

Does day surgery embarrass the primary health care team? An audit of complications and consultations

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Abstract

In order to assess the impact of day surgery on primary care in this district, a prospective study of 297 consecutive patients, being treated in the local day surgery unit, was undertaken to ascertain patient satisfaction and to assess what post-operative problems patients are having requiring primary care services. The results suggest that overall satisfaction with the service is high. After surgical interventions, 43% of patients required one or more primary care consultations. Unplanned GP visits were made by 13% of patients for reasons such as post-operative infection or pain. It was concluded that the majority of the primary care workload was anticipated and pre-arranged; it could possibly be reduced further by arranging better pain relief for patients on discharge and providing more information on what patients might expect after their surgery. © 1997 Elsevier Science B.V.

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1. Introduction

There has been a significant increase in the level of day surgery performed in the UK in recent years [1]. Although reducing hospital costs per patient treated, day surgery may have repercussions for community services. Opinions vary as to the magnitude of this effect and the impact that this shift in hospital activity has already had on general practitioners and other community health professionals [2–4].

Despite the debate about the economics and workload, the concept of day surgery increases in popularity with patients and general practitioners

alike [2,5,6]. Advantages to the patients include shorter waiting times for surgery, less chance of operations being cancelled [7] and less time away from home or work. General practitioners appreciate the quicker service to their patients and a significant number enjoy the greater participation in their patients' surgical care [6].

The first objective of this study was to ascertain patient satisfaction with day surgery services in this district. Thus completing the audit cycle, started in 1993, which recommended reviewing the quantity and quality of information, both written and verbal, for patients before and during day surgical admission. The second objective was to assess what problems patients are experiencing after discharge, to assess what community services are being used and therefore determine to what extent their workload may change with the anticipated expansion of day surgery.

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2. Methodology

The study was carried out in the Massereene Hospital, Antrim day surgery unit, during the period of January–March 1996. The unit has 12 designated beds. There were no restrictions regarding type of procedure being performed. Ethical approval was given by the Regional Ethical Committee.

Consecutive day surgery patients passing through the unit were approached regarding the study and given an information sheet explaining its nature and purpose. The patient's details and clinical information were recorded on a standardised questionnaire. The patients were subsequently surveyed using a postal questionnaire sent out 2 weeks after discharge. One reminder was sent if no response was received 3 weeks later. If the patient indicated on the questionnaire that they had required a community service, the health professional concerned was contacted for further details.

A pilot study of 20 patients was initially carried out and, as there were no major problems identified, these patients were included in the final analysis. For children undergoing surgery, a parent or guardian completed the questionnaire on their behalf.

The data was analysed using the Statistical Package for Social Sciences (SPSS), using descriptive and inferential analyses. Differences for proportions were calculated by using the χ^2 -statistic for contingency tables.

3. Results

In total, 297 patients were given information sheets and sent a questionnaire. A response was received from 82%, (244 patients).

Thirty different types of surgical procedure were performed. Table 1 illustrates the case mix of proce-

Table 1
Procedures performed

Operation	% All operations 1993	% All operations 1996
Removal of skin growth	20	18
Gastrosocopy	14	0
Vasectomy	13	24
Sigmoidoscopy	9	1
Cystoscopy	7	3
Varicose vein surgery	6	7
Breast lump biopsy	4	11
Removal ganglion	4	4
Haemorrhoid surgery	4	1
Hernia repair	2	5
Carpal tunnel release	2	3
Other	15	23

Table 2
Information received by patients

	1993 (%)	1996 (%)
Information about right or more than wanted	89	86
Received written information on treatment pre-op	73	67
Treatment explained during admission	94	91

dures during the two study periods, in 1993 and 1996. Toe nail surgery, removal of lumps from various sites and removal of foreign bodies account for 12% of the 'other' group in 1996. Due to the amalgamation of two hospitals, the majority of endoscopic surgery is now carried out elsewhere.

Of those who responded, 64% were male. The age range of respondents was 2–85 years, mean 38 years. There was a high number of vasectomies performed, accounting for the excess in males in the group and the peak in age group 31–45 years. There was no significant difference in the age or sex distribution of responders and non-responders.

The results suggest that overall satisfaction with the service is high, with 79% stating that they would recommend day surgery for the same procedure to a friend. However, this figure has fallen from 89% in 1993.

Table 2 compares the information given to patients about their treatment in 1993 and in 1996. This shows a slight overall fall in the amount given to patients and an increase in the proportion of patients who would have liked more information.

As might be expected, there was a significant correlation between those receiving written information about their treatment pre-operatively and those satisfied with the amount of information given overall, ($\chi^2 = 13.7$, $df = 2$, $P = 0.001$). There were also highly significant associations between receiving explanations about treatment before and during admission and recommending day surgery for the same procedure to a friend ($\chi^2 = 11$, $df = 2$, $P = 0.004$ and $\chi^2 = 24.1$, $df = 2$, $P = 0.0001$ respectively).

In the first 24 h after surgery, 30% of patients experienced 'a fair amount of pain', and 9% 'a great deal of pain'. Analgesia was required by 64% of all patients with an average of ten tablets being taken by each of these patients. The type of pain relief was recorded by 58% of patients. Simple analgesia, such as paracetamol, was taken by 54% with 4% requiring stronger medication, such as diclofenic voltarol or injectable pain relief.

Twelve percent of patients required 'quite a lot of extra help' and 9% required a 'great deal of help' after discharge. One in ten carers had to take time off work, on average 3 days, and 7% of the carers indicated a loss of earnings.

Follow-up was arranged by the day surgical unit for 37% of patients. This follow-up was at the patient's own health centre in 30% of cases and at surgical outpatients in 9%, (2% had arrangements made for both).

There were 157 primary health care consultations in the month following on from the study patients' day surgery. The number of visits is elevated by one individual patient accounting for 10% of the total, as a pre-arranged visit revealed infection which required 18 further attendances to resolve (Fig. 1).

In total 106 (43%) patients required one or more primary health care services with 27% (66 patients) consulting their GP. Seventy-eight percent of the total number of visits were pre-arranged or represented follow-up to a pre-arranged visit and 22% were unpredicted episodes with their follow-up. The majority of patients attending by prior arrangement did so for suture removal (17%), change of dressing (8%) or to obtain a medical certificate for absence from work (5%).

Unplanned visits to their GP were made by 13% (32 patients) for reasons such as suspected post-operative infection (confirmed in 5%, unconfirmed in 2% as there was no record available in the patients' notes), post-operative pain (3%) and reassurance that the wound was satisfactory (3%). Of these consultations 1% (three visits) were made to the patients' own home. An accident and emergency attendance was recorded by 1% of patients, all for pain relief. An unpredicted visit to the chemist was required by 3% of patients, for items such as analgesia and dressings.

Immediate post-operative admission was required for 10% of patients, for reasons such as wound drains being in situ, anaesthetic problems and for post-operative pain relief. One percent of patients required re-admission for the management of wound sepsis. Two percent required a further admission for additional breast surgery when the initial biopsy pathology was known.

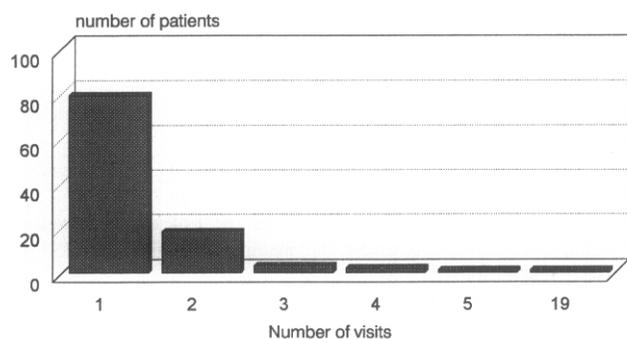


Fig. 1. Post-operative primary care visits.

4. Discussion

Continued expansion of day surgery is widely advocated by the Royal College of Surgeons and the Audit Commission, among others. It is recognised that the evidence for increased primary care workload as a result of this trend is tenuous [8]. They advocate gathering further evidence on this subject in conjunction with the continued planning and development of the service. The present study attempts to address this problem with a view to improving patient management and care.

The study population and types of procedure in the study group are typical of many day surgery units in the UK and therefore the results are thought to be representative of the average workload experienced by many general practitioners.

The authors' original objectives included reascertaining patient satisfaction with day surgery thereby closing the audit loop. The results concur with other studies in finding a high level of patient satisfaction. Although the differences are small, the re-audit component to this study indicated a slight decrease in satisfaction over the three year period. One of the purposes of audit is to identify ways of improving a service and what has been highlighted in this study is the importance of completing the audit cycle to see if previous recommendations have been implemented and, if they have, had the desired effect. In this case, follow-up on the need for improved patient information both before surgery and during admission has not been ideal and needs to be addressed again. However, the present figures remain equal to, or higher than those compiled by the Audit Commission [9,10].

The second objective was to assess what problems patients were experiencing after discharge, to assess what community services were being used and therefore to what extent the primary care workload would change with the continued expansion of day surgery. This latter question is a forum for much debate in the literature. In Burn's opinion, day surgery rarely places demands on these services [4], whereas Russell et al. [11] found that the average day patient received 0.5 more family doctor consultations and 4.2 more district nurse visits than their in-patient equivalents. Although Russell's work is widely quoted, the fact that it was carried out in the 1970s should be taken into account. Improvements since then have resulted in a decrease in requirements for nursing care and medical services, for example as a result of changes in surgical techniques, suture materials and pre-operative preparation of patients.

In contrast to Russell's findings, only a small number of the present study group required the services of a district nurse. The bulk of the primary care workload was in the form of a visit to the GP or a treatment room nurse. As sutures, and some dressings, are gener-

ally removed five to ten days after surgery, these visits would be carried out in primary care even if the patients had several nights in hospital. Similarly attending for a sickness certificate would also take place regardless of length of stay.

Several measures have been used to assess clinical outcome, including post-operative complication rates, re-admission rates and also patient satisfaction. A review of the literature, by Morgan et al. [12], concluded that in general short stay policies and day case surgery for selected procedures have little impact on clinical outcomes, although in some cases the presence of higher rates of minor short term complications was noted.

The findings from this study compare favourably with other studies in relation to numbers of planned day surgery patients requiring overnight stay, the range recorded in the literature being from 2.5–16% [12]. Similarly the re-admission rates in the present study (1%) are comparable to, or slightly lower than, those reported elsewhere [10,13].

Post-operative pain is reported to be a common reason for contacting the GP after day surgery. In one survey of GPs [2], 75% reported that inadequate analgesia was a common reason for patients requiring to be seen post-operatively. In the present study post-operative pain was a problem for 39% of patients but only precipitated a GP consultation in 3% of patients. The GP survey also reported that post-operative infection was the commonest reason for self referral [2]. This is in keeping with the authors' findings of wound infection, or patient concern about the wound, being the cause of 10% of the self referral GP consultations.

Efforts to decrease the primary care workload might usefully focus on post-operative pain relief. The Massereene unit has a 24 h advice line for patients so that if they meet an unexpected situation their worries can be allayed by a phone call to someone familiar with their background, thereby alleviating the need for a primary care consultation but it could perhaps be promoted and used more widely.

Since the response rate was high (82%) the authors felt that non-response bias is unlikely to be significant, as patients dissatisfied with the service or who had experienced problems and complications would be more, rather than less, likely to respond. Attempts were made to minimise recall bias by sending out the questionnaires soon after the procedure and following up non-responders quickly.

To give a definitive answer to the original questions posed, a study of patients undergoing procedures suitable for day surgery would be required, where patients were randomly allocated to either inpatient or day case treatment and their post-operative course followed prospectively by investigators blinded to the

patients treatment group. Such studies were conducted in the 1970's [6,11]. However, management has changed so radically since then that the applicability of the results has been questioned. Indeed many patients now prefer to be treated on a day case basis, and so maximising participation in such a trial might prove a challenge.

5. Conclusion

The majority of patients were satisfied with their experience of day surgery. Improvements could still be made regarding the amount of information patients receive both before and during their admission. The majority of the primary care workload was anticipated and pre-arranged. The impact on primary care could possibly be reduced further by better pain relief being provided for patients on discharge and by giving more written and verbal information on what to expect post-operatively. More emphasis could be given on the facility of telephone advice for patients after discharge from the day surgery unit.

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