Endoscopy in primary care — a survey of current practice

John M Galloway, Jeremy Gibson and Jamie Dalrymple

SUMMARY

Background: *Long waiting lists in district general hospitals and savings from fundholding led to the setting up of a number of endoscopy units in primary care. Concerns have been expressed over safety, supervision and cost effectiveness. Increasingly, general practitioners (GPs) are being encouraged to become specialists and offer intermediate care. Endoscopy is frequently cited as an example of intermediate care that could be offered by primary care specialists. This is the first survey of such a service.*

Aim: *To examine whether endoscopy in primary care can be considered to be a safe procedure.*

Design of study: *A questionnaire-based survey.*

Setting: *Twenty-eight general practice units performing endoscopy in primary care.*

Method: *Units performing endoscopy in primary care were identified using the Primary Care Society of Gastroenterology (PCSG) database and following an appeal in the GP press. A postal questionnaire was sent to each unit covering its history, throughput, and case-mix, experience of endoscopists, supervision, audit and CME, equipment, waiting times and complication rates.*

Results: *Of the 28 units identified, 27 (96%) replied to the questionnaire, 13 units provided both upper and lower bowel examination, six oesophago-gastro-duodenoscopy (OGD) only, and eight lower bowel only. Units had been open for an average of five years (range = 2 to 18 years), and 41 doctors and 68 nurse assistants provided the service. The average experience of endoscopists was 16 years (range = 6 to 25 years), and 36 455 procedures had been performed by the time of the survey (24 195 OGD and 12 260 lower bowel examinations). Ninety-six per cent of the units undertook audit. Urgent waiting times were 1.2 weeks and routine 3.4 weeks (range = 1.0 to 6.0). The annual throughput of 22 units in the past year was 8478 procedures (4506 OGD, 3972 lower bowel examinations). Out of 24 195 OGDs there were three reported complications (one perforation of pharyngeal pouch, treated conservatively, one chest pain after over-insufflation, and one slow recovery after intravenous sedation); there was no mortality. Out of 12 260 lower bowel procedures there was one perforated caecal carcinoma after flexible sigmoidoscopy (died), three perforations at colonoscopy and seven other minor complications.*

Conclusions: *Endoscopy in primary care appears to be a safe procedure. This good safety record is probably attributable to careful case selection and minimal use of intravenous sedation.*

Keywords: *endoscopy; endoscopists; safety.*

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Introduction

THE advent of fundholding in primary care facilitated the development of intermediate care services, such as endoscopy, which previously had no method of funding. Government policy to develop intermediate care facilities by primary care groups and trusts has provided further impetus to development of endoscopy outside of consultant-led units.[1] In 1994 the British Society of Gastroenterology (BSG) commissioned a paper on endoscopy in primary care.[2] Little information about endoscopy in primary care was available, and experiences from secondary care were extrapolated to base its views and recommendations. The report acknowledged that enthusiastic general practitioner (GP) endoscopists were capable of offering some endoscopy services in primary care but questioned whether it could be cost effective. The death rate for diagnostic gastroscopy in hospital practice was found to be one in 2000 by Quine in 1995.[3] The BSG report suggested that gastroscopy was a procedure best performed in hospital because of this mortality risk.

The need for gastroscopy has been estimated as one per 100 of the population per year and for endoscopy of the lower bowel about one per 250 of the population per year. These figures are derived from a health needs analysis performed by the BSG in 1990[4] based on previous activity. Demand is not being met by secondary care as evidenced by long waiting times, further lengthened by the Government's two-week cancer wait rules. Primary care groups and trusts are seeking alternative pathways for diagnostic endoscopy and evidence that endoscopy in primary care is appropriate and safe.

In 1999, the Primary Care Society in Gastroenterology (PCSG) appointed a group comprising GP endoscopists and a consultant gastroenterologist to investigate the current state of primary care endoscopy services in the UK by gathering information from the existing units. The aim of the investigators was to describe the current practice of endoscopy in primary care, to discover the safety record of the units and the objective was to prepare up-to-date guidelines for best practice.

Method

Primary care endoscopy units were identified from information held by the PCSG, and by letters placed in the GP press, requesting GP-based endoscopy units to contact the group. All units run by GPs working independently from consultant units were included, whether sited in surgeries, primary care centres, cottage hospitals, or rented accommodation in NHS and private sectors.

A questionnaire was devised by consultation with the members of the group which would measure standards of

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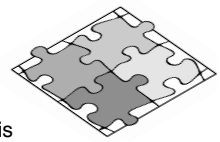

What do we know?

Endoscopy is the most common day-case procedure offered by the NHS and is cited in the NHS plan as a service that could be performed in primary care. There have been concerns expressed over safety, patient acceptability, and economy involved.

What does this paper add?

This is the first survey of endoscopy services based in primary care. This survey provides the evidence that such services can be performed successfully in primary care and is probably one of the areas to be considered by intermediate care specialists as part of a primary care gastroenterology service.

each endoscopy unit. (A copy of the questionnaire is available from the authors on request.) This questionnaire was sent to each unit requesting information about the type of endoscopy performed, number of procedures, sterilisation methods, equipment source, training, and continuing medical education relevant to endoscopy undertaken, staffing levels, waiting times, referral criteria and details of any complications.

Results

Out of the 28 units identified 27 returned questionnaires (response rate = 96%), 21 of which were situated in GP surgeries that had been specifically modified for endoscopy and six units that were situated in community hospitals. One GP-based unit rented time in a private hospital for cases unsuitable for the primary care setting. Thirteen of the units performed upper and lower bowel examinations, six performed gastroscopy only and eight flexible and rigid sigmoidoscopy only. Three of the units offered a limited number of colonoscopies.

The average length of time the services had been running was five years with a range of two to 18 years. In total, 41 GPs and 68 nurses were involved in providing the services. The endoscopies were performed exclusively by GPs who had an average of 16 years' experience of endoscopy with a range of six to 25 years.

The total number of endoscopies (upper and lower) performed by the time of the survey is given in Table 1. Figures for the annual throughput of 22 units totalled 8478 procedures.

All but one unit were undertaking audits and the information was shared with the health authority or primary care group/team (PCG/T). Sixteen units had standard referral forms and 14 had locally agreed referral guidelines.

Waiting times averaged 1.2 weeks for urgent cases and 3.4 weeks for non-urgent cases with a range of one to six weeks.

The reported complications for all procedures (36 455) included one fatality. This occurred after a routine flexible sigmoidoscopy as a caecal blow-out, when a stenosing cancer of the transverse colon had acted as a one-way valve for insufflated air. Other complications for all lower bowel procedures (12 260) resulted in six admissions, consisting of three perforations (after colonoscopy) and three unspecified. Four patients had delayed discharge from their units, two for colic, and two for nausea.

Table 1. Total number of endoscopies performed.

Procedure	Total procedures
Gastroscopy	24195
Flexible sigmoidoscopy	7620
Rigid sigmoidoscopy	3254
Colonoscopy	1386
Total endoscopies	36455

For oesophago-gastro-duodenoscopy (OGD) (24195 cases) there were three admissions to hospital, comprising one perforation of a crico-pharyngeal pouch, one admission to accident and emergency with chest pain caused by trapped wind, and one overnight stay for slow recovery following intravenous sedation. All three patients made uneventful recoveries.

For those units using flexible endoscopes all used automatic washing machines to sterilise the instruments and the most commonly used sterilising fluids were glutaraldehyde (66%) and peracetic acid (33%). Seventy-five per cent of the endoscopes used were made by Olympus and the remaining were predominantly Pentax endoscopes. Most units had service contracts for their instruments.

Although the majority of units were not using sedation for the procedures, 58% monitored their patients with pulse oximetry. It is standard practice for pulse oximetry to be used in secondary care units where the majority of procedures are performed under sedation. All units performing flexible endoscopy had access to defibrillators and oxygen but there was no reported incident of having to use them following an endoscopy.

Thirty-nine endoscopists (96%) had undergone training and continued to work in a consultant-based unit. Half of the GP endoscopists had attended endoscopy courses.

Discussion

The NHS plan encourages the development of intermediate care performed by specialist GPs. Endoscopy is often given as an example of intermediate care that could be offered in the community. This paper describes the first survey of such work. Doubt has been cast by secondary care as to the feasibility, desirability, and safety of such work outside of the secondary care setting.

A large number of endoscopies have been performed outside of consultant-led units over the past five years. The majority of procedures were performed without intravenous sedation. The safety record is high with only one death recorded out of 36 455 procedures and very few serious complications. There were no deaths reported in the gastroscopy group (24 195) compared with 1:2000 deaths in hospital practice reported by Quine[3] (series of 14 149). Quine also commented that some hospital units were poorly staffed, lacked basic facilities, and had poor or virtually non-existent recovery areas. In addition, a number of junior endoscopists were performing endoscopy unsupervised and with minimal training. This contrasts with the high levels of well-trained staff in primary care, extensive experience of the endoscopists, and purpose-built, well-equipped premis-

es. The argument that the mortality rate associated with gastroscopy makes the procedure unsuitable for primary care can no longer be supported. Clearly, those procedures carried out in primary care were performed on a selected population of otherwise fit patients and it is not fair to assume that primary care endoscopy is safer than secondary care endoscopy. However, to suggest that endoscopy outside of hospital is unsafe, based on hospital mortality figures is invalidated by this primary care data.

At present the numbers of endoscopies performed in each primary care unit suggest that only one or two lists are running per week. This is an inefficient use of resources, but as most units are still in their infancy there is potential to increase capacity. The enthusiasm for increasing referrals and funding to these units will be based on their track record of safety and quality of work. The PCSG guidelines suggest that no unit should offer fewer than 200 cases of any flexible endoscopy per year and the endoscopist should have continuing association with a secondary care unit for a wider exposure to case mix. Clearly, if more work of this nature is done in primary care then those GPs involved will be less available for core general practice. However, the management of 'simple' dyspepsia is a core activity of general practice; GP endoscopists have a vital role in the diagnosis and management of this important condition. Moreover, it has been suggested that GPs feel more confident in referring to a primary care colleague when dealing with a condition that is exclusive to primary care (personal communication, Dr JSO Dalrymple, 2001).

Access to endoscopy in primary care is fast and, from the data collected, appears to be safe. Thus we conclude that simple diagnostic endoscopies could be performed safely in the primary care setting, leaving the secondary care units to concentrate on patients requiring sedation, those who are acutely ill, and those who require therapeutic procedures.

The survey has left some unanswered questions about community-based endoscopy. These include the effectiveness of referral guidelines, reporting systems, numbers of failed or inadequate examinations requiring referral to specialist units, and the effects on workload within primary care where doctors in a partnership are involved in intermediate care provision. The economics of service provision have not been investigated within this survey but there has been data published showing that rigid sigmoidoscopy performed outside of secondary care is not necessarily a cheaper option.[5] Morbidity has not been investigated in primary or secondary care beyond the figures quoted but it is suspected that patients do experience post-examination symptoms that are directly related to the procedure. We hope that the database of primary care endoscopy units found by this survey will be a valuable resource to answer these questions in the future.

The Primary Care Endoscopy sub-group of the PCSG has prepared a set of guidelines for GPs wishing to offer endoscopy in primary care as a result of this survey. Copies of the Guidelines are available from the PCSG secretariat or from the PCSG website (*www.pcsg.org.uk*).

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