride' transport service could reduce the rates of missed appointments. After implementation of these recommendations repeat analysis of attendance rates could ascertain whether or not these methods were effective. Further studies in chronic specialties would help to validate these findings and suggestions.

Table 1

The 16 options available for patients to select the most appropriate reasons for not attending appointments.

Reasons for non-attendance at the Pain Department

- Sudden ill health
- Unsure about having procedure
- Unsure of benefits of procedure
- Not enough information about the procedure
- Needed more time to think about it
- No longer needed the procedure
- No longer wanted the procedure
- Had to wait too long for appointment
- Forgot about appointment
- Did not get to see doctor of your choice
- The time/date did not suit you
- Childcare issues
- Work related issues
- Transport issues
- Distance needed to travel
- Religious reasons
- Other

Table 2

Rates of attendance to appointments to the minor procedure unit and chronic pain clinic in comparison with all appointments at City Hospital.

	Attended	Cancelled	DNA	Total
All Appointments	219284	29877	28780	277941
Minor Procedures Appointments	1053	220	68	1341
Chronic Pain Clinic Appointments	1734	294	222	2250

Table 3

Minor Procedures and the number of missed appointments.

Procedure	Missed Appointments
Facet joint injection	24
Lumbar Epidural	15
Root Sleeve	8
Facet denervation	10
Ilioinguinal block	8
Cervical epidural	2
Lignocaine Infusion	12
Trigger Point Injection	12
Peripheral Nerve Block	6
Spinal Nerve Block	6
Scar Infiltration	2
Stellate Ganglion Block	4
Intercostal Nerve Block	2
Bilateral Tap Rectal Block	2
Interscalene Block	1
Lumbar Epidural with Sedation	2
Guanethidine block	1

Figure 1

Percentages of overall attendance rates to the Pain Department, and attendance rates to the minor procedure unit and pain clinic appointments in comparison with attendance rates to other chronic care specialty clinics .

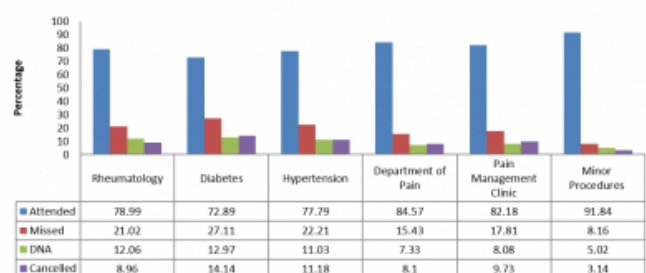
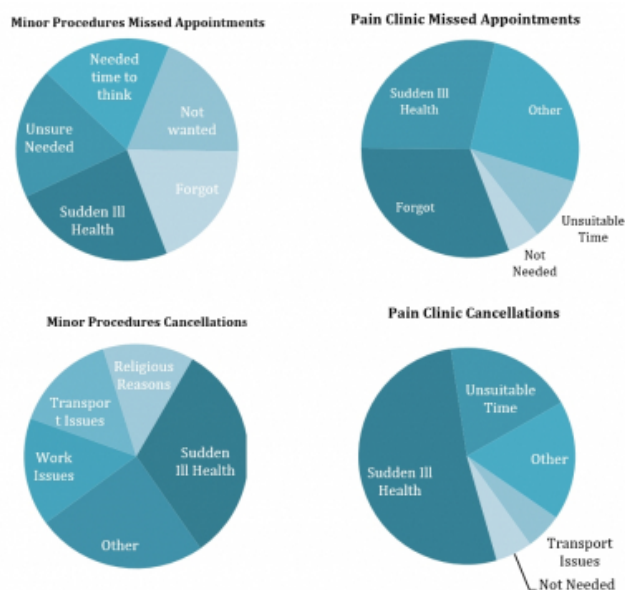


Figure 2

Top reasons for cancelling or not attending appointments at the minor procedure unit and pain clinic.



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