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Regional survey

Gastroenterology services: a regional review of changes over a five year period (1981–86)

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SUMMARY **A survey of all gastroenterologists in the Trent region showed that the number of upper GI endoscopies had doubled to 7·6 per 1000 of the population from 1981 to 1986, equalling the number of barium meals. Colonoscopies had increased from 0·39 to 0·94 per 1000 of the population. There had been a large increase in the proportion of endoscopies done by surgeons. There were 0·37 ERCP examinations per 1000 of the population done in six of the 12 districts, and 0·17 variceal sclerotherapy procedures per 1000 of the population done in five districts. There was widespread dissatisfaction with the provision of facilities and staff for endoscopy. From 1981 to 1986 the number of consultants with an interest in gastroenterology had increased from 20 to 25, but none of these appointments had been anticipated in 1981. All eight senior registrars in gastroenterology in 1981 had achieved consultant status – three in the region, four in the NHS outside the region, and one abroad.**

An earlier survey of gastrointestinal endoscopy in the Trent Region in 1981[1] showed demand to have increased rapidly in the preceding six years and predicted that this trend would continue in the foreseeable future. Deficiencies in the service were highlighted, funding being the main problem because endoscopy had no identifiable budgetary provision. Since 1981 advances have been made particularly in therapeutic endoscopy, and new consultant appointments in gastroenterology have been made, both of which influence the workload in this specialty. We therefore thought it timely to reassess the situation in the Trent region five years later – in 1986.

Survey

The Trent Regional Health Authority has 12 districts, of which three (Nottingham, Sheffield, and Leicestershire) are teaching districts, and it has three medical schools. The population of the region is 4 414 000 and Figure 1 shows the distribution in each district.

In mid-1987 a questionnaire was sent to each of the consultant physicians with an interest in gastroenterology in the region enquiring about workload, facilities, and staffing during 1986. All the consultants except two were general physicians and as such much of their work was in outpatient clinics and supervising the care of acute admissions on the wards. Endoscopy forms a large and well defined part of the gastroenterologist's workload and we therefore used it to study changes in the workload over the five year period from 1981 to 1986. The questionnaire was in two parts, the first relating to the endoscopic workload in 1986 in upper gastrointestinal (GI) endoscopy, colonoscopy, flexible sigmoidoscopy, ERCP and oesophageal variceal sclerotherapy, the number and variety of instruments available, and the facilities and staff devoted to endoscopy; the second part related to staffing and training in gastroenterology.

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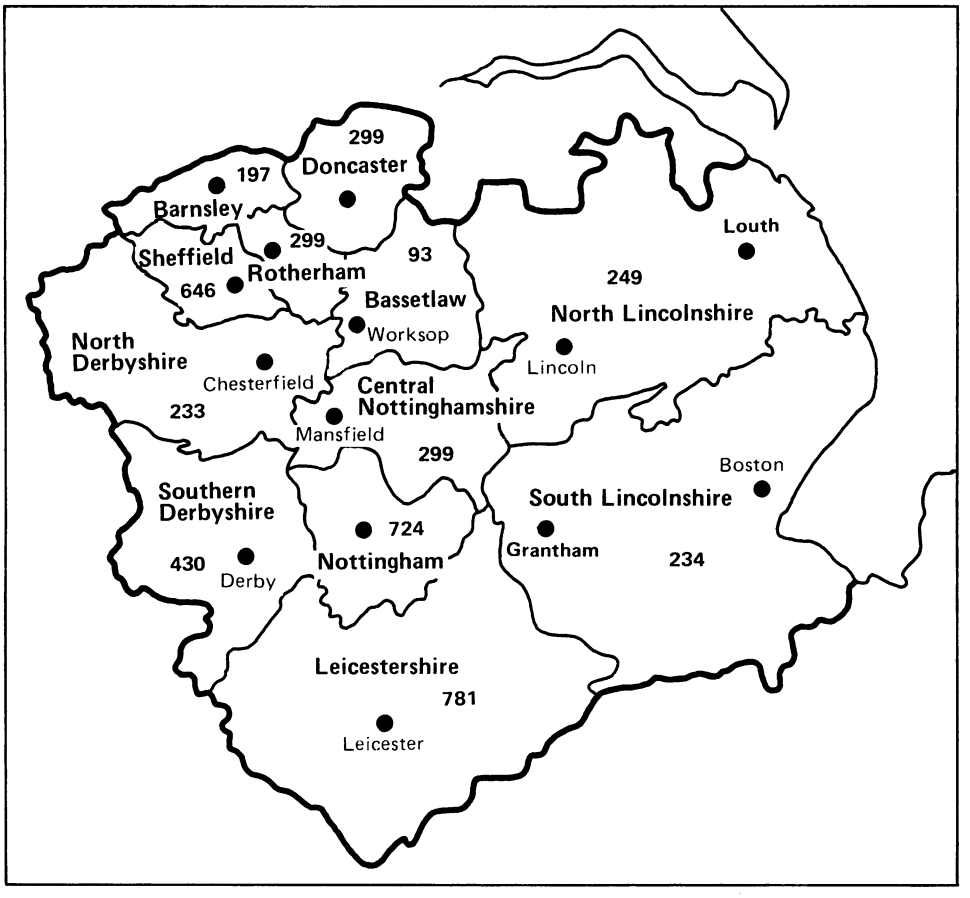

Fig. 1 *Map of the Trent Health Region showing the population (in thousands) of each district and the site of hospitals having a gastroenterologist in 1986.*

The overall findings were summarised and recirculated to respondents to enable any corrections to be made.

Endoscopic examinations

The number of upper and lower GI endoscopies done by physicians and surgeons in 1986 are shown in Table 1. From Table 2 it can be seen that for both upper and lower GI endoscopy the increase in workload predicted in 1981 has been realised; the number of upper GI endoscopies has doubled and the number of colonoscopies has increased by a factor of two and a half. In the Trent region the number of upper GI endoscopies has now equalled the number of barium meal examinations, which has remained unchanged (Fig. 2). The number of barium enema examinations has increased by approximately 20% and still greatly exceeds colonoscopies by a factor of five. General surgeons are now doing more endoscopy than in 1981 and now carry out approximately one third of all upper GI endoscopies and half the colonoscopies done in the region. The flexible sigmoidoscope has been introduced since the last survey and its use is variable from district to district. It forms an alternative to colonoscopy in selected patients and this may explain some of the variation in the number of colonoscopies being done.

When allowance is made for the population served (Table 2) each district showed an increase in the number of upper GI endoscopies per 1000 population between 1981 and 1986 and there was an equally striking increase in the use of colonoscopy. There is considerable variation between the districts in the number of examinations per 1000 of the population. This varies from 1·74 to 23·58 for upper GI endoscopy and from none to 1·61 for colonoscopy.

Unfortunately, it was not possible to obtain

Table 1 *Number of GI endoscopies and endoscopic procedures in the Trent Region in 1986*

		Upper GI endoscopies			*Colonoscopies*			*Flex Sigy*	*ERCP*	*VSTh*
District	*Hospital*	*Physicians*	*Surgeons*	*Total*	*Physicians*	*Surgeons*	*Total*	*Physicians*	*Total*	*Total*
Barnsley	Barnsley	507	162	669	24	12	36	118	0	0
Bassetlaw	Worksop	500	200	700	100	50	150	0	0	0
North Derbys	Chesterfield	1033	571	1604	144	189	333	14	119	0
South Derbys	Derbys Royal	1200	700	1900	100	35	135	20	20	40
	Derby City	600	400	1000	100	100	200	0	50	0
Doncaster	Doncaster	1008	0	1008	45	0	45	0	0	0
Leicestershire	Royal	1400	1013	2413	250	120	370	0*	549	50
	Glenfield	600	691	1291	161	100	261	40	119	15
	General	2072	800	2872	266	50	316	297	185	24
North Lincs	Lincoln	563	184	747	8	128	136	250	0	0
	Louth	400	35	435	4	0	4	0	0	0
South Lincs	Boston	1445	50	1495	173	0	173	10	0	30
	Grantham	332	0	332	0	80	80	0	0	0
Central Notts	Mansfield	84	436	520	0	0	0	0	0	0
Nottingham	City	1700	200	1900	80	320	400	0	91	29
	University	2686	573	3259	44	592	636	216	113	159
Rotherham	Rotherham	5000	400	5400	50	40	90	0	50	0
Sheffield	N General	2000	800	2800	200	200	400	0	150	0
	R Hallamshire	1336	2003	3339	140	244	384	3	200	423
Total		24466	9218	33684	1889	2260	4149	968	1646	770

*Included among colonoscopies. VSTh=variceal sclerotherapy.

estimates of the number of therapeutic procedures, such as oesophageal dilatations or colonoscopic polypectomy, at the time of endoscopy, but it seems likely that the proportional increase in these procedures would have been even greater than that in diagnostic examinations.

ERCP

The number of ERCP examinations are shown in Table 1. This is provided in six districts but in four of the six districts not offering this service a need was felt for it to be provided locally. The numbers done in each unit vary greatly and there has been an overall increase by 50% since 1981, from 1028 to 1646 or from 0·24 to 0·37 per 1000 population. The figures do not reveal the variety of therapeutic procedures undertaken at this examination.

Table 2 *Endoscopies per 1000 population in the Trent region*

	Upper GI endoscopy		*Colonoscopy*		*ERCP*	
	1981	*1986*	*1981*	*1986*	*1981*	*1986*
Barnsley	1·97	3·40	1·13	0·18	0·0	0·0
Bassetlaw	3·41	7·53	0·34	1·61	0·0	0·0
North Derbyshire	3·04	6·88	0·34	1·43	0·07	0·51
South Derbyshire	1·35	6·74	0·33	0·78	0·05	0·16
Doncaster	1·47	3·37	0·05	0·15	0·0	0·0
Leicestershire	5·20	8·42	0·37	1·21	0·74	1·09
North Lincs	2·39	4·75	0·32	0·56	0·0	0·0
South Lincs	2·89	7·81	0·30	1·01	0·0	0·0
Central Notts	0·17	1·74	0·0	0·0	0·0	0·0
Nottingham	3·80	7·13	0·47	1·43	0·19	0·28
Rotherham	14·01	23·58	0·33	0·39	0·47	0·22
Sheffield	5·18	9·50	0·44	1·61	0·30	0·54
Trent region	3·86	7·63	0·39	0·94	0·24	0·37

Variceal sclerotherapy

Variceal sclerotherapy has increased in popularity since 1981 and is done in five districts, the annual number of procedures ranging from 15 to 423 (Table 1).

Endoscopy facilities

ENDOSCOPY UNITS

In only seven of the 18 hospitals where a regular service is provided is there a separate unit for endoscopy. This represents a slight and disappointing increase since 1981 when five were in operation. In only one of these units are radiological screening and general anaesthetic facilities provided. In seven of the other hospitals a shared day unit is used, in two the endoscopies are done in the theatre, and in two on the ward.

ENDOSCOPY STAFFING

Ten hospitals have NHS nursing staff specifically designated for endoscopy and only two hospitals

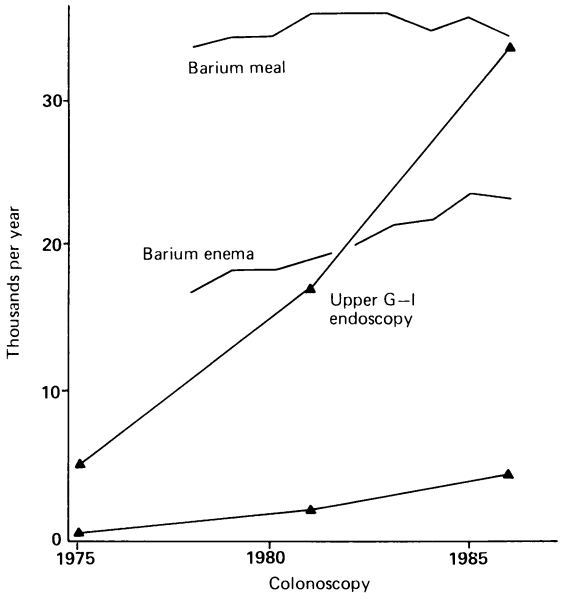

Fig. 2 *Change in the number of GI endoscopies and the equivalent barium radiological examinations from 1975 to 1986 in the whole Trent Health Region.*

have a designated secretary for endoscopy (one part time). Seven hospitals have general practitioner clinical assistants in endoscopy – three have two sessions a week and the remainder one. Eight hospitals have had a request for a general practitioner clinical assistant in endoscopy refused.

ENDOSCOPY EQUIPMENT

Of 75 upper GI endoscopes being used by physicians, 24 were more than four years old. Of 30 colonoscopes being used by physicians 13 were more than four years old. In 10 hospitals there are outstanding requests for new endoscopes.

PERCEIVED DEFICIENCIES IN THE ENDOSCOPY SERVICE

Twelve of the hospitals expressed dissatisfaction with facilities for endoscopy. Poor accommodation was the complaint in six; understaffing in seven; underfunding for equipment in five; secretarial help in three.

MEDICAL STAFFING

In the Trent region the number of consultant physicians (University and NHS) with a major interest in gastroenterology increased from 20 in 1981 to 25 in 1986 and the proportion of University staff remained at about 20% (Table 3). In the five year period six new consultant appointments were made and one left the region to work elsewhere. In all, five new gastroenterological posts were created, none of which was anticipated at the time of the 1981 survey. University staff continued to make a major contribution to the routine gastroenterological workload in the teaching centres.

The increase of 25% in consultant medical staff was small in relation to the increase in endoscopy workload of 100% for upper GI endoscopy and 150% for colonoscopy. This workload was additionally increased by a rise in the number of therapeutic endoscopic procedures as these are generally more time consuming. Against this must be set the increase in the number of surgeons doing regular endoscopy, particularly colonoscopy. It was still apparent, however, that the consultant physician with an interest in gastroenterology was spending more time doing endoscopy in 1986 and the demands this makes on his time shows no sign of slackening. In five of the 12 districts a need for a further consultant appointment in gastroenterology was expressed and this has in part been met by the appointment of additional consultants in central Nottinghamshire, Nottingham, and Sheffield since this survey was done.

TRAINING IN GASTROENTEROLOGY

At the time of the 1981 survey there were eight senior medical registrars (four NHS and four University) in the Trent region, all of whom have since achieved consultant status. Three have been appointed to posts inside the region (one NHS and two University), four to NHS posts outside the region, and one has emigrated. Five of the eight posts

Table 3 *Number of consultant physicians with an interest in gastroenterology (u=university staff)*

District	*Hospital*	*1981*	*1986*
Barnsley	Barnsley	1	1
Bassetlaw	Worksop	1	1
North Derbys	Chesterfield	1	1
South Derbys	Derbys Royal	1	1
	Derby City	0	1
Doncaster	Doncaster	1	1
Leicestershire	Royal	2	2
	General	0	1
North Lincs	Lincoln	1	1
	Louth	0	1
South Lincs	Boston	1	1
	Grantham	1	1
Central Notts	Mansfield	1	1
Nottingham	City	2 (2 u)	1
	University	2	5 (4 u)
Rotherham	Rotherham	1	1
Sheffield	N General	1	1
	R Hallamshire	3 (2 u)	3 (2 u)
Total		20	25

have been replaced by another senior registrar (or honorary senior registrar) receiving training in gastroenterology and the remaining three (two research posts) have not been replaced at senior registrar level. Thus over the five year period the Trent region trained more consultants with an interest in gastroenterology that it made appointments in this field. This balance has now been redressed, however, by the three new consultant posts created in the Trent region since the survey was completed.

Discussion

This survey indicates that the increasing demand for endoscopy shows no sign of slackening and the number of upper GI endoscopic examinations in the Trent region is now equal to the number of barium meal examinations. The increasing popularity of endoscopy is undoubtedly because of the diagnostic advantages it offers when superficial lesions such as reflux oesophagitis are present and because it provides histological and cytological diagnosis in possibly neoplastic lesions such as ulcerating or stenotic lesions in the upper alimentary tract. In addition, endoscopy is being increasingly used for therapeutic purposes. Such techniques as oesophageal dilatation, variceal sclerotherapy, biliary sphincterotomy, the placement of prosthetic tubes through oesophageal and biliary narrowings, and laser therapy for control of alimentary bleeding or debulking of oesophageal neoplasms, are being applied in disorders which previously required surgical operations, thus saving theatre time and reducing or avoiding hospital admission.

Recent years have seen a large increase in the number of endoscopies done by surgeons and although detailed numbers were not obtained in the 1981 survey, it is obvious from the present survey that, particularly in the lower GI tract, surgeons now carry a large part of the endoscopic load. These are still often done in the operating theatre which leads to duplication of equipment and staff trained to care for it or, alternatively, to neglect of instruments and consequent increase in repair costs. There is thus a strong case for endoscopy to be concentrated into one unit in the hospital and this would have the added advantage of releasing operating theatre time. At the present time, however, relatively few hospitals in the Trent region have endoscopy units which could easily absorb such an increase in workload. A survey by the Endoscopy Committee of the British Society of Gastroenterology in 1987[2] of a randomly selected group of hospitals in England and Wales, revealed that 80% had a dedicated endoscopy unit compared with 40% found in the current survey. This may reflect the fact that Trent region has a relatively low financial provision compared with other regions. Nevertheless, the endoscopic throughput in the Trent region was comparable with that in the national survey. In spite of inadequate funding GI endoscopy is clearly an established and expanding facility in all districts in the region.

The number of endoscopic procedures per 1000 of the population in the region as a whole may be helpful for planners. In 1986 for every 1000 of the population there were 7·6 upper GI endoscopies, 0·94 colonoscopies, 0·37 ERCPs, and 0·17 variceal sclerotherapies. A study of observed practice such as this cannot hope to determine the optimum number of procedures and there is great variation in the number of endoscopies from district to district. There are many possible explanations for the variation. Participation of hospitals in drug trials might be expected to increase the number of upper GI endoscopies, as might delegation of outpatient management to junior medical staff, long waiting lists for alternative barium radiology, and an open access endoscopy service for general practitioners. In fact, two of the highest rates of endoscopy were in the two hospitals providing this service. Where the endoscopy service is less fully developed and where demand exceeds capacity the number of endoscopies done would be less than optimal.

In view of the vital role nurses play in disinfection and maintenance of equipment, it is particularly unfortunate that in seven hospitals there is no specifically designated endoscopy nurse. Most endoscopy units are already heavily committed but more endoscopy sessions are required. It is obviously difficult for most consultants to devote more than two or three sessions a week to endoscopy and it is therefore necessary to rely on junior doctors or general practitioner clinical assistants. Although financially attractive, the use of junior staff of registrar status presents problems in that they are likely to have moved on before they have received adequate training to work without supervision. Senior registrars are generally located only in the teaching centres. The general practitioner clinical assistant offers a better solution to this problem but they are employed in only seven of the 18 hospitals, and requests have been refused in 10 hospitals.

The financial implications of the increasing use of endoscopy in diagnosis and treatment must be tackled in a realistic way if an adequate service is to be maintained and expanded in the future. Whereas other services such as radiology have special budgetary provision, endoscopy as yet has none. This survey indicates that outdated endoscopes continue to be used when they should be replaced and that non-exchequer funds often have to be obtained in

order to purchase new instruments. Furthermore, the strain on facilities is likely to be increased by the more stringent and longer lasting disinfection procedures now recommended which could result in fewer examinations being done in a session unless additional endoscopes become available.

There is now a clear need for careful planning of endoscopy at district and regional level; the aims of a district committee might be to press for adequate provision of staff, equipment and funding, to ensure rational and cost effective use of equipment and facilities, and to decide which endoscopic services be provided locally and which problems be sent to specialist centres elsewhere. At regional level an official advisory committee on gastroenterology or a regional gastroenterological services committee has been set up in many parts of the country, thus bringing the speciality into line with other disciplines such as cardiology, neurology, and radiology. Such an official group is lacking in the Trent region and any approach to the Regional Health Authority with a view to improving gastroenterological services has to be made through the advisory subcommittee in general medicine. Experience in other regions suggests that a strong case can be made for a regional gastroenterological services committee which is able to view the facilities and resources throughout the region as a whole.

A report by the Royal College of Physicians in 1984[3] emphasised the need for an increased number of physicians with specialist training in gastroenterology and suggested that the average district general hospital might now require two gastroenterologists. In 1981 of the 12 districts in Trent region, only the three teaching districts had more than one gastroenterologist and five years later only three non-teaching districts have acquired a second gastroenterologist. In the face of the increasing workload and in the light of probable medical staffing patterns in the future entailing fewer junior staff, urgent attention will have to be given to increasing the consultant staffing levels to provide the requisite gastroenterological services of the future.

Over the period 1981–86 the Trent region was a net exporter of trained gastroenterologists since the eight senior registrars or equivalent in 1981 all achieved consultant posts but only six consultants with an interest in gastroenterology were appointed in the Trent region. Unfortunately, not one of the new consultant posts was anticipated in the 1981 survey, thus illustrating the extremely difficult problem of matching the number of trainees with the number of consultants needed in the future. If the number of consultants with an interest in gastroenterology in the region were to remain at its present level of 25, assuming a 25 year tenure of each post, it would mean an average one post falling vacant each year and four senior registrar or honorary senior registrar training posts in the region would provide for these requirements. At present there are five senior registrars or equivalent training in gastroenterology in the region which would offer some provision for additional consultant appointments being made in the future.

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