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MANAGING ORTHOPAEDIC WAITING LISTS

by

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The Author

Richard Fordham, is Research Fellow on the 'Economics of Orthopaedics' project.

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ABSTRACT

Waiting lists are often assumed to be natural products of the demand and supply interplay in the hospital treatment 'market'. However, they can frequently be highly imperfect markets due to the organisational arrangements which surround them. In fact, when organised poorly, the arrangements for matching waiting list patients with available hospital resources actually contribute to increasing waiting times.

The author has spent much time in several orthopaedic departments in one Region and has observed the different ways in which waiting lists are organised. Experience of this has led to the drawing up of a short-list of 'good practices' which may ensure that both hospital and patient resources are used as effectively as possible.

In addition to these practical measures, the precise definition of a waiting list is also explored which has implications for those seeking to illuminate and interpret their own problems. It is shown how clinicians can 'vire' patients between the two main types of waiting list, namely for out-patient appointments and in-patient treatment and the relative advantages of such strategies.

Finally, the paper looks at the current information that most orthopaedic departments hold about waiting list patients and shows how this is inadequate both for patient administration and for planning purposes.

Managing Orthopaedic Waiting Lists

This paper examines the nature of orthopaedic waiting lists - how they arise, the waiting process and the dynamics involved. Practical ways of improving waiting list management are then discussed, based on work carried out in one Regional Health Authority.

What is a waiting list?

A waiting list is a selected group of patients who have already been seen by at least one doctor (normally their General Practitioner or another hospital specialist). In the case of those waiting for an initial hospital out-patient appointment, the wait is for another more specialised doctor to assess and initiate treatment for their condition. In the case of those on in-patient waiting lists, the wait is for further treatment (generally surgery involving hospitalisation) by the same specialist.

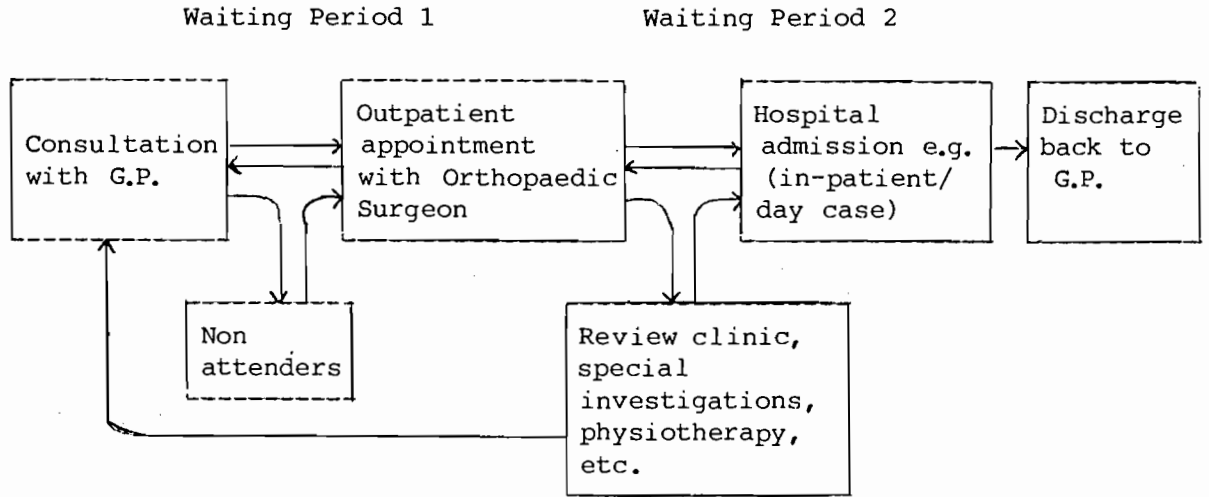
The key element distinguishing waiting list patients from follow-up patients and patients who have booked or planned future hospital admission is that both clinician and patient face a likely date for treatment which is further off than either party would have preferred. It is the undesirability of the wait on the part of the patient and his doctors that causes concern, particularly when waiting times now involve months rather than weeks. Information which expresses the problem in terms of volume of patients rather than periods of waiting times does little to help clarify the problem.

Health Authorities in some Regions are now being encouraged to set their own internal standards for 'acceptable' waiting times. 'Undesirable' periods of waiting should include both outpatient and inpatients lists because there is a danger that, by concentrating on reducing waiting time on one list, the waiting period on the other list will increase. This can be

prevented by ensuring that the entire waiting process is taken into account as shown below in Figure 1:

Figure 1

The Waiting Process



Approximately 80% of patients referred for an orthopaedic opinion only ever experience the wait for an outpatient consultation (waiting time 1 - see above). These can be treated without admission to hospital. The remaining 20% experience a second wait for subsequent hospital treatment (waiting time 2). The second group therefore join two successive 'queues' and for them the total length of time spent waiting is waiting time 1 plus waiting time 2. ($WT_1 + WT_2$).

Views seem to vary from clinician to clinician and from department to department, on the optimal combination of periods of waiting between outpatient and inpatient lists. In some places long outpatient waits are followed by short waits for inpatient treatment and vice versa although this need not affect total time spent waiting ($WT_1 + WT_2$). A long wait for an outpatient appointment has the advantage (for the hospital) of making the referer consider carefully the need for referral and the alternatives that

are available.

Long outpatient waits may also deter some patients who are likely to default on their appointment or whose condition may improve spontaneously in the interim, thus reducing ultimate demand on outpatient clinics. It may also help keep inpatient waiting times shorter since the flow of patients onto the inpatient waiting list is more controlled and more selective. Although more convenient to the hospital this policy reduces a patient's ability to seek, at the earliest opportunity, a second opinion and to have the condition seen as swiftly as he/she would prefer.

A short outpatient wait on the other hand allows the referred patient to be seen more quickly by specialised staff. This is an advantage to the majority of patients who do not proceed to the inpatient list (WT_1). But if it results in highly unselected referrals, it may eventually increase the outpatient wait. Due to the high levels of outpatient activity, inpatient waiting times are likely to become longer as more medical time is devoted to outpatients. This policy can also result in inpatient waiting lists becoming large in volume and less manageable thus increasing the possibility that the conditions of patients may change before admission occurs. This will ultimately cause delays and defaults on invitations for admission.

Factors influencing waiting times - outpatients

Firstly, outpatient waiting time is determined by the combination of two factors: the rate of referral by GPs and the capacity for orthopaedic departments to see new patients. General practitioners are frequently blamed for unnecessary referrals to hospital departments (usually by hospital specialists!) and it has been shown that referral rates do vary considerably between G.P.s (Dowie, (1983)).

Patterns of G.P. referral contribute to the length of the wait for

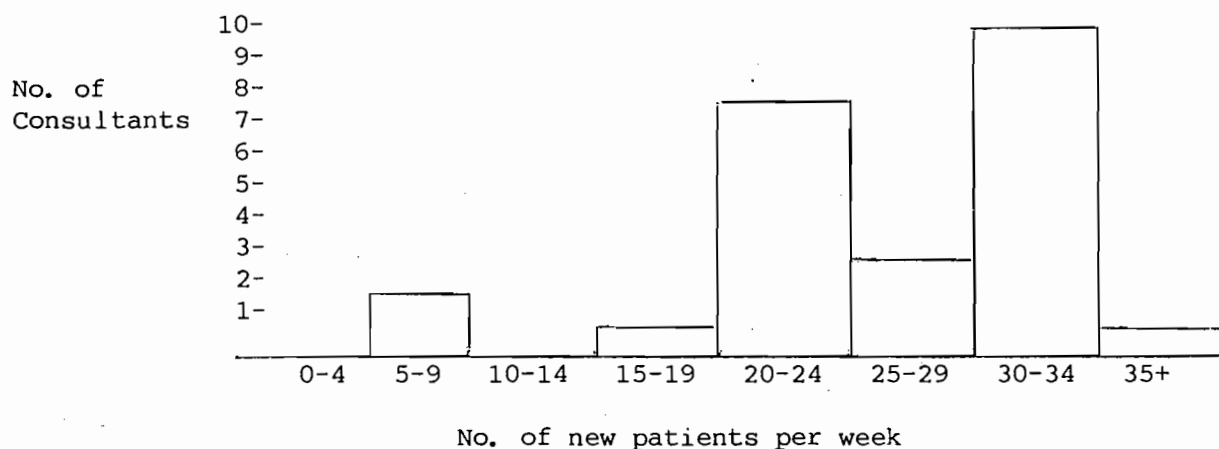
outpatient appointment where particular practices or even individual G.P.s have a higher than average rate of referral or where G.P.s refer to particular consultants and this will affect the size and casemix between lists.

However, referral rates must be seen in relation to the number of outpatient sessions set aside for new patients and the selection methods employed by hospital departments.

The policies of many Orthopaedic Surgeons differ widely concerning the number of sessions and the number of patients per session. This is shown in Figure 2 below for the Region studied:-

Figure 2

New Orthopaedic outpatients seen by Consultants weekly in one Regional Health Authority, 1986.



Secondly, the selection and review of referral letters helps to reduce waiting times for urgent cases and avoids seeing referrals who can be more appropriately referred to another specialty or receive direct advice from their G.P. In many departments patients are given appointments by clerical staff without the appropriateness of the referral being checked by the Consultant beforehand.

Thirdly, patients who fail to attend outpatient appointments without prior notification, also contribute to increasing outpatient waiting times (whenever this results in under utilisation of clinic capacity). Non-attendance rates may be reduced if waiting times for appointments are kept short in order that the patient's motivation to attend is maintained, although further study is required in this area.

Inpatient lists

Inpatient waiting lists are probably less analogous to a normal queue than their outpatient counterparts. By this stage all patients have been seen and assessed by the specialist. The facets of their condition - how it affects them personally, socially, psychologically, economically - should be known to him thus making selection for admission dependent on factors other than solely the amount of time already waited. In addition to the characteristics and particular problems of each patient, waiting time is also determined by the resources that patients are likely to consume whilst in hospital. Patients who require large 'inputs' of theatre time, bed days, nursing etc. are more difficult to 'fit in' to available resources than those, for example, who only require minimal input, e.g., day cases.

The process behind selection of cases from inpatient waiting lists remains highly personal and complex and is not well articulated. It appears to be a highly subjective process, however, this still appears to be preferred by most patients and doctors to more formal methods. There are, however, a number of operational steps which can be taken to ensure that those placed on waiting lists are dealt with as efficiently as possible.

Examples of Good Practices in Waiting List Management

FREQUENT REVIEWS OF LISTS

Waiting lists are dynamic in nature and require revision on a regular

basis - especially if the waiting period is longer than six months. Patients may move away from the area, die in the interim, improve spontaneously, decide against going through with an operation, or may have had a change in circumstances which makes 'out-of-the-blue' invitations for admission impractical etc. Knowledge of these factors can help to avoid the waste of departmental resources and reduce the waiting time for those patients who still require an operation.

Many orthopaedic surgeons we spoke to believe that a review of waiting lists should take place initially when taking up post - this, it was maintained, helps to familiarise the new surgeon with all intended patients. Further reviews once or twice a year were accepted as being optimal. (More frequent reviews were seen as being impractical). Reviews can take the form of postal surveys either to G.P.s or directly to the patients, and can help to assess whether the circumstances of the patient remain the same. However, reviews of lists need to involve surgical staff as closely as possible since this is a highly sensitive area of communication requiring the surgeon's close involvement.

In some cases it has been found advisable for surgeons to review patients personally in a clinical setting to decide whether future admission is still warranted. Although time consuming this exercise may only be required for a small proportion of patients, who require a complete re-assessment.

MONITORING THE FLOW OF WORKLOAD ON AND OFF WAITING LISTS

It is useful to ascertain the simple dynamics of a waiting list, i.e., how many patients are added to the list in a given period and how many are taken off, so that changes in waiting time can be monitored.

Figure 3 shows hypothetical examples of two very different inpatients

waiting lists, although the total size of the lists at the end of the year are identical.

Figure 3

DEPARTMENT A

	1986	Added	Removed	Waiting list size
	----	-----	-----	-----
Qtr ended	March	100	150	300
Qtr ended	June	100	100	300
Qtr ended	Sept	120	100	320
Qtr ended	Dec	130	120	330

DEPARTMENT B

	1986	Added	Removed	Waiting list size
	----	-----	-----	-----
Qtr ended	March	50	30	300
Qtr ended	June	40	40	300
Qtr ended	Sept	60	50	310
Qtr ended	Dec	70	50	330

Quite different dynamics are in operation in these two departments. Department A has a relatively high level of throughput although in the year in question its waiting list increased slightly. In the course of the year over a hundred patients were added to the list each quarter and an approximately equal number removed. Unfortunately, in the winter months the department was unable to keep abreast of the additions and at the end of the year the waiting list had increased marginally.

In Department B, also with an initial waiting list size at the beginning of the year of 300, the throughput of workload was much less rapid. On average 50 patients were added every quarter to the list and approximately the same number removed. As with Department A, the influx of work onto Department B's list increased towards the end of the year and the

list grew in total by 30 patients. Department B therefore finished the year with the same size waiting list as Department A with much less effort!

The total number of patients waiting for admission to these two departments not only belies their diverse patterns of throughput but also the waiting times involved. In Department A workload is relatively high with 470 patients removed from the inpatient waiting list during the year. In Department B only 170 patients are removed in the same period. It therefore will take Department B almost three times as long to clear its waiting list. Based on this average annual rate of removal of patients, it will take Department A approximately nine months to clear its waiting list compared to twenty-four months in Department B.

Although intuitively appealing, the method described above fails to discriminate between different types of operations, complexity and their demand on inputs. Department B might have undertaken more major operations whilst Department A may have concentrated on minor day case work. Orthopaedic surgeons can make such an exercise more sophisticated by building in a weighting system to adjust the workload for complexity e.g., by assigning minor cases one point, intermediate cases two points and major cases three points etc. (See Duthie, (1981), paragraph 5.4 for a more detailed exposition of this method.) The complexity of workload can then be related to waiting times.

PROVISIONAL PATIENTS

Another method of reducing waiting times is to avoid putting 'provisional' cases on them. Many waiting lists contain a number of patients to take up the offer of admission immediately if required. These may include patients whose conditions may be currently stable but in the event of deterioration or increased pain would be considered for operation without further assessment (e.g., patients who have already had one hip

replacement) or patients who are not available for extended periods of time (e.g., those patients working or living away from home, pregnant women, patients with seasonal jobs, etc). A separate list for these types of cases can be maintained to avoid distorting official waiting times. This would not preclude these types of patients from being transferred to the main list when appropriate and still avoid the need for them to repeat the referral process.

MAINTAINING INFORMATION ABOUT PATIENTS

The amount of information kept about waiting list patients varies considerably between departments. There is an obvious balance to be maintained between keeping the bare essential information (name, address, operation required etc.) and keeping extraneous information which assists neither the surgeon's management nor the patient's care. Core information should include any data that helps the patient to move in and out of hospital as easily as possible as well as patient data which will enable staff to coordinate all the necessary resources that are required during treatment and rehabilitation.

Obviously, data collection must be tempered by realistic assessments of what is feasible to collect locally. However, any information assembled will be wasted if it is not coordinated centrally, where all relevant staff can gain access to it. The concept of a centralised waiting list office (either solely for orthopaedics or in combination with other specialties) appears to be very useful here. Many surgeons, however, still prefer to operate their own waiting lists and this means that they are often working in isolation from the other orthopaedic surgeons and staff. This does not seem to be a rational approach to take in a specialty, where facilities such as operating theatres and, more importantly, beds are generally shared. Knowledge of the types of cases and expected length of stay on colleagues

operating lists will enable the surgeon to manage his own list more appropriately and be realistic in his expectations of the number of available beds.

In some areas the concept of a waiting list office has been developed further with much emphasis on the visual display of waiting lists and bed utilisation information, whilst in others waiting list coordinators have been appointed on an administrative grade to coordinate admissions and discharges and try to maintain a high throughput of patients (Pearce, 1985).

What key details are required about waiting list patients? The list set out in the following page gives some common examples of useful information.

Obviously, there are many more patient characteristics useful to surgeons than can be maintained on either manual or computerised data bases, e.g., patients who are prepared to accept short notice admission invitations; patients who prefer a local to a general anaesthetic, etc. The format of this information should be decided locally and preferably with the involvement not only of orthopaedic surgeons but of nurses, physiotherapists, social workers and occupational therapists.

Useful information to be
held on inpatient waiting lists

TYPE OF INFORMATION

1. Name, address, age and sex - Essential to properly identify patient.
2. Telephone number(s) - Both work and home where appropriate.
3. Diagnosis - Indicates patients overall condition, prognosis, etc.
4. Operative procedure - Indicates type of operation and specialist equipment/staff required e.g., nursing, radiology.
5. Other relevant conditions - Indicates general fitness for operation, and post-operative recovery, need for involvement of other specialties and professions.
6. Pre-op treatment/assessment/investigation - Indicates those patients who will require special attention prior to admission.
7. Regular medication/allergies - Indicates drugs and conditions which surgeons may need to take into account before operating (e.g., anti-coagulants).
8. Nursing load - Indicates the need for nursing care (this can be assessed from case-notes before a patient is admitted).
9. Surgery time - Indicates how many minutes the procedure is expected to take.
10. Estimated stay - Indicates how many bed days individuals can be expected to occupy.
11. Social care - Indicates whether special social and domiciliary arrangements need to be made either before and after admission. This could also include home physiotherapy and O.T. visits.
12. Priority - Indicates, in the surgeon's opinion, the urgency with which the patient requires admission.
13. Transport required - Indicates whether patient will require ambulance transport and if so, what type.

Booked patients

Patients also need good information from hospitals. In our work we found that it is not uncommon for waiting list patients to have extremely little notice of the date of admission for operation. The average period for admission was approximately seven days. Inevitably, with shorter periods of notification, patient-initiated cancellation and non-attendance rates are likely to be higher. Moreover, despite so little 'lead time' it is not uncommon for patients to be cancelled by the hospital up to a few hours before admission, usually due to a shortage of beds.

Many orthopaedic departments try to give at least a preliminary date of admission to patients even if this only indicates a particular month or season of the year. Surgeons are able to make reasonable 'guesstimates' of the likely waiting time from the time waited by patients currently being admitted. In some cases where the patient requires urgent treatment within a prescribed period, a fixed date for operation can be made.

One of the main constraints in booking patients in for specific dates is the unpredictability of bed availability caused by trauma admissions and the variability in length of stay of all patients. Apart from ensuring that the number of beds reserved for trauma is not over-cautious (Fordham, (1987)) it may be much more feasible to give waiting list patients a specific date of admission as day case surgery is substituted for in-patient procedures. In one day case unit studied waiting time for orthopaedic admission was under three weeks and patients could be given a specific date for their operation.

Conclusion

This paper has outlined how the problem of the management of waiting lists can be approached constructively. Good managerial processes can reduce many of the problems associated with matching patients to available

resources. Of considerable strategic importance is that, by improving the information currently available about anticipated and actual workload, more fundamental questions can be asked about the appropriateness of treatment. Little is known objectively about the expected benefits arising from elective treatment and the criteria used in selecting patients.

Ultimately the productivity of a department needs to be measured not only in terms of numbers of patients treated but also in terms of 'outcome' (i.e., additional life years and their quality) if available resources are to be used more efficiently. These gains need to be looked at in terms of the marginal benefits gained so as to avoid the current paradox (Moore (1987)) which is that the more resources made available for the reduction of waiting lists and the greater the workload undertaken, the more they will grow.

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