

Is follow up by specialists routinely needed after elective surgery? A controlled trial

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Abstract

Study objective—To assess the benefit of planned specialist follow up appointments after elective inpatient surgery.

Design—This was a controlled trial, using repeated alternate allocation of time periods to the two study groups. Group 1: Planned outpatient follow up 6–12 weeks after surgery. Group 2: No planned follow up: additional written information for patients and general practitioners.

Setting—A district general hospital in the north west of England.

Participants—264 patients listed for one of: transurethral resection of the prostate, varicose vein surgery, cholecystectomy (open or laparoscopic), inguinal herniorrhaphy (open or laparoscopic).

Main outcome measures—Health status, complications, return to normal activity, patient satisfaction, use and costs of primary and secondary care in the 12 weeks after surgery.

Main results—Data were available for 212 (80%) of eligible patients. Thirty eight per cent of patients in the “no planned follow up” group were in fact seen in outpatients after their discharge. Intention to treat analysis showed that there were no significant differences between the groups for health status, complications, or time to return to normal activity. Patients in the “no planned follow up” group had significantly fewer hospital visits and costs (mean difference in visits 0.51, 95% confidence intervals 0.39 to 0.69; mean difference in hospital costs £12.75, £9.75 to £15.50). There were fewer primary care staff contacts and costs in the “no planned follow up” group, although this difference was not significant (mean difference = 0.61 visits, -0.13 to 1.33 visits; primary care costs difference £8.37, -£1.31 to £18.73). Patients in the “no planned follow up group” had significantly reduced patient travel costs (mean difference £4.84, £3.44 to £6.22). Eighty nine (42%) patients would prefer to be followed up by both their hospital doctor and GP; 53 (25%) patients would prefer to be followed up by the hospital doctor only. There were no significant differences between the two groups in their preferences for follow up. The majority of GPs agreed with the statement that a policy of no follow up at hospital outpatients for each of the six surgical procedures would increase their workload.

Conclusions—Planned outpatient appointments after uncomplicated surgery seem to be neither necessary nor cost effective. A policy of “no planned follow up” results in no increase in primary care costs, and savings in hospital and patient costs. However, many patients expected and wanted to be seen again by their surgeon and GPs were concerned that a “no follow up” policy would result in an increase in workload.

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In the United Kingdom, it has been common practice for patients to be offered an outpatient appointment with their specialist after routine surgery, commonly 6–8 weeks after discharge. The value of outpatient follow up has been questioned for many years.¹⁻⁵ Surgeons vary widely in their practice⁶: some review all patients after common procedures, while others review none.⁷ The arguments for follow up include the need for junior staff to gain experience by seeing these patients,⁸ the need to monitor progress and to identify complications and recurrences, and the need to reassure patients.⁹⁻¹⁰ However, postoperative complications and recurrences are most commonly detected by members of the primary care team.¹⁰⁻¹¹ Furthermore, postoperative problems have often resolved by the time of the hospital follow up appointment.¹¹ Many patients would be confident in a system without routine hospital review⁵ and general practitioners would be willing to provide the follow up service for the majority of patients.¹² However, some general practitioners are also concerned about an uncompensated increase in their workload as care shifts from secondary to primary care.¹³

Alternatives to follow up care in hospital outpatient clinics have been proposed.⁷ In one previous study, follow up care by general practitioners was as effective, less costly, and acceptable to general practitioners.¹⁴ In another study, nurse led telephone screening of patients has successfully identified patients who required outpatient review.¹⁵

We report a controlled trial comparing traditional hospital follow up with a new type of aftercare, where detailed written information was given to the patient and general practitioners about the anticipated clinical course and prognosis, but no follow up appointment at hospital outpatients was given. We compared the two groups in terms of patient outcomes (satisfaction, use of health services, postoperative complications, and time to return to normal activities), the difference in cost of fol-

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low up, and GPs' opinions of follow up management.

Methods

The study took place between February and July 1996 at one district general hospital in the north west of England, with the participation of three general surgeons and two urological surgeons. Through pilot interviews with patients and responses from a postal survey, patients' areas of concern and information needs were identified. Patient information booklets for each of the six surgical procedures developed by the Royal College of Surgeons of England and by a surgeon met these requirements and were used in the main study.^{16,17} Although the content of each of the six booklets varied, they all covered the following core topics: the condition and its treatment, the operation and guidelines to recovery (for example, possible complications, work, driving, exercise, eating and drinking, etc). The study received approval from the local research ethics committee.

All patients who were booked for elective inpatient general surgery (open inguinal herniorrhaphy, laparoscopic inguinal herniorrhaphy, open cholecystectomy, laparoscopic cholecystectomy, and varicose vein surgery) and transurethral resection of the prostate (TURP) over the six month period were recruited to the study. These procedures were chosen because they met four criteria: planned follow up appointments are currently given at between six and eight weeks after discharge; they are common procedures where long term follow up is not foreseen; follow up does not require technical procedures, and there exists wide variability between surgeons in their current follow up practice.^{7,18} Patients who were listed for more than one surgical procedure at the time of their operation or who were judged by the recruiting nurse practitioners not to understand the study and consent information because of severity of illness or mental infirmity, were excluded from the study.

Participating surgical firms alternated at monthly intervals between the two methods of follow up. Therefore for a one month period, all patients received traditional management (planned follow up), with an outpatient appointment routinely given for 6–12 weeks after surgery. For the following month all patients received the new aftercare (no planned follow up/additional written information given to patients and general practitioners before the operation). Then follow up reverted to the traditional care and so on alternately, for a six month period. This type of controlled trial, using alternate allocation by time period, was used in preference to patient-based randomisation to avoid the risk of contamination of the information packs across study groups. We considered that this method was very unlikely to lead to biased allocation of patients to the two study groups: many of the patients were already on the waiting list before the start of the study, and the clerks who sent for patients were unaware of the designation of allocation periods. Patient consent was not obtained at this point in the study, and all patients were

followed up if there was a clinical need. When consent was obtained, no patient asked to change their operation date. Some patients may subsequently have requested a follow up appointment: this was regarded as an outcome of the study and incorporated in the intention to treat analysis.

Informed consent was obtained and a structured questionnaire, covering health status as measured using the HSQ-12 (range of scores = 0–100, the higher score representing a positive health attribute) was completed by patients preoperatively, either at the time of their recruitment by nurse practitioners at a preadmission clinic or by post.¹⁹ A second patient questionnaire was sent three months postoperatively to collect sociodemographic data, satisfaction, health status, reported complications, patient preferences, time to return to normal activities, use of health services and costs.

The general practitioners (86) of patients recruited in two consecutive months of the trial were sent a short questionnaire two months after discharge to ascertain their views on follow up policy and its potential impact on workload.

STATISTICAL METHODS

Statistical analysis was undertaken on an "intention to treat" basis. Baseline factors were identified for each outcome that might influence that outcome before the analysis.^{20,21} Each outcome was then adjusted using the appropriate statistical model with the baseline factors as covariates. For the primary outcome measures, estimates were adjusted for patients' age, sex, and operative procedure. There was some variation in time until the patient postoperative questionnaire was returned, therefore adjustment was made for this where responses may have varied according to the time from operation to patient response. For time to return to normal activities and numbers of complications, the proportional odds model was used²² and was fitted using the SAS statistical software package. Data for numbers of consultations and cost were highly positively skewed. Nevertheless the arithmetic mean is a more appropriate statistic than the median or geometric mean for such measures. The non-parametric bootstrap was used to estimate the mean numbers of consultations and mean costs and their confidence limits, adjusting for age, sex, operation type, and time since operation until return of questionnaire.²³ For health status, a linear regression model was used, adjusted for baseline preoperative scores, sex, age, and operation type. Where confidence intervals are given, they have a 95% coverage.

COST DATA ELEMENTS

Patients' travel costs to hospital follow up and general practice were based on public transport/taxi fare and/or the marginal cost of car travel (estimated using the Automobile Association national rate per mile of £0.13). We assumed district nurse contacts took place at the patient's home and therefore there were no travel costs for the patient for these

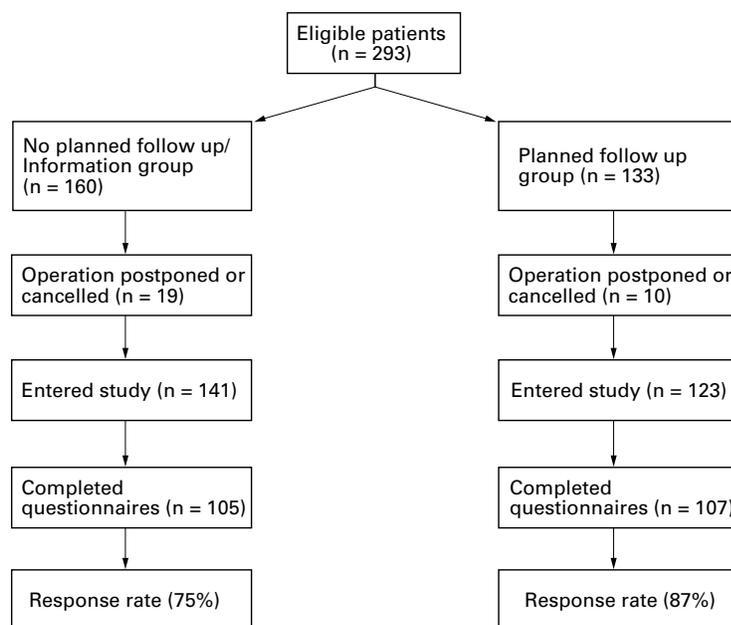


Figure 1 Response rate.

Table 1 Operation type, sex, and age of respondents

Variable	Planned follow up group (n=107)		No planned follow up/Information group (n=105)	
	n	(%)	n	(%)
Operation type				
TURP	45	(42)	41	(39)
Varicose vein surgery	10	(9)	12	(11)
Open hernia repair	31	(29)	20	(19)
Laparoscopic hernia repair	5	(5)	12	(11)
Open cholecystectomy	12	(11)	8	(8)
Laparoscopic cholecystectomy	4	(4)	12	(11)
Sex				
Male	82	(77)	74	(71)
Female	25	(23)	31	(30)
Age group (y)				
18–34	10	(9)	12	(11)
35–54	23	(22)	28	(27)
55–64	23	(22)	16	(15)
65–74	31	(29)	32	(31)
75+	20	(19)	17	(16)

Table 2 Hospital outpatient follow up appointment visits

	Planned follow up group*		No planned follow up/Information group	
	n	(%)	n	(%)
Attended hospital follow up appointment	97	(92)	40†	(38)
Did not attend hospital follow up appointment	9	(9)	65	(62)

* There was one case of missing data in this group for attendance at follow up. † The medical records of these 40 patients were accessed to identify the possible reasons for attendance at hospital outpatients: two records were missing; no obvious reason for follow up (21 cases); suspicion of or actual malignancy (9, all TURP patients); postoperative symptoms requiring re-assessment (3); patients readmitted to hospital (2); postoperative complications (1); new symptoms developed requiring assessment (1); specific patient circumstances (1).

contacts. Patients' time attending hospital outpatients was valued using the Department of Transport's value for leisure time (derived in 1987 and inflated from 1985 prices to 1996 prices to give £2.84 per hour).²⁴ Unit costs for each consultation for general practitioners, practice nurses, and district nurses were multiplied by the number of contacts with these staff and adjusted for the time period between the operation and returning the questionnaire.²⁵ Hospital prices charged to general practitioner fundholder practices for an outpatient visit

were used as an estimate of the cost of a follow up appointment. The cost of information booklets (£1.00 per booklet) given to the "no planned follow up" group was added to the total health service costs.

Results

Figure 1 shows the number of patients completing study questionnaires. Seven patients were excluded from the study as they were judged by the recruiting nurse practitioners to be too ill to participate (three were in the "no planned follow up" study group, four were in the "planned follow up" group). The overall response rate was 80%, although there was a lower response rate in the "no planned follow up" group ($p=0.01$, difference 13%, 95% CI: 3% to 21%). Table 1 shows the age, sex, and operation type of the respondents. The only data available for non-respondents were surgical procedure and as the breakdown by this variable lead to very small numbers, no comparisons could be made between respondents and non-respondents.

FOLLOW UP CARE AT OUTPATIENTS

Table 2 shows the numbers of patients in the two groups attending a hospital follow up appointment. Forty (38%) patients in the "no planned follow up/information" group eventually attended follow up at hospital. They represented 39% (16) of TURP patients assigned to that group, 8% (1) of varicose vein patients, 55% (11) of open herniorrhaphy patients, 8% (1) of laparoscopic herniorrhaphy patients, 50% (4) of open cholecystectomy patients, and 58% (7) of laparoscopic cholecystectomy patients ($\chi^2_5=14.0$, $p=0.016$). For nine (23%) of these 40 patients (all TURP patients), the reason for attendance at follow up was given as suspicion of or actual malignancy.

HEALTH STATUS

There were no significant differences between the adjusted postoperative mean score differences of patients in the two arms of the study on any of the HSQ-12 subscales (table 3).

TIME TO RETURN TO NORMAL ACTIVITY

There was no evidence of increased odds of a delay to return to normal activity between the two arms of the study ($p=0.96$). The estimated common odds ratio was 1.01 (95% confidence intervals: 0.61 to 1.68). The length of time until return to normal daily activity was immediate for 11 patients (5%); within one week for 26 patients (13%); within two weeks for 45 patients (22%); between three to four weeks for 69 patients (33%) and over four weeks for 56 patients (27%). This variable was strongly correlated with "time to return to work" for the 81 patients who were in employment (Spearman rank correlation coefficient of 0.57, $p<0.0001$).

COMPLICATIONS

There was no evidence of increased numbers of complications for the "no planned follow up/information" group compared with the "planned follow up" group ($p=0.67$), odds ratio 0.89 (0.52 to 1.51). The types of compli-

Table 3 Mean differences between planned follow up group and no planned follow up group on HSQ-12 dimensions (postoperative) (Adjusted for age, sex, operation, and baseline (preoperative) score)

HSQ-12 sub-scale	Unadjusted mean scores		Unadjusted difference in means	Adjusted difference in means	(95% CI)	p Value
	Planned follow up group	No planned follow up/Information group				
Physical function	65.8	70.1	-4.3	-7.1	(-16.8 to 2.6)	0.15
Physical role	70.9	71.8	-0.9	-1.3	(-13.1 to 10.5)	0.83
Emotional role	87.1	80.4	6.7	5.0	(-5.4 to 15.4)	0.34
Social functioning	84.2	86.3	-2.1	-0.7	(-7.6 to 6.1)	0.84
Mental health	73.7	70.5	3.2	4.0	(-1.0 to 9.1)	0.12
Energy and vitality	58.4	58.9	-0.5	3.1	(-3.9 to 10.1)	0.38
Pain	84.1	82.7	1.4	2.2	(-4.0 to 8.4)	0.48
General health perception	62.6	63.8	-1.2	-0.9	(-7.5 to 5.6)	0.78

cations that occurred were: pain (reported by 54 patients); bleeding (24); urinary tract infection (17); wound infection (15); allergy/ reaction to drug (4); and other (33).

SUBSEQUENT HEALTH SERVICE USE AND COST ANALYSIS

Table 4 shows that there were significant differences between the groups for follow up appointment contacts and associated costs. Patients who were in the “no planned follow up” group that also received additional information had significantly fewer hospital visits (and hospital costs), and a small but non-significant reduction in primary care workload also. Table 5 shows that the number of contacts with primary care staff was not greatly increased for the more major operation procedures such as cholecystectomy; patients discharged after varicose vein surgery had the greatest number of primary care contacts.

The data in table 4 show that patients’ costs were significantly greater in the “planned follow up” group compared with the “no planned follow up/information” group. This was mainly because of differences in travel costs and time valuation associated with hospital attendance.

Table 4 Differences between groups in health services use and costs, and patient travel and time costs. Adjusted for age, sex, operation type and time between operation and return of questionnaire

	Planned follow up group Mean [1]	No planned follow up/ Information group Mean [2]	Difference		
			Difference [1]-[2]	(95% CI)	p Value
Primary care sector contacts					
General practitioner	2.13	1.86	0.27	(-0.26 to 0.85)	0.35
Practice Nurse	0.54	0.51	0.04	(-0.24 to 0.31)	0.79
Community Nurse	0.51	0.21	0.30	(-0.00 to 0.65)	0.07
Total primary care contacts	3.18	2.58	0.61	(-0.13 to 1.33)	0.11
Primary care staff costs (£)	43.83	35.46	8.37	(-1.31 to 18.73)	0.11
Follow up hospital contacts	0.90	0.39	0.51	(0.39 to 0.62)	<0.0001
Follow up hospital costs (£)	22.50	9.75	12.75	(9.75 to 15.50)	<0.0001
Total health service costs (£)	66.49	46.38	20.11	(9.62 to 31.04)	<0.0001
Patient travel and time costs (£)					
Primary care travel	0.85	0.92	-0.07	(-0.67 to 0.45)	0.81
Secondary care travel	2.63	0.86	1.77	(1.21 to 2.32)	<0.0001
Secondary care time valuation	4.65	1.51	3.14	(3.90 to 2.36)	<0.0001
Total patient costs	8.13	4.29	3.84	(2.44 to 5.22)	<0.0001

Table 5 Number of contacts with primary care staff by operation

	General practitioner		Practice nurse		Community nurse	
	Mean	(95% CI)	Mean	(95% CI)	Mean	(95% CI)
TURP	1.86	(1.46 to 2.26)	0.23	(0.07 to 0.40)	0.16	(0.05 to 0.27)
Varicose vein surgery	2.00	(0.97 to 3.03)	1.62	(0.50 to 2.74)	0.52	(-0.18 to 1.22)
Open hernia repair	2.04	(1.36 to 2.71)	0.65	(0.41 to 0.88)	0.29	(0.12 to 0.47)
Laparoscopic hernia repair	1.53	(0.85 to 2.21)	0.65	(0.39 to 0.90)	0.24	(0.01 to 0.46)
Open cholecystectomy	2.15	(0.88 to 3.42)	0.30	(0.03 to 0.57)	0.95	(0.13 to 1.77)
Laparoscopic cholecystectomy	2.75	(1.38 to 4.12)	0.44	(0.10 to 0.77)	0.81	(-0.24 to 1.86)

PATIENTS’ VIEWS

A total of 119 of 192 (62%, 95% CI: 55% to 69%) patients felt they should have received a follow up appointment for a surgical clinic. This consisted of 63 of 91 (69%) in the “planned follow up” group and 56 of 101 (55%) in the “no planned follow up/information” group (p=0.05, difference = 14%, CI: 2% to 27%). When asked about a future operation, nearly half (89, 42%) the respondents said they would prefer to be followed up by both the hospital doctor and the general practitioner, a quarter (53, 25%) would prefer follow up by a hospital doctor only, 29 (14%) by the general practitioner only, 38 (18%) reported no preference, 1 (1%) would prefer to be followed up by a nurse. There were no significant differences between the two groups in these preferences ($\chi^2_5 = 5.38$, p=0.371).

Those patients in the “planned follow up” group received either no written information or standard hospital information. This varied by consultant and operation procedure, but usually consisted of short printed sheets. The majority of patients (103, 99%) in the “no planned follow up/information” group reported receiving written information, com-

Table 6 General practitioners' views of follow-up policy for different surgical procedures

	TURP		Varicose vein surgery		Open hernia repair		Laparoscopic hernia repair		Open cholecystectomy		Laparoscopic cholecystectomy	
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
A policy of no follow up at surgical clinics would increase my workload												
Agree	55	(93)	33	(61)	39	(70)	38	(70)	51	(86)	43	(77)
Disagree	4	(7)	21	(39)	17	(30)	18	(32)	8	(14)	13	(23)
After uncomplicated surgery, patients should be discharged to their general practitioner without any routine surgical clinic follow up appointment												
Agree	13	(23)	34	(62)	27	(49)	28	(53)	15	(27)	24	(44)
Disagree	43	(77)	22	(38)	28	(51)	25	(47)	41	(73)	30	(56)
Follow up care should form part of core services in general practice												
Agree	8	(15)	19	(35)	15	(27)	14	(27)	10	(18)	12	(23)
Disagree	47	(86)	35	(65)	40	(73)	38	(73)	46	(82)	41	(77)

pared with less than three quarters (71, 73%) in the "planned follow up" group. Of those who received written information, 88% (90) of patients in the "no follow up/information" group reported they found the information very helpful, compared with 75% (54) in the "planned follow up" group who had not received the additional information ($p=0.034$, 95% confidence limit of difference: 2% to 26%). Eighty nine per cent (88) of patients in the "no planned follow up/information" group found the amount of information they received about right, compared with 77% (80) patients in the "planned follow up" group ($p=0.038$, difference = 12%, CI: 2% to 22%). Respondents highlighted several areas where they required further information. The topics that were raised by 40 or more respondents were: information on possible complications and side effects (55); how they would feel in the first few weeks after surgery (49), the time to return to normal fitness (44), and information on lifting (42).

GENERAL PRACTITIONERS' VIEWS

Of the 86 general practitioners sent questionnaires, 62 responded (72% response rate). Table 6 gives the general practitioners' responses to general statements about follow up policy for different surgical procedures. The majority of respondents agreed with the statement that a policy of no follow up at hospital outpatients would increase their workload. This response varied according to surgical procedure, with the greatest agreement being for TURP. The majority of general practitioners disagreed with the statement that after uncomplicated surgery, patients should be discharged to their general practitioner without any routine hospital outpatients follow up. For varicose vein surgery and laparoscopic hernia repair, over half agreed with the statement. The majority of respondents disagreed with the statement that follow up care should form part of core services in general practice.

Discussion

When we approached specialists at the start of this study, we discovered a wide range of views. Some specialists thought that regular post-surgical follow up was a waste of time, some felt it was important, while a third group wanted to continue to follow patients up, but were under pressure from hospital managers not to, in order to release clinic space, and hence reduce waiting times, for new patients.

From a purely medical perspective, the results of this study show that there is little reason to offer patients planned follow up appointments. Where patients are not offered planned appointments, up to 40% of patients with these conditions may be followed up for a clinical indication (nearly one quarter, all TURP cases, had been followed up because of suspicion of or actual malignancy). In our study, it is possible that some of these were erroneously given follow up appointments during a "no follow up" period of the trial, rather than being followed up for a clinical indication: this would have resulted in an underestimate of the cost savings from a "no planned follow up" policy. Time lost from work was not included in the economic analysis because of the lack of detailed information available about this variable and the comparatively small numbers of patients it applied to. Again, this non-inclusion would have resulted in an underestimate of the cost savings for the "no planned follow up" group.

Patients who require follow up for clinical reasons are probably sufficient for the training requirements for junior surgeons, although complications mainly present to primary care.⁹⁻¹⁰ Patients seem to come to no harm from a "no follow up" approach, but many patients expected and wanted to be seen again by the surgeon. This finding is consistent with an earlier study that found only 19% of patients preferred to have follow up care from their general practitioner.¹² There need to be significant changes to patients' expectations if they are to be satisfied with follow up care from the primary care team.

General practitioners were concerned that a "no follow up" policy would result in an increase in workload, which is consistent with GPs' concerns described in a previous review, which found few studies that were able to identify workload increases as a result of shifts of care between secondary and primary care sectors.¹³ This study suggests that there would be no increase in primary care workload as a result of changes in surgical follow up policies. It confirms previous research that found that most patients attending outpatient appointments have already seen their general practitioner first.¹²⁻²⁶ There would be savings in hospital costs, as Florey *et al*¹⁴ found, but no increase in primary care costs, if a policy of no routine follow up care was implemented. Even for the more major of the conditions studied,

for example, cholecystectomy, the changes observed in primary care workload were small. Patient costs were reduced in the group that did not receive planned follow up.

Patients and general practitioners find the written information they are supplied on post-operative recovery and possible complications inadequate to their needs.^{16 27} Therefore whatever follow up system is in place, improved provision of information to patients and their general practitioners is necessary. In this study, high quality information booklets were provided for patients who were not followed up and for their general practitioners. This information was greatly valued by patients, though they expressed a need for further information on projected recovery, complications, return to fitness, and lifting. These topics were covered in the information booklets given to patients in this study but will need to be expanded upon in further information developments.

LIMITATIONS IN CONCLUSIONS

There was evidence of a difference in response rate of patients in the trial. Because of logistical considerations, information on the characteristics of non-responders was insufficient to give any insight into possible biases. Adjustment for baseline factors will have made the analysis more robust against possible bias attributable to the differential non-response. A possible explanation for the difference in response rates between the two groups may be that the majority of those patients in the "planned follow up" group had recently attended their hospital follow up appointment when they received the questionnaire and therefore they may have felt they should complete and return the questionnaire. The majority of patients in the "no planned follow up" group had not attended a hospital follow up appointment and may therefore have felt the questionnaire was irrelevant to them.

Although it is difficult to completely rule out the possibility of biased allocation to the two groups, the majority of patients were already scheduled for their operation before the start of the study and responsibility for allocation was the clerks rather than the surgeons. The differences between the number of patients undergoing laparoscopic surgical procedures in the two groups may be because of the absence of the surgeon who undertook the majority of these procedures during several weeks of one of the "planned follow up" months of the study. This is unlikely to have affected the main conclusions of the study.

We conclude that patients do not need planned follow up after the types of surgical procedure included in this study. Easy access back to the clinic is needed for patients who develop complications. The process of discharge is important, and patients need clear information both about their condition, and about how to access specialist care if problems arise.²⁸

Follow up appointments continue to make up three quarters of the patients seen in outpatient clinics, a ratio that has been fairly constant for a decade.²⁹ The implications of this for

KEY POINTS

- Routine outpatient appointments after uncomplicated surgery seem to be neither necessary nor cost effective.
- Up to 40% of patients not offered planned appointments may be followed up for a clinical indication.
- There is no difference in health related outcomes between different follow up policies.
- Savings in hospital costs result from a policy of no planned follow up, but with no increase in primary care costs.
- Patients themselves want to see the surgeon again and general practitioners are concerned that a "no follow up" policy would increase their workload.

resource usage highlight the need for examining ways of reducing the amount of follow up in outpatient clinics. The resources used for unnecessary follow up could potentially be re-directed to new patients, hence reducing waiting times for first appointments.³⁰ Patients could be saved the time, inconvenience, and expense incurred when attending a hospital appointment.^{31 32}

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