THE CLINICAL NEED FOR AN ACUTE RHEUMATOLOGY REFERRAL SERVICE

E. C. SMITH, H. BERRY and D. L. SCOTT
Department of Rheumatology, Denmark Hill, King's College Hospital, London SE5 9RS

SUMMARY
Should rheumatologists provide an acute referral service for general practitioners (GPs) and other clinical units? Is it cost effective? We prospectively studied acute referrals to one unit over 10 months, recording their source, diagnosis, management and outcome. Current rheumatology patients and cases only needing telephone advice were excluded. There were 253 referrals: 82 from GPs, nine from Accident and Emergency, and 162 from other hospital units. Their diagnoses comprised connective tissue diseases (22), back pain (46), inflammatory arthritis (59), osteoarthritis (22), paediatric cases (11), soft tissue problems (41) and 52 other disorders. Thirty-two needed active treatment within 24 h (classified as emergencies); examples included cerebral lupus, vasculitic pulmonary haemorrhage, retroperitoneal lymphoma with sacral plexus compression, temporal arteritis with reduced visual acuity and acute monoarthritis. All needed immediate therapy; only one died. Most (176 cases) were less urgent and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic vertebral collapse and acute rheumatoid disease. Forty-five could have been seen routinely; examples included lateral epicondylitis and adhesive capsulitis. The service required 1 day per week and needed advice in 48 h. Examples included osteoporotic verte}

© 1996 British Society for Rheumatology
Emergency department (4%), and other medical and surgical departments within the hospital (64%). Emergency cases, requiring same-day treatment, comprised 32 patients (13%). Most referrals were urgent (176 cases; 70%). Only 45 cases (18%) were judged non-urgent. The number of cases underestimates the workload as it does not include urgent problems in patients already known or seen by the department.

Patients with inflammatory arthritis were the most common group seen (Table I). Most had a new diagnosis of synovitis, generally rheumatoid arthritis, sent by general practitioners (GPs). Acute back pain cases were a mixture of acute prolapsed discs with or without sciatica (mainly referred by GPs), and cases of acute osteoporotic vertebral collapse (mainly referred by other hospital specialists). There were two patients with back pain due to malignancy and one with bladder disturbance due to a prolapsed lumbar disc (who required urgent referral to the neurosurgical unit). The connective tissue diseases included patients with active systemic lupus erythematosus complicated by cerebral involvement, significant renal manifestations or infections. Patients with osteoarthritis mainly presented as a monoarthrosis involving a knee joint with an acute effusion. They mainly came from GPs or surgical wards in post-operative elderly patients. The paediatric cases were mostly new diagnoses of pauciarticular juvenile chronic arthritis. There was one unusual case of a childhood polymyositis. Soft tissue disorders included several cases of acute supraspinatus tendinitis. The final group (other conditions) comprised a miscellaneous series of problems. They included Henoch–Schönlein purpura, viral-induced polyarthritis in pregnancy and tibial pain from a periosteal haematoma secondary to trauma.

Details of the 32 emergency and 176 urgent referrals are summarized in Tables II and III. All the emergency cases needed immediate therapeutic intervention. Only one died. The monoarthritides were mainly due to crystal synovitis; pyrophosphate was more frequent than urate. None had a specific arthritis. The other emergency cases included patients with cerebral lupus and pulmonary haemorrhage secondary to vasculitis who required rapid treatment with cytotoxic drugs. The urgent referrals involved a wider range of rheumatic diseases from acute rheumatoid arthritis to back pain resulting from osteoporotic vertebral collapse or malignancy. The 45 non-urgent cases could have been seen in routine clinics. Their diagnoses are listed in Table IV. Twenty had mechanical back pain and 12 shoulder pain (due to capsulitis, rotator cuff lesions or frozen shoulders).

All patients would have been seen within the unit's current contract as routine cases. We therefore only evaluated the excess costs of the emergency service. Providing a daytime emergency service involved a weekly commitment to 4–6 30 min consultations, a similar length of time dealing with telephone enquiries, correspondence and administration, and continual availability between 9 a.m. and 5 p.m. Altogether, this involved 1 day of medical staff time per week. If the service was entirely provided by a trainee the cost was £8000 annually, making an excess cost of £32 per case. If the service was provided entirely by a consultant, the cost was £12 500, making an excess cost of £50 per case.

**DISCUSSION**

Previous studies have reviewed the costs of an overall rheumatology service [2], the need for in-patient facilities [3] and the optimal provision of out-patient care [4–9]. There has been little work on the need for an acute service. Our results show that such a service is needed, that it is advantageous for patients, and can
be provided within the available resources of units with 5–6 experienced clinical staff. It is relatively inexpensive as an adjunct to the clinical service. Schlosser et al. [10] found that 483 out of 5592 consecutive cases seen in a North American emergency room (equivalent to the Accident and Emergency department) had a rheumatic diagnosis. Our clinical service provides a similar high level of activity in an emergency setting. The unit currently receives 60–80 new referrals each week; emergency referrals continue at approximately six each week, accounting for 8–10% of the workload.

A survey from southwest England looked at 2987 consultations; 630 were new referrals who generally waited 60 days before their consultation [9]. Rheumatoid arthritis and polyarthritis accounted for 43% of the new referrals. Dieppe and Paine [11] estimated that 15–20% of consultations in general practice are due to rheumatic diseases. Shared care plans, local guidelines and continuing education of GPs may all be helpful in deciding which patients require urgent referrals. This might reduce the number of urgent cases, while maintaining high standards of patient care. It would also have reduced the frequency with which non-urgent cases were seen, although these accounted for <20% of referrals and it is better to see a few of these cases to avoid the risk of turning away the more acute problems.

The management of an acute hot joint is an area of particular concern and there are national UK guidelines [12]. Septic arthritis is rare. Although an acute monoarthritis was relatively common, accounting for 24 cases, there were no instances of joint sepsis. Experience in other London hospitals underline the relative infrequency of septic arthritis [13]. By contrast, gout and pseudogout are relatively common. Ho and DeNuccio [14] determined the clinical characteristics of acute gout and pseudogout in hospitalized patients and highlighted it as a continuing clinical problem. When the diagnosis was overlooked, misdirected investigations and inappropriate treatment complicated morbidity.

An emergency service complements routine referrals. It could not be provided by other hospital specialists, all of whom referred cases for emergency or urgent rheumatology opinions. It has a place in ensuring the early referral of patients with acute arthritis [15]. It is also important for the management of the acute hot joint, complex connective tissue disease and significant back problems. Walker et al. [16] showed in routine clinics that only a small percentage of diagnoses are changed by specialists, but that patients benefit from the service. In acute cases, there is greater revision of the diagnosis as a result of specialist intervention. Armstrong et al. [17] have underlined the extent of pressure for rheumatological referral. This may be a major factor in some cases of apparent inappropriate referral. These therefore acted as a 'safety valve' in the system, and it is possibly misdirected to be too critical about a small number of inappropriate emergency referrals.

ACKNOWLEDGEMENT

We are grateful for the support of the Arthritis and Rheumatism Council.

REFERENCES