EXTENDED REPORT

Review of the function of a telephone helpline in the treatment of outpatients with rheumatoid arthritis

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Objectives: To examine the role, acceptability, and cost effectiveness of a telephone helpline organised and run by specialist nurses in a district general hospital outpatient rheumatology department.

Material and methods: Patients accessed the telephone helpline by leaving a taped message on an answer phone with a 24 hour response time. Assessment included an audit of the nature and outcome of helpline calls, patient satisfaction with the helpline, and a health economic analysis of the helpline operation. A postal questionnaire was used to assess patient satisfaction; this was sent to the 87 patients who called the helpline during one month, and overall satisfaction with the helpline was assessed. The nature and outcome of all calls was analysed retrospectively using a helpline record book for February and October of one year and February of the following year. From the results of the retrospective analysis and an estimate of the number of general practitioner consultations avoided by provision of the helpline, the cost effectiveness of the helpline was calculated.

Results: Of those returning questionnaires, 61/63 (97%) were satisfied with the response time, 63/63 (100%) with the courtesy, and 60/63 (95%) felt that their questions were answered directly and to their satisfaction in 62 (98%) of cases. Had the helpline not been available, 38/63 (60%) patients would have made an appointment with their GP. When these figures were extrapolated to an annual estimation, a basic cost analysis showed that the helpline produced a cost saving to the NHS, largely as a result of GP consultations avoided.

Conclusion: Clinical advice and support can be provided by a rheumatology helpline set up as an adjunct to a standard outpatient service. The results of a postal questionnaire suggested more than 95% satisfaction with all aspects of the helpline service and that 99% of callers would call the helpline again. The provision of the helpline service contributes to the quality of care provided by an outpatient department and provides benefit to the NHS.

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Telephone helplines are becoming increasingly popular in health care. They can be used to supplement outpatient clinical services, and the provision of a helpline is regarded by some as a welcome extension of specialist rheumatology outpatient management.¹ Other specialties that have used this approach include cardiology, chronic pain management, urology, pharmacy, accident and emergency (A&E), and primary care.^{2–6} Helplines are often run by specialist nurses and, on occasion, by skilled volunteers.⁷ Currently, NHS Direct, a 24 hour NHS nurse-led helpline, is being piloted in the UK.^{8,9} NHS Direct has been instituted to give immediate basic medical advice to the general public, thus promoting self help for patients and reducing strain on services such as A&E and general practitioners (GPs).¹⁰

Patients' desire for a helpline service in rheumatology departments has been investigated previously.¹¹ Isolation, uncontrolled pain, and drug side effects were identified by patients as the main repercussions of the disease likely to create anxiety. The unpredictable nature of many chronic rheumatological conditions may lead to a continuing catalogue of medical, social, and psychological difficulties that require professional help or information. Patients with rheumatoid arthritis (RA) and their families and carers often require support and ready access to professional disease oriented advice outside scheduled outpatient appointment times to help them cope with their disease. Although patient education provided directly by rheumatology nurse practitioners (RNPs) can prepare patients for many of their continuing problems, a telephone helpline can act as a direct source of advice, supplementing direct patient contact provided at outpatient appointments.¹² As a consequence, many rheumatol-

ogy departments now offer support and advice through some form of helpline.¹³

A rheumatology patient helpline was established in the department of rheumatology at St Peter's Hospital in 1995 with the aim of answering disease related questions or worries, alleviating patients' anxieties, and avoiding unnecessary GP consultations. Before this service all calls were received by the medical secretaries and processed according to need; no data analysis had been attempted to determine whether this mode of answering queries was effective. The helpline has been run since inception by two RNPs and is provided principally for patients attending the rheumatology department, though, on occasion, it serves as a resource for GPs and practice nurses. All calls are recorded on an answer phone and messages are listened to several times a day. The direct telephone number may be given to patients by RNPs or medical staff and is given in all patient information literature. The current NHS directives and increased public expectation have led to a demand for immediate responses to health queries.⁸ The function of the rheumatology helpline is incorporated into the daily workload of the RNPs and immediate response is not possible. The helpline is not provided as an "emergency" service, but patients are told that all calls will be returned within 48 hours. Receiving messages on an answer phone gives the RNPs an opportunity to prioritise calls, obtain the medical notes, and consult the relevant doctor where necessary, making optimum use of time. Call details are

Abbreviations: A&E, Accident and Emergency; RA, rheumatoid arthritis; RNP, rheumatology nurse practitioner

Table 1 Helpline satisfaction questionnaire: design and results

Question	Yes (%)	No (%)
Further to your recent contact with the helpline:		
Did the person returning the call identify her/himself?	97	3
Was the person courteous and polite?	100	
Was your call returned within 48 hours?		
If YES was it:	97	3
Less than 12 hours?	61	
Less than 24 hours?	29	
Have you called the helpline before?	75	25
Did you expect to leave a message on an answerphone?	67	33
Once your call was returned were your questions answered directly?	95	5
Did you feel the reason for your call was answered to your satisfaction?	98	2
Was any extra written information sent to you?	16	84
If the helpline had not been available would you have:		
Waited for your next appointment?	13	
Visited your GP?	60	
Done nothing?	0	
Taken other action?	27	
Would you ring the helpline again?	99	1

recorded both in the patients' medical notes and in a helpline record book.

In common with policy in many departments, the rheumatology helpline at St Peter's Hospital is neither externally funded nor is an income generating service, and it has required organisation, RNP time commitment, and minor start up investment to purchase the answer phone and relevant stationery in order to establish the service. Patients calling the helpline and receiving help might otherwise have had to contact their GP for immediate clinical advice or consultation. As a consequence, savings to the NHS resulting from helpline service may be expected but, to our knowledge, no previous attempt has been made to calculate time or cost savings to primary care arising from a helpline. We have attempted to quantify the cost of running the helpline and the savings resulting.

In this review of the helpline function three specific areas are examined: patient satisfaction and fulfilment of expectation by a questionnaire, the nature and outcome of calls by audit of the helpline record book, and the potential economic savings to the health service by a basic cost estimation.

METHODS AND MATERIALS

A postal questionnaire was designed to assess patient satisfaction with the telephone helpline. As a pilot exercise the questionnaire was sent to 20 patients after a call to the helpline. Based on the 16 responses (80% return rate) the questionnaire was considered appropriate and was adopted unchanged for the main study. The questionnaire (table 1), accompanied by a stamped addressed envelope, was sent to all 87 patients who called the helpline during February 1999. The questionnaire was anonymous, non-coded, a single mailing was used, and the content was designed to determine a patient's expectation of, and satisfaction with, the helpline service.

An analysis of the nature and outcome of all calls taken over a particular month was made possible by recording calls in a helpline record book. The same analysis was repeated over three separate months spanning just over one year to give a

representative reflection of helpline use. Calls for February 1998, October 1998, and February 1999 were analysed to determine any change in the use of the helpline with time or season. Analysis included source of the call, the subject matter of the call, the patient's diagnosis, age, sex, and the subsequent action resulting from the call.

A basic economic analysis was undertaken. From the helpline record book, a calculation of the annual average number of calls was made for a three year period and, from the patient questionnaire, an average number of "avoided visits" to GPs over each 12 month period could be calculated. From published statistics, the overall cost of a GP consultation was estimated together with an estimate of the cost of the time spent by the RNPs in processing and answering the calls and an estimated cost due to extra outpatient activity resulting from calls.

RESULTS

Satisfaction survey

Eighty seven patient satisfaction questionnaires were mailed and 63 patients responded (72% return). Of the responders, 61/63 (97%) stated the person returning the call identified themselves and 63 (100%) stated that the person responding was polite and courteous. Sixty one (97%) admitted that calls were returned within the specified 48 hours. Forty seven (75%) respondents had called the helpline previously. Twenty one (33%) respondents had not expected to have to leave a message on the answer phone; of those 21, 16 were first time callers. Sixty (95%) felt their questions were answered directly and 62 (98%) felt the call was answered to their satisfaction. As a result of their call, 10 (16%) patients were sent extra written information. Equal numbers of callers had been given the helpline telephone number by doctors and RNPs, while 8% obtained it either from the patient information leaflets or elsewhere. Had the helpline not been available, 38 (60%) would have contacted their GP for an appointment, 17 (27%) would have taken other action, and eight (13%) would have waited for their next rheumatology outpatient appointment. Sixty two (99%) patients indicated they would call the helpline again if necessary. Table 1 shows these results.

Figure 1 Helpline callers.

Helpline analysis

The largest group of people to call the helpline over the three representative months were the patients themselves (fig 1). The helpline was set up specifically to answer the needs of patients with inflammatory joint disease, especially patients with active RA using second line antirheumatic drugs who were already attending the department as outpatients. Over the three survey months patients with RA comprised 66% of the callers, with other callers representing the range of rheumatological diagnoses seen in outpatient departments. Figure 2 shows the age of callers and ratio of men to women. The male/female ratio was 1:3 (fig 2A), with older patients more likely to call the helpline (fig 2B). More calls were received from patients aged 66–79 than in any other age category, with callers having an age range of 17–89.

Over the three survey months approximately 10% calls were made by repeat callers; in the first survey month there were six repeat callers (four made two calls and two made three calls)—a total of 14 (12%) repeat calls from a monthly total of 120. Repeat calls were either from those patients with an acute problem requiring several updates or from a small number requiring contact for reassurance. This suggests that the helpline was more than a social support mechanism for a few dependent patients.

The apparent reason for every call was analysed by content and could be defined, broadly, by subject (fig 3). A high percentage of calls (32%) were from patients reporting worsening symptoms. In cases of worsened symptoms, all calls resulted in either an earlier outpatient appointment or a review outside clinic hours, an intramuscular injection of steroid given by the RNP to reduce the symptoms of a flare of inflammatory synovitis, or telephone advice on how to help to relieve other symptoms. No patients were admitted to hospital as a consequence of their call. In many other cases calls could be dealt with in full over the telephone with verbal advice on

subjects such as prescriptions, drug management, and possible adverse effects of drugs (fig 4). An equal number of telephone calls could be dealt with by the RNP (50%) alone, as those requiring the RNP to consult a doctor before returning the call.

In their response to the questionnaire, 60% of callers stated they would otherwise have contacted their GP had the helpline not been available. Thus it would seem reasonable to extrapolate from this result and consider that 60% callers would otherwise have made at least one GP appointment if the helpline did not exist. The average number of helpline calls a year over three years was 1513, and therefore the average number of potential GP visits of 10 minutes' duration¹⁴ avoided each year by provision of the helpline is 908 (60% of 1513). Repeat callers were considered likely to have made repeat GP appointments and, accordingly, no adjustment of the estimates of GP consultation avoided was made. Total GP appointments avoided amount to 151 hours of GP time. Potential cost savings to GPs can be calculated from an estimated cost of £100 an hour for GP time,¹⁵ without an additional calculation of the cost for the time spent in appointment administration. Thus the helpline potentially represents a cost saving to local primary care of £15 100 a year. The cost of RNP time spent dealing with patient queries may be derived from the hourly pay of a G grade RGN at £11.54 and the estimated average length of time of 20 minutes spent by an RNP in dealing with a single helpline call, including time spent obtaining medical notes. Thus the total time spent each year by RNPs on helpline business (from call receipt to completion of answering call) is $1513 \times 20 = 30\,260$ minutes (504 hours) giving a total cost per year of about £5820. It was not possible to measure the extra time or specific cost of time spent in discussion between an RNP and a rheumatologist about helpline problems. This time was incorporated into the clinical workload of the rheumatologist and usually occurred within or at the end of the time allocated to outpatient clinical work. Time and therefore notional extra costs for the doctors was minimised as clinical helpline problems were presented in a succinct and summarised form with straightforward decisions required. Indeed, it has been considered likely that the new helpline system saves time for the doctor that would have been required under previous arrangements for answering telephone clinical queries directed, for example, by doctor's secretaries. This balance of discussion time versus saved time and effort was not considered to affect the economic analysis.

RNPs were trained in house before helpline answering as part of a continuing rheumatology training programme. No official out of house programme was used and the cost of training is therefore considered negligible.

On average, 140 patients a year required an earlier outpatient appointment or were seen in addition by a rheumatologist or an RNP. These appointments may be considered to be an extra burden of care generated as a result

Figure 2 Sex (A) and age (B) of callers.

Figure 3 Subject of helpline calls.

Figure 4 Outcome of helpline calls.

of their helpline call. A current contract price of £35 for each follow up visit to the rheumatology department (whether the appointment was with the RNP or rheumatologist) gives a total cost per year for additional consultations of £4900. The mechanical cost of provision of the helpline is estimated at 5 pence for a daytime local call, regardless of length, giving an annual cost of $1513 \times 5 = £76$.

The total cost is thus $£5820 + 4900 + 76 = £10\,796$, which when subtracted from the primary care cost saving of £15 100, gives an overall cost saving of £4303 a year to the NHS as a direct result of provision of the rheumatology helpline as a component part of an integrated rheumatology service.

DISCUSSION

Overall results from the questionnaires suggest a high level of satisfaction with all aspects of the rheumatology helpline service, but it has been possible to identify a small proportion of patients who felt dissatisfied with the helpline response. The one (2%) patient who was dissatisfied was a first time caller. This patient appeared to have a false expectation of the function of the helpline, expecting a personally answered call and immediate response and was not aware that the helpline was provided as an extra service to consolidate the quality of the outpatient response. These dissatisfied patients prompted the production of an information leaflet about the helpline which is now distributed at the time of first consultation. We must register a caveat about this satisfaction survey. Although satisfaction was assessed from the results of completed postal questionnaires, the high level of patient satisfaction may be a

biased result. Patients were aware that the survey was generated from within the rheumatology department and might have been encouraged by this to give an overenthusiastic endorsement of the service.

Three times more women than men called the helpline, corresponding in some degree with the prevalence of RA between the sexes. However, it has been shown previously that women are more likely to seek medical advice than men.¹⁶ Callers aged 66–79 were most likely to call the helpline. This age distribution does not correspond with the age distribution of patients with RA attending the outpatient clinic in general. Retired people may have more time to call the helpline and it may also be true that the elderly require more reassurance about their disease than younger patients.

It is clear from the results of the questionnaire that had the helpline not been available up to 60% of callers would have sought help from their GP. Economic analysis has shown the possible cost savings to GPs, supporting the financial value of the helpline. Although the cost saving is notional, it is likely that a hospital based telephone helpline may produce real time saving in local GP practices. The helpline receives no financial support from primary care and it becomes increasingly important to demonstrate to local primary care groups that helpline services do provide GPs with time and potential cost savings that might otherwise go unacknowledged. In this department, before the development of the helpline, calls of all types were directed to the secretarial staff of the department. This led to time delays between receipt of the calls and reply from the medical staff, dissatisfaction in many instances from patients, who felt that their contact with medical staff was distant, and an overall increase in inappropriate secretarial work. No comparison of the age and sex distribution of callers can be made with the system within the department before the helpline was introduced as no records of callers or the total call numbers, destination, and patient satisfaction were made at that time. However, the considerable shift of calls away from the secretarial staff of the department has freed considerable time for more appropriate duties and has received unanimous support from the medical secretarial staff. It is not known whether the overall number of calls to the department has changed since the introduction of the helpline, but we suspect that the provision of the helpline has encouraged an increase in direct contact with the department for specialist advice.

It has been suggested that a helpline can give patients a feeling of being cared for and that they will call the service again if necessary.¹⁷ The results of this study confirm that impression. Another benefit of a helpline maybe the potential to discharge outpatients from clinic who might otherwise have required a further follow up to monitor the results of an intervention such as joint injection or to provide reassurance. Giving the helpline number to the patient may allow discharge without compromising the quality of patient care. This should allow for an increase in the ratio of new/follow up patients in the department and reduction in outpatient waiting times; no analysis of this benefit was attempted but the clinical impression to date supports the hypothesis.

The use of nurse-led telephone helplines is a relatively new concept and medicolegal implications surrounding provision of this service are still vague.¹⁸ Medicolegal worries can be confronted in several ways. Protocols and standards of practice¹⁹ may be used to ensure the maintenance of a high quality of service, examined through a series of subsequent audits. As the patient cannot be seen, or physically examined, training in telephone assessment is essential.^{20–21} The need for specific telephone assessment training has been recognised within other specialties such as primary care and A&E.²² In A&E, where telephone triage has been implemented, computerised decision support systems have been developed providing a framework for assessment.²³ Helpline problems are not generally acute medical emergencies and the patients are often known to the RNPs, making assessment of the urgency

of the calls easier. In this centre, RNPs are discouraged from attempting to breach the UKCC Code of Professional Conduct²⁴ by making a diagnosis from a helpline call. Where diagnostic assessment appears necessary, RNPs seek advice from a rheumatologist before returning the call. As previously mentioned, RNPs receive no specific external training in helpline support and we have considered whether the overall function of the helpline might be improved by this alteration. However, in view of the high levels of patient satisfaction with the service no external training programme has yet been undertaken.

Within this study it has been shown that precise documentation of calls is important, as a record is then held from which to audit helpline activity and for any subsequent medicolegal purposes. The exact legal implications of a nurse-led helpline remain ill defined. Devising set protocols specifically for a rheumatology helpline may facilitate audit and give a framework from which to work but may be too restrictive in practice. Taping of all calls may be a future medicolegal requirement. We have, as yet, not encountered any medicolegal difficulties arising from provision of the helpline.

In summary, a telephone helpline situated in an outpatient department of rheumatology can provide clinical advice, support and, when necessary, allow specific additional interventions to be recommended to supplement the routine outpatient service. Provision of the helpline is part of a wider programme designed to adapt the service to encompass patient priorities and to make response more flexible for outpatients. This review highlights the economic and clinical benefits of a rheumatology helpline and provides evidence of a high level of patient satisfaction with the service. Some patients require specific information detailing the function and purpose of the helpline and as a consequence of this study a patient information leaflet has been produced and the content of the taped answer phone message received by the patients on initial contact has been modified. The potential cost and time savings to GPs conferred by a local helpline service have been calculated and these savings should be emphasised to local primary care groups. It has proved difficult to measure the increase in quality of outpatient care for patients with RA as a consequence of the helpline.

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