

Report

Changes in rheumatology out-patient workload over 12 years in the South West of England

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Rheumatologists in the former South West Regional Health Authority (SWRHA) have undertaken regional audits of their out-patient workloads on five occasions from 1988 [1] to 1994 [2]. These spanned the introduction of the NHS reforms of 1991 [3], for which proper evaluation was not undertaken either before or during their introduction. The rheumatology audits recorded all out-patient referrals during the month of November, together with the diagnostic category and (for new patients) the time waiting from referral to consultation. These data represent the NHS rheumatology service provision for approximately 3.2 million people. In essence, and contrary to fears expressed previously [4], they showed that the rheumatology workload had increased substantially during the time of the surveys. Most of this increase had occurred following the introduction of NHS reforms in April 1991 and represented primarily an increase in the workload of existing consultants rather than the investment of new resources 'following the patient' [3]. Furthermore, there was a clear increase in the time patients had to wait between referral to a specialist and their first consultation [2]. Referral had increased, the opposite of what might have been expected [5], and contrary to the intentions of providing a more accessible service [1]. In order to monitor the continuing trend, to verify the assumptions about changes in working practices and to test the hypothesis that variations in clinical practice might indicate opportunities for improving patient throughput, a further survey was undertaken in November 2000.

Methods

A full account of the initial audit in November 1988 has been provided previously [1, 6]. Subsequent surveys were

conducted in the same way but omitted private practice (6% of the 1988 workload).

All rheumatology out-patient consultations, including patients seen by trainee and other medical staff, during the period 1–30 November were included. At each clinic a standard form was used to record the hospital, consultant, clinician and date of attendance. The principal diagnosis of all patients attending the session was noted and for new patients the date of the referral letter was recorded. Diagnostic categories were assigned, as shown in Table 3. In 1994 and 2000 a record was also made of the outcome of the consultation. Outcomes recorded were: time to next appointment; open appointment; admitted to hospital; or discharged. Completed forms were returned for analysis. Patients failing to attend a consultation were not included. Participating centres were arbitrarily coded A–J. Analyses of new and follow-up consultations were performed separately, according to centre and diagnosis. All 1988 figures were reduced by 6% to allow for the inclusion of private practice. Totals were reduced by 1/22 in 1988, 1990, 1994 and 2000 to standardize the results to 21 hospital working days in each month. No allowance was made for cancellation of clinics due to short-term planned or unplanned absences (holidays or illness) but an adjustment was made at one centre for the long-term absence of one consultant.

Not all centres were able to participate in each year of the survey, as shown in Table 1. To allow an estimate of the total number of patients seen across the geographical region, figures were interpolated for Centre H for 1990 and 1991 based on the 1988 and 1992 figures. For the same reason, figures were extrapolated for Centres C and G for 2000 based on the mean proportion each centre contributed to the total figures for 1988, 1992 and 1994 (when Centres A–F all contributed data). There was

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Submitted 29 April 2002; revised version accepted 25 June 2002.

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evidence that data collection was inadequate in 2000 at Centre E for one non-consultant staff member, who has since left the department. The figures for Centre E for

2000 were therefore extrapolated for 2000 in the same manner as for Centres C and G.

Two other adjustments were required, as follows. First, Centre A had the planned absence of one whole-time consultant throughout November 2000. The total clinic time that took place for all doctors in Centre A during November was 199 h, while the planned cancellations were 53 h (26.6%). All figures for Centre A were therefore increased by 26.6% and these figures are used in Tables 2–4. No allowances were made for other clinic cancellations at this centre. Secondly, Centre H recorded substantially fewer new patient referrals in 2000 than in 1994, an observation not consistent with local experience. A review of the 1994 figures showed that

TABLE 1. Data collection

Centre	1988	1990	1991	1992	1994	2000
A, B, D, E, F	✓	✓	✓	✓	✓	✓
C, G	✓	✓	✓	✓	✓	✓
H	✓			✓	✓	✓
J ^a		✓	✓	✓	✓	✓
J ^b						✓

^aOpened in 1990; ^bopened in 1998.

TABLE 2. Rheumatology consultations during November (figures adjusted to 21 working days) in the former South West Regional Health Authority, 1988–2000

Centres included	1988			1990			1991			
	New	Follow-up	Total	New	Follow-up	Total	New	Follow-up	Total	
Centres A, B, D, F	353	1342	1696	288	1462	1750	316	1246	1562	
All centres (A–J) ^a	564	2099	2663	439	2118	2557	519	2585	3104	
All centres (A–J) adjusted ^b	564	2099	2663	535	2496	3031	653	3080	3733	
	1992			1994			2000			
Centres A, B, D, F	351	1440	1791	376	1482	1858	383	1441	1824	
All centres (A–J) ^a	780	3024	3804	682	2719	3401	619	2548	3167	
All centres (A–J) adjusted ^b	780	3024	3804	682	2719	3401	815	3322	4138	
	Increase (%)									
	1988–2000			Annual increase						
	New	Follow-up	Total	New	Follow-up	Total				
Centres A, B, D, F	8.4	7.4	7.6	0.7	0.6	0.6				
All centres (A–J) ^a	–	–	–	–	–	–				
All centres (A–J) adjusted ^b	44.5	58.3	55.4	3.7	4.9	4.6				

^aThe 1994 new patient figure for centre H has been adjusted down by 36% compared with previously published figures (see text).

^bAdjusted to include interpolated figures for Centre H in 1990 and 1991 and extrapolated figures for Centres C, E and G in 2000 (see text).

TABLE 3. Case mix in rheumatology consultations during November in the former South West Regional Health Authority in 1988 and 2000

Diagnosis	Numbers						Proportions (%)					
	New			Follow-up			New			Follow-up		
	1988	2000	Change	1988	2000	Change	1988	2000	Change	1988	2000	Change
OA	81	140	59	197	264	67	14.3	17.1	2.8	9.4	7.9	–1.4
RA	125	96	–29	1146	1480	334	22.2	11.8	–10.4	54.6	44.6	–10.0
Sero-, JIA, CTD, crystals, SLE, other inflam	118	161	42	426	886	460	21.0	19.7	–1.3	20.3	26.7	6.4
Tendonitis, capsulitis, bursitis, trigger spots etc	94	154	61	41	136	95	16.7	18.9	2.3	1.9	4.1	2.2
Back pain, disc diseases	55	88	33	39	108	69	9.7	10.8	1.1	1.9	3.3	1.4
PMR	15	28	12	86	113	26	2.7	3.4	0.7	4.1	3.4	–0.7
Other arthritis	21	29	8	39	106	68	3.8	3.6	–0.2	1.8	3.2	1.4
Other disease	55	120	65	126	223	97	9.7	14.7	5.0	6.0	6.7	0.7
Total	564	816	252	2099	3315	1216						
RA and polyarthritis	243	257	13	1572	2366	794	43.2	31.5	–11.7	74.9	71.4	–3.5

Sero-, seronegative arthritis; JIA, juvenile idiopathic arthritis; CTD, connective tissue disease; crystals, crystal arthritis; other, inflammatory polyarthritis; PMR, polymyalgia rheumatica; SLE, systemic lupus erythematosus.

patients attending for investigation at the bone densitometry service had inadvertently been included as new patient referrals in 1994, but that this had not occurred in 2000. To allow for this error, the figures for new patients for Centre H for 1994 have been reduced by 36% compared with those published previously [2].

TABLE 4. Follow-up:new ratio in rheumatology consultations during November in the former South West Regional Health Authority in 1988 and 2000

Centre	1988	2000
A	4.1	3.5
B	5.9	3.7
C	3.7	-
D	3.7	5.2
E	4.7	9.4
F	2.1	2.7
G	2.5	-
H	4.4	4.6
I	-	3.0
J	-	7.0
All centres	3.7	4.1

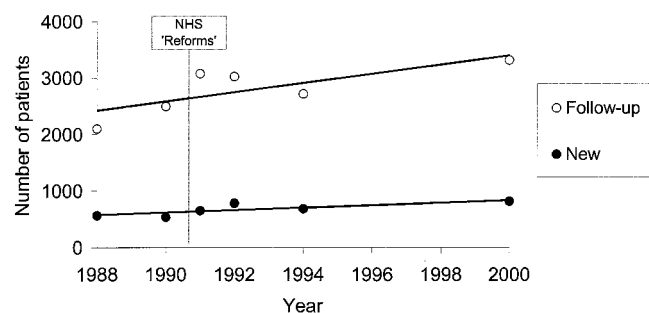


FIG. 1. Number of new and follow-up out-patient consultations in rheumatology clinics in the South West of England in November.

The figures for new and follow-up patients from 1988 to 2000 are shown in Table 2. Centres A, B, D and F have data recorded for all time points and their combined figures are therefore directly comparable for patients seen at the same Centres throughout the 12 yr. The number of patients recorded in the survey for all centres (A–J) is shown, and the adjusted figure for all centres provides an estimate (based on the calculations reported above) of the actual number of patients seen. There has been an overall increase of 44.5% in the number of new cases seen and an overall increase of 58.3% in the number of follow-up cases seen (combined total increase 55.4%). The mean age of new patients was 53.1 (s.d. 16.6) yr and 76.6% were aged under 65 yr. The mean age of follow-up patients was 66.5 (15.6) yr and 69.7% were under 65 yr.

The diagnostic case mixes for 1988 and 2000 are shown in Table 3. The results are very similar. Rheumatoid arthritis and other forms of inflammatory polyarthritis accounted for 31.5% of new patients in 2000, a decrease from 43.2% in 1988. This was counter-balanced by an increase in ‘other diseases’, which was mostly due to some centres seeing increased numbers of patients with osteoporosis. Nevertheless, the total number of patients seen with inflammatory arthritis increased (from 243 to 257). Follow-up cases continue to be dominated by rheumatoid arthritis (accounting for about half) and other polyarthritis (accounting for a quarter).

The follow-up:new patient ratio is shown in Table 4. While some centres have increased the proportion of new cases in their out-patient work (e.g. Centres A and B), overall the ratio has changed from 3.7 to 4.1, indicating an increase in the proportion of follow-up patients.

The number of patients seen in each year of the survey is shown in Fig. 1. The regression line shows an overall annual increase of 3.7% with $r=0.77$ for new patients

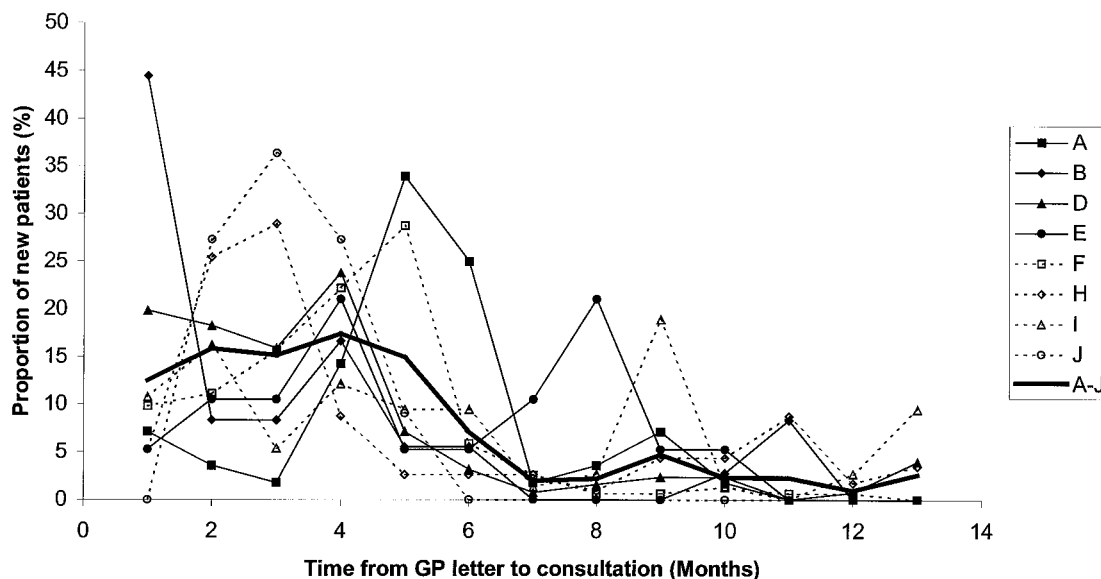


FIG. 2. New patient waiting time.

and an annual increase of 4.9% with $r=0.81$ for follow-up patients. Figure 1 suggests that there may have been an increase in the number of new patients seen soon after the changes introduced to NHS work patterns (competitive Trusts and fund-holding primary care practices) in 1991, but by 2000 this was subsumed in the overall trend.

The time between the date on the general practitioner referral letter and the patient being seen in clinic (the new patient waiting time) is illustrated for November 2000 in Fig. 2. Some centres, for example E and I, show an early and a late peak, indicating a policy of parallel waiting lists for 'priority' and 'non-priority' cases. Most patients had been seen within 6 months of referral, but less than half within 3 months of referral. The mean waiting time was 65 days in 1988, 72 days in 1990, 74 days in 1991, 79 days in 1992, 108 days in 1994 and 105 days in 2000.

TABLE 5. Outcome as a proportion (%) of consultations during November 2000 in the former South West Regional Health Authority

	Centre									
	A	B	D	E	F	H	I	J	A-J	
New patients										
Follow-up appointment	66	56	52	56	49	65	61	46	56.5	
Discharged	30	40	36	28	35	17	33	23	30.5	
Open appointment	2	0	10	11	15	17	3	27	10.8	
Day case admission	0	2	0	0	1	0	0	0	0.5	
Waiting list admission	2	2	1	6	0	1	1	4	1.1	
Immediate admission	0	0	1	0	0	1	3	0	0.6	
Follow-up patients										
Follow-up appointment	87	71	80	82	83	86	83	76	82.0	
Discharged	8	25	16	14	10	8	11	6	12.1	
Open appointment	4	0	1	2	6	5	1	17	3.9	
Day case admission	0	0	0	0	0	0	1	0	0.2	
Waiting list admission	1	3	2	1	0	1	1	0	1.3	
Immediate admission	0	1	1	1	0	0	2	1	0.6	

Information was collected on the outcome of the patient consultations and is shown in Table 5. About 30% of all new patients were discharged after their first visit. Differences between centres were relatively small. An analysis by diagnostic category (not shown) showed even smaller differences when case mix was taken into account. The length of follow-up given to patients is illustrated in Fig. 3 for new patients and Fig. 4 for follow-up patients. There was a biphasic distribution for new cases, 67% being reviewed within 16 weeks and about 20% at about 6 months. There was a similar distribution for follow-up patients, but with only 53% seen within 4 months, about 30% at 6 months and a small proportion (9%) given a 1 yr appointment.

Discussion

These results confirm, reinforce and take further those published in a previous report [2] and reflect a continuing increase in rheumatology patient workload during the years 1988–2000. By taking the workload of a large geographical area during the same month each year, an overall pattern emerges in spite of variations in clinic cancellations, holidays etc. within individual centres. While new referrals in all diagnostic groups have increased in absolute terms, the proportion of those with polyarthritis has decreased because of a greater increase in referrals of patients with soft-tissue rheumatism and back problems and those with other diseases, mainly osteoporosis. In spite of further increased activity between 1994 and 2000 (19.5% increase in new patients and 22.2% increase in follow-up consultations), the time new patients have to wait from referral to first consultation has remained relatively unchanged at 105 days compared with 108 days in 1994. In 1988 the new patient waiting time was 65 days. These results suggest that

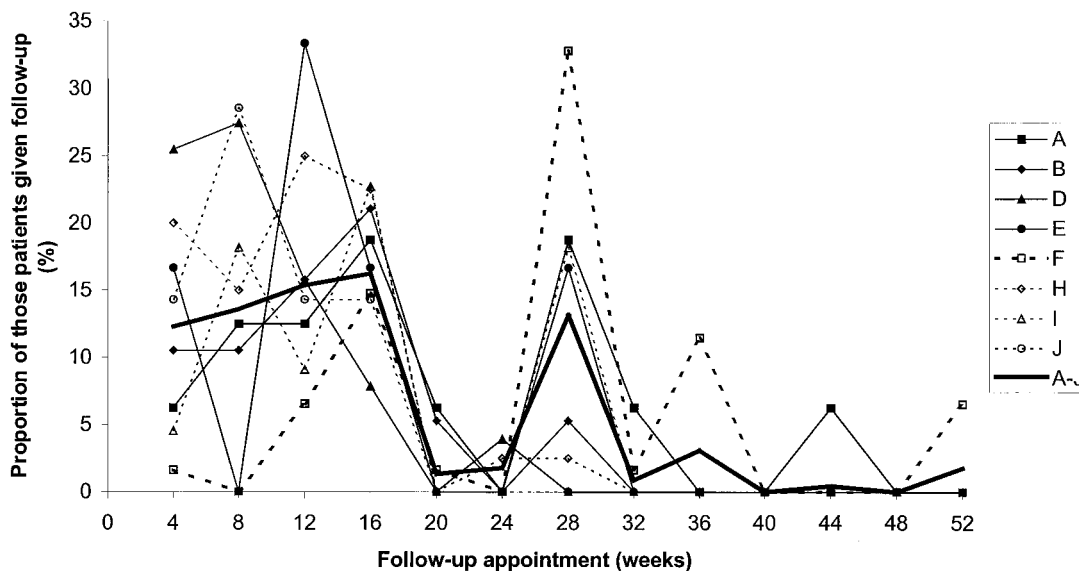


FIG. 3. Length of follow-up for new patients.

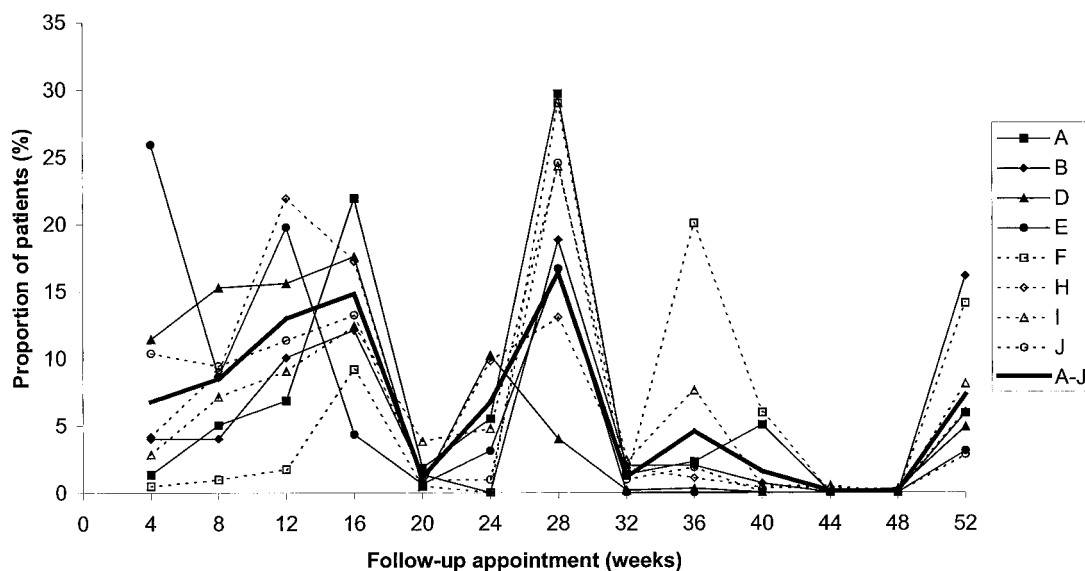


FIG. 4. Length of follow-up for follow-up patients.

referrals have continued to increase compared with 1994 [2], and that increased throughput has kept pace with these but not outstripped them. The alternative explanation, a change in geographical demography, would be difficult to envisage in relation to the large size and relatively short time-scale of the surveys.

Differences in discharge rates and follow-up appointment times were recorded at the different centres, both in 1994 and in 2000. These occurred mostly in groups of patients that constituted a relatively small proportion of those seen. It is likely, therefore, that any benefit that may be gained by adopting altered discharge policies at some centres, where fewer patients are currently discharged, would be relatively small compared with the effort that might be involved. In 1994 it was noted that Centre F had a follow-up pattern for rheumatoid arthritis and polyarthritis that was different from those of the other centres. Very few patients were seen again in less than 26 weeks and a substantial minority were not seen for 52 weeks. This pattern has now changed (data not shown) so that, while this centre continues to have a longer mean follow-up period for inflammatory arthritis patients, there is now a substantial proportion (28.2%) who are seen within 16 weeks and the overall pattern for Centre F is little different from the mean.

In a previous report [2] we pointed out that it had only been possible to absorb the increasing demand for hospital care of chronic arthritis over previous years by rheumatologists working harder, patients being seen less frequently and the waiting time for new patients being allowed to rise. It seemed likely that these measures would soon reach saturation. Either more resources would have to be found, new and cheaper approaches to the long-term care of chronic arthritis would have to be tested and implemented, or patients and their general practitioners would begin to protest. It seems that more resources have been made available, but only sufficient

to cope with increasing demand, not sufficient to make headway in improving service provision for individual patients. Further, the continuing high proportion of new referrals with polyarthritis, in spite of an expansion in the overall provision of the service, indicates that there must remain many such patients in the community who are not currently being referred. Some progress is being made to devise new methods of managing long-term polyarthritis [7], but the referral patterns reported here in the South West of England place a heavier demand on clinical services than elsewhere in the UK or centres in other countries [8]. There is an urgent need for further investment in rheumatology services in the South West Region.

References

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