

## Occasional report

# Results of a questionnaire concerning the staffing and administration of endoscopy in England and Wales

A T R AXON, P M BOTTRILL, D CAMPBELL (ON BEHALF OF THE BSG WORKING PARTY ON THE STAFFING OF ENDOSCOPY UNITS)

The endoscopy section committee of the British Society of Gastroenterology convened a working party to advise on the staffing and administration of endoscopy in England and Wales. At its initial meeting it was agreed to circulate a questionnaire to a randomly selected group of hospitals in England and Wales in order to obtain a background on which the working party could make recommendations. This paper describes the results of the questionnaire which was circulated and analysed during 1986.

### Methods

Fifty of the 202 health districts in England and Wales, stratified for region, were randomly selected. A telephone call was made to each of the hospitals selected to enquire which clinician provided the endoscopy service and two questionnaires were despatched, one for the clinician and the other for the nurse in charge of endoscopic services. Questions were designed to obtain information concerning quantity and variety of endoscopic work, the number of endoscopists and assistants providing the service, and the different areas within the district where services were provided. Further questions related to administration.

### RESULTS OF CLINICIANS' QUESTIONNAIRE

Forty two replies were returned (84%) representing 21% of the total number of districts in England and Wales. Not all questions had been answered, and percentages quoted take 42 as 100% except where otherwise indicated. Thirty three replies were received from district general hospitals, and nine from teaching centres.

Thirty nine replies were from physicians, two from surgeons, and there was one radiologist. Thirty one (74%) of the clinicians who replied were generally responsible for more than 50% of the endoscopies carried out in their district whilst 5% were responsible for less than 25%. Physicians were, in the main, responsible for endoscopy services (90%).

### SITING OF ENDOSCOPY SERVICES

In 40% of districts endoscopy is done in only one hospital whilst two hospitals are involved in a further 40% and three

in 20%. Over 80% of hospitals have a dedicated endoscopy unit but some districts are still without one, procedures being carried out in operating theatres, side wards, anaesthetic rooms, and outpatient departments. More than one endoscopy service was provided in 25 of 38 hospitals, the second service usually being run by surgeons (24). The peripheral services are mainly sited in the operating theatre (23). Nineteen per cent of endoscopy units provide facilities for paediatricians to carry out endoscopy within the main endoscopy unit.

### WORKLOAD

The questionnaire was designed to ascertain the workload of the endoscopy unit under the general supervision of the clinician replying to the questionnaire.

Between 1 and 14 oesophago-gastro-duodenoscopy (OGD) sessions are done each week with a mean of 4.78. Thirteen per cent carried out fewer than 500 OGDs annually and 19% over 2000 (Table 1). Thirty one per cent of units undertook concurrent lists; teaching centre units did more endoscopies (mean 1750) than district Hospital units (mean 1146). Forty seven per cent of districts did over 150 colonoscopies per year (Table 2) and of those carrying out colonoscopy district hospitals averaged 160 compared with 363 in teaching centres. The mean number of endoscopic retrograde cholangiopancreatographies (ERCPs) done per year is 69 (Table 3), 55 in district hospitals and 115 in teaching centres. A wide range of therapeutic procedures are carried out in most hospitals (Table 4). Over 75% carry out oesophageal dilatation, insertion of prostheses for oesophageal malignancy, gastric polypectomy, and sclerotherapy. Electrocoagulation of bleeding ulcers is done in 48% whilst endoscopic sphincterotomy is done in 65% with 28% inserting bile duct stents for malignant jaundice. Ninety three per cent of centres undertake colonoscopic polypectomy.

### NUMBER OF PATIENTS EXAMINED PER SESSION

Sixty six per cent of units carried out between five and 10 OGDs per session with 26% 11-15; the maximum number reported was 25. On the other hand fewer than three colonoscopies are done per list in over 40% of units (mean 3.1). Similarly 50% of ERCP lists are arranged for fewer than three patients (mean 2.6).

Address for correspondence: Dr A Axon, Gastroenterology Unit, The General Infirmary, Leeds LS1 3EX.

Table 1 Number of OGD examinations carried out annually in teaching and non-teaching districts

	Teaching		Non-teaching		All	
	n	%	n	%	n	%
<500	0	0	5	18	5	13
500-1000	1	11	14	49	15	39
1001-1500	2	22	4	14	6	16
1501-2000	3	34	2	7	5	13
2001-2500	2	22	2	7	4	11
>2500	1	11	2	7	3	8
Total answering	9		29		38	

Total number of OGDs done: 48997

(=% = % of each group).

Table 2 Number of colonoscopies carried out in teaching and non-teaching hospitals

	Teaching		Non-teaching		All	
	n	%	n	%	n	%
0	0		1	3	1	3
<50	0		8	28	8	21
51-100	0		8	28	8	21
101-150	1	11	2	7	3	8
151-200	1	11	4	14	5	13
201-250	1	11	2	7	3	8
251-300	1	11	1	3	2	5
301-400	2	23	2	7	4	10
>400	3	34	1	3	4	11
Total answering	9		29		38	

Total number of colonoscopies done: 7887

Table 3 Number of ERCPs carried out in teaching and non-teaching districts

	Teaching		Non-teaching		All	
	n	%	n	%	n	%
0	0	0	9	30	9	23
<50	1	11	11	36	12	31
51-150	6	67	7	24	13	33
151-300	2	22	3	10	5	13
Total answering	9		30		39	

Total number of ERCPs done: 2638

## ENDOSCOPISTS

The number of clinicians carrying out endoscopy per unit varied from 1-19 with a mean of 4.6. Sixty per cent of replies considered that a formal training scheme for endoscopists would be desirable. To whom is the service offered? (Table 5).

Seventeen per cent provided no open access. Open access to general practitioners and hospital doctors was provided in 28% of units, the remainder providing open access for hospital referrals only.

Table 4 Performance of therapeutic endoscopy in teaching and non-teaching hospitals

	Teaching		Non-teaching		All	
	n	%	n	%	n	%
OGD						
Dilatation	8/9	89	31/32	97	39/41	95
Tube insertion	7/9	78	26/31	84	33/40	83
Sclerotherapy	9/9	100	25/32	79	34/41	83
Polypectomy	9/9	100	29/33	88	38/42	90
Electrocoag.	6/9	67	13/30	44	19/40	48
Laser	1/8	13	2/31	7	3/39	8
Colonoscopy						
Polypectomy	9/9	100	29/32	91	38/41	93
ERCP						
Papillotomy	8/9	89	18/31	59	26/40	65
Stent	4/9	45	7/31	23	11/40	28
N/B drainage	3/9	34	9/31	30	12/40	30

Table 5 Provision of open access for OGD

	Teaching		Non-teaching		All	
	n	%	n	%	n	%
GP's	2	25	9	29	11	28
Hosp doctors	6	75	23	72	29	73
Both	2	25	9	29	11	28
None	1	12	6	21	7	17
Total answering	8		32		40	

Table 6 Length of waiting lists for OGD

Weeks	n	%
0	= 1	2.6
1-2	= 17	43.6
3-4	= 12	31.0
5-6	= 6	15.0
7-8	= 2	5.1
>9	= 1	2.6

Total number replying 39

Longest waiting list returned=40 weeks

## WAITING LISTS

Oesophago-gastro-duodenoscopy (OGD) waiting lists for routine, non-urgent cases, vary from 0-40 weeks. Sixty nine per cent fell between one and four weeks, and in 20% it is longer (Table 6). Waiting lists were similar for colonoscopy and ERCP although with a reduced range (Tables 7 and 8).

## EMERGENCY ENDOSCOPY

Emergency cover by endoscopists was provided by 83% of Units.

## NUMBER OF ENDOSCOPY ASSISTANTS HELPING WITH EACH OGD LIST

The numbers of nursing or non-medical staff assisting with

Table 7 Length of waiting lists for colonoscopy

Weeks	n	%
0	= 2	5.3
1-2	=12	31.6
3-4	=15	39.5
5-6	= 3	7.8
7-8	= 2	5.3
>9	= 4	10.5
Total number replying 38		
Longest waiting list was 26 weeks		

Table 8 Length of waiting lists for ERCP

Weeks	n	%
0	= 4	12.5
1-2	=16	50.1
3-4	= 9	28.1
5-6	= 2	6.3
7-8	= 1	3.1
>9	= 0	0
Number replying=32		

Table 9 Breakdown of data on endoscopy assistant staffing

	n	%	Sister	SN	SEN	Aux	Other
Part-time	49	42	6	25	18		
Full time	67	58	21	18	20	5	3
Total			27 (23)	43 (37)	38 (33)	5 (4)	3 (3)
Number of replies 37							

the procedure varied in the sample from one to four (mean 2.62). These figures refer only to nursing and trained technical staff and exclude those needed for clerical and portering work.

#### PERCEIVED SHORTFALL IN SERVICE

Thirty three (79%) of clinicians who replied felt that there was a need to expand their service, but required either more nursing staff, better facilities, more endoscopists, or a combination of these: 31 needed more nursing staff, 30, better facilities, and 24, more endoscopists.

#### RESULTS OF NURSES' QUESTIONNAIRE

Thirty seven questionnaires were returned (74%) which represents 18% of the total number of districts in England and Wales.

#### ADMINISTRATION AND MANAGEMENT OF THE ENDOSCOPY UNIT

Thirty of the nurses in charge reported to nursing officers, three to the clinical head of the department, and four to others - that is, three to both nursing officer and clinical head of department and one to ward sister. The majority felt that they had adequate support from their immediate superior in terms of staffing levels, nursing budget, and communication.

Despite some degree of secretarial and administrative

help approximately 11½ hours per week of nursing time is spent carrying out administrative work such as filing records, collecting notes, and radiographs, booking appointments, and answering telephone queries. Fifteen of the units had assistance from a secretary, seven from a receptionist, and seven from a clerk, but only one had help from a voluntary worker.

#### RECORDING SYSTEM USED

In the majority of units a ledger or card system is kept. Six used a computer however, and in four it was an independently developed system, these were used for endoscopy records and four included a waiting list facility.

#### STATUS OF ENDOSCOPY ASSISTANTS

Fifty eight per cent of endoscopy assistants are employed full time, the majority are staff nurses (37%) or enrolled nurses (33%). Twenty seven sisters are employed indicating that the nurse in charge of endoscopy is not of sister status in approximately 27% of units (Table 9).

#### TRAINING COURSES

Of the 37 units who had returned the questionnaire, 30 had sent endoscopy assistants on basic instrumentation courses. Twenty had made use of teaching days, and 16 advanced courses, only three units had sent staff on the English National Board (ENB) course. Of the 80 full and part time staff 31 had no training outside their own hospital; regular funding was provided for refresher courses in only 16 units.

#### ON CALL SERVICE

Nine units provided on call endoscopy assistant service, of these six assistants received an on call allowance and two had time off in lieu. When endoscopy is carried out as an emergency or after hours, ward based staff acting as assistants were used by 16 units, junior doctors 11, and theatre staff in 15. Nursing staff, however, are often required to stay late (24), but only nine always managed to obtain time in lieu.

#### Discussion

The districts considered in this study were randomly chosen so the high percentage of questionnaires returned suggests that a reasonable cross section of endoscopy units in England and Wales have been sampled. If the results of this survey are extrapolated to provide the total of endoscopies carried out in England and Wales the estimated annual totals are 13 000 ERCPs, 42 000 colonoscopies, and 260 000 OGDs. These relate only to the major district service and the true figures will be higher as the survey reveals that 40% of districts provide more than one endoscopy service. These findings stress the important role of endoscopic techniques in patient management. The wide differences in activity between districts and the clinicians' desire to expand services indicate that the number of examinations carried out will continue to rise. Expansion of endoscopy services has financial implications especially as a very high proportion of districts now undertake therapeutic procedures which benefit patient management by reducing hospitalisation and surgery. The relatively few districts which are able to provide an open access service and the unacceptably long

waiting lists confirm that endoscopy is underprovided in the health service. These same factors lead to delay in diagnosis and inappropriate treatment with expensive drugs.<sup>1</sup>

Although mainly physicians are in charge of endoscopic services within a dedicated endoscopy unit, the majority of districts have subsidiary services usually theatre based and under the control of surgeons. It was not possible to obtain data on every endoscopy service provided within each of the districts circulated, but there appears to be a trend towards centralisation into single larger units. This is to be encouraged as it should lead to a more efficient and cost effective service, but endoscopic equipment will need to be available in operating theatres for occasional use.

The number and variety of procedures done vary widely and are probably related to the enthusiasm of the endoscopist and local diagnostic preferences. The figures suggest some inefficiency in the performance of colonoscopy and ERCP with a high proportion of centres carrying out lists with only one or two patients per week. The disadvantages of this is that the operator's overall experience of the technique is reduced, leading to a fall in the success rate and a longer time spent on each procedure. There is a higher complication rate in ERCP when the procedure is done by less experienced operators. The cost per procedure increases when fewer patients are examined in unit time. Greater specialisation is desirable but the cost implications to subregional centres providing these services should be taken into consideration by Regional Health Authorities.

Most clinicians are dissatisfied with the service that they are able to provide, only 28% offering open access, and 21% with waiting lists longer than five weeks for OGD. The greatest deficiency perceived is in the provision of nursing staff, closely followed by facilities including equipment, yet 57% require more endoscopists.

There is now a greater tendency to employ full time endoscopy assistants, but 42% are still part-time; this is inevitable in those districts where endoscopy is either fragmented or infrequently done. Districts with a catchment of 240 000 or more should, according to the national trends shown in this survey, have a work load sufficient to justify a fully equipped and staffed unit carrying out at least seven sessions of endoscopy per week.

The nurse in charge of endoscopy is of sister grade in only 73% of those units which replied to the questionnaire, and this may well be an overestimate because only 37 of 50 questionnaires to the nurse in charge were returned compared with 42 from the clinicians. It is disturbing that 27% of districts do not employ a nurse of sister status to head a nursing unit in which patients are sedated and subjected to gastroduodenal intubation and some to therapeutic procedures with a small but significant morbidity and mortality. Apart from nursing patients before, during, and after the procedure, a high level of specialised knowledge and skill is required for the care, maintenance, and disinfection of expensive endoscopic and therapeutic equipment. There is also the responsibility of managing other endoscopy assistants.

Excessive nursing time is spent on administrative work as many units are poorly provided with clerical help. Computerisation is used in only a small minority of units and this is an important area of future development which can reduce secretarial and clerical time. Voluntary workers have not been used to their full potential.

In some units staffing levels are below those which most endoscopists would consider necessary for the provision of a safe and effective service.

Although the majority of endoscopy assistants had been on courses, this was usually basic instrumentation probably run by a commercial firm. The relatively small number of nurses who had attended the ENB course is disappointing and draws attention to a deficiency in nurse training. Only 16 districts provided funds for refresher courses or study leave to attend meetings regularly.

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#### Reference

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