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A Stitch in Time?
Minor Surgery in General Practice

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DISCUSSION PAPER 132

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Summary

This paper describes a study of local evidence from 6 socioeconomically different areas of England about the development of minor surgery in general practice since the 1990 contract. The results are discussed in relation to a review of the literature on minor surgery in general practice.

Evidence suggests that general practitioners in the study areas have taken up the minor surgery option with enthusiasm, indicated by the increased activity. Activity does, however, vary by area, with greater service provision being evident in the more affluent areas. Issues of concern remain, especially lack of appropriate skills and expertise, and research into the most effective teaching methods is urgently needed. Issues of quality and effectiveness have still to be addressed. Local audit is necessary to ensure that increased activity leads to improved patient care.

Introduction

Minor surgery has been provided in general practice on a limited scale for many years, frequently reflecting the interests or expertise of a particular partner, but without payment (Bosanquet and Leese, 1989). It was not until the introduction of the new contract in April 1990 (Department of Health, 1989) that a payment system for minor surgery was introduced, with the aim of reducing hospital waiting lists for relatively minor procedures, and cutting costs. The changes arose partially at least in response to suggestions from hospital based dermatologists that they should be relieved of performing routine treatments (Keefe and Dick, 1988; Stevenson et al, 1991).

The contract stipulated that GPs could only receive payments after being included on the local FHSA's minor surgery list and that they could be paid for up to a maximum of three "sessions", each comprising five procedures, in any one quarter. The payment per session is £106.20 so GPs may earn up to £1274.40 per annum, and may take up the quotas of other listed GPs in their practice (Couch, 1993; Anon, 1994; Cornell, 1994). GPs not on the minor surgery list may still carry out procedures but do not receive payment. In 1991, £23 million was earned by GPs for minor surgery, although this did not add to the NHS bill, since it was part of target net income. Procedures for which approved GPs may receive payment fall into six broad categories; incisions; excisions; aspirations; injections; curette, cautery and cryotherapy; and "others", (Table 1).

Table 1

Procedures eligible for the minor surgery fee

<u>Injections</u>	intra-articular peri-articular varicose veins haemorrhoids
<u>Aspirations</u>	joints cysts bursae hydroceles
<u>Excisions</u>	Sebaceous cysts lipoma skin lesions for histology intra-dermal naevi, papilloma, dermatofibroma etc. warts removal of toe nails
<u>Incisions</u>	abscesses cysts thrombosed piles
<u>Curette, cautery and cryocautery</u>	warts and verrucae other skin lesions
<u>Others</u>	ligation of varicose veins removal of foreign bodies nasal cautery

For GPs who had carried out the listed procedures for many years the scheme was seen as an opportunity for their work to be officially encouraged and paid for, and for them to gain access to supplies such as sterile instruments in an official capacity. It was also seen as an area in which GPs could genuinely improve their service to patients and use their clinical judgement and skills in an unrestricted way. This was in contrast to reaction to the remainder of the contract, which was seen as restricting professional freedom. However, providing incentives for increasing activity is not the same as ensuring quality.

The Study

A survey was conducted in 6 FHSAs, or parts of FHSAs chosen to be representative of different socio-economic areas of England (Bosanquet and Leese, 1988). One partner from each group practice was interviewed about various aspects of practice structure and organisation, including minor surgery provision. The study was carried out during 1993. The study areas can be divided into 2 groups - the London Inner City, NE Industrial and Midlands Urban areas were urban or inner city in character; the NW Suburban, Thames Valley and East Rural areas were rural or suburban.

The response rates for each study area are set out in Table 2. The overall response rate was 81%, ranging from 71% in the East Rural area to 94% in North West Suburban. The results from the study are discussed in relation to the literature on minor surgery.

Minor Surgery in the Study Areas

In all areas combined 834 (79%) of the 1047 GPs in the responding practices were on the minor surgery list, and 210 (20%) were not. There was some variation by area, with only 53 (51%) GPs in the London Inner City area being on the list, compared with 170 (88%) in the East Rural area. The implication is that minor surgery sessions in general practice are more readily available in rural/suburban areas than in the more industrialised or urban areas (Table 3).

Table 2 Response Rates by Area

Area	Total no. group practices	No. responding practices	% Response
NW Suburban	53	50	94
London Inner City	46	33	72
Thames Valley	45	35	78
East Rural	56	40	71
NE Industrial	62	56	90
Midlands Urban	61	46	75
Total	323	260	81

Table 3 also sets out the number of practices providing minor surgery in the 4 study areas in which the information was collected. There was a marked difference between the London Inner City area where 8 (24%) practices and the Midlands Urban area where 6 (13%)

practices did not provide this service and the Thames Valley and the East Rural areas where 94% and 98% of practices, respectively, provided minor surgery.

Recent estimates showed that only about 50% of GPs are on the minor surgery list nationally (Haynes, 1992), although Wall(1991) estimated that of the 180 training practices in the West Midlands, 98% had a listed GP, whilst in Birmingham this figure, at 57% (327 out of a total of 576 GPs) fell closer to the national mean.

Criteria for inclusion on the minor surgery list

Criteria for inclusion on the minor surgery list have not been standardised nationally, and vary widely (Howard and Campos, 1994). Some FHSAs take the view that a medical degree is evidence of competence (Richards, 1990), whilst others apply strict criteria including an assessment of the adequacy of record keeping, sterilisation procedures and availability of clinical staff (Zoltie and Hault,1991). Some FHSAs require "evidence" that GPs can perform all of the listed procedures but in practice, it is unlikely that a GP will feel confident enough to offer all the procedures (Pringle et al, 1991). Others require that GPs attend approved training courses, although the need for such training may decline as GP trainees receive such instruction in their training practices, or as part of their hospital training, or as day release courses. Concern about GP competence (Berry and Harding, 1993) led the Royal College of Surgeons and General Practitioners to set up a minor surgery training scheme backed by the Department of Health (Shannon, 1993), and pilot courses, started in 1994 (Kneebone, 1994).

Table 3 Minor Surgery Provision, by Area

Minor Surgery	NW Suburban	London Inner City	Thames Valley	East Rural	NE Industrial	Midlands Urban	Total
no. responding GPs	221	104	148	193	234	147	1047
no. (%) GPs on minor surgery list	188 (85)	53 (51)	123 (83)	170 (88)	195 (83)	105 (71)	834 (79)
no. (%) GPs not on minor surgery list	33 (15)	50 (48)	25 (17)	22 (11)	38 (16)	42 (29)	210 (20)
missing	0	1 (1)	0	1 (1)	1 (1)	0	3 (1)
no. responding practices	50	33	35	40	56	46	260
no. (%) practices offering minor surgery	-	25 (76)	33 (94)	39 (98)	-	40 (87)	101 (86)
no. (%) practices not offering minor surgery	-	8 (24)	2 (6)	1 (2)	-	6 (13)	17 (14)
not asked	50 (100)	0	0	0	56 (100)	0	106

Premises and Equipment

There is an enormous variety in the quality of premises available for minor surgery, ranging from mini operation theatres (Wiggins, 1992) to a couch in the corner of an existing treatment room. These differences arise partly from the varying demands of FHSAs and partly from the capital available to practice, since it must bear the cost of new equipment. The practice may, however, receive financial assistance with refurbishment of existing premises through the cost-rent scheme, and fundholders may use any budget surplus as they feel appropriate to benefit their patients.

There has been considerable concern over the adequacy of sterility of instruments and dressings used in minor surgery (Farrow et al, 1988; Hoffman, 1987; Morgan et al, 1990). This reflects lack of appropriate equipment and lack of knowledge of the use of sterilising and disinfectant chemicals and equipment. The provision of sterilised instrument packs by local hospitals for GPs has been shown to be cost effective (Sims, 1985) but this service, the cost of which would be borne by the local health authority (except for fundholding GPs), is not readily available to all GPs.

However, in the 6 areas of the study described here, purchase of equipment for minor surgery was common (Table 4). Overall, 69% of practices had purchased such equipment, ranging from 55% of the London Inner City practices to 80% in the NE Industrial area. Items of equipment most likely to be purchased were instruments, sterilisers/autoclaves, cautery equipment and lamps.

An important factor in the provision of some types of minor surgery is the availability of liquid nitrogen. However, 51% of practices performing minor surgery in the study areas did not use liquid nitrogen. Of the remaining 118 practices, 81 (69%) obtained liquid nitrogen from the local hospital, the remainder using a variety of sources (Table 4). Provision was not always free (Table 4). In all, 71 (60%) practices did not have to pay for liquid nitrogen, the numbers depending on practice area. Provision was free to 55% of practices supplied by the local hospital. Sterile instruments were provided for minor surgery for 67 (26%) practices and not for 161 (62%) practices.

Skills and Training

Much concern has been expressed about whether GPs have the necessary experience and skills to carry out minor surgery (Bricknell, 1993). This concern has focused particularly on their ability to excise lesions completely and to diagnose malignant skin lesions (Sims, 1985; Brown et al, 1992; Bull et al, 1991; Catterall et al, 1991; McWilliam et al, 1991). This concern applies particularly to GPs who did not perform minor surgery before the new contract (Bull et al, 1991), although some GPs believe that the standards they must reach before their FHSA will accept them onto the list for minor surgery makes them likely to be more skilled than junior hospital staff (Gerard, 1993). Further areas of concern include the use of inappropriate techniques, performance of unnecessary skin biopsies (Catterall, 1991) and the presentation of specimens which have been wrongly prepared for histological examination (Hillan et al, 1991). However, one study has indicated that GPs are making

Table 4 Equipment and liquid nitrogen purchase, by area

Equipment and liquid nitrogen	NW Suburban n = 50	London Inner City n = 30	Thames Valley n = 35	East Rural n = 40	NE Industrial n = 56	Midlands Urban n = 46	Total n = 260
No. (%) practices which have purchased equipment	31 (62)	18 (55)	25 (71)	28 (70)	45 (80)	32 (70)	179 (69)
No. (%) practices which have not purchased equipment	17 (34)	8 (24)	9 (26)	11 (28)	10 (18)	8 (17)	63 (24)
Not applicable/missing	2 (4)	7 (21)	1 (3)	1 (2)	1 (2)	6 (13)	18 (7)
No. practices using liquid nitrogen	31	8	20	13	40	6	118
Hospital provides liquid nitrogen	22 (71)	6 (75)	17 (85)	4 (31)	29 (73)	3 (50)	81 (69)
A charge is made	22 (71)	5 (63)	9 (45)	3 (23)	3 (8)	1 (17)	43 (36)
A charge is not made	9 (29)	3 (38)	11 (55)	9 (69)	36 (90)	3 (50)	0/1 (60)

appropriate minor surgery decisions (Shorrocks, 1993), and another study has provided evidence that quality of care has not been eroded since the 1990 contract changes (Lowy et al, 1994).

GP fundholders are able to perform procedures such as colposcopy and vasectomy under new guidelines issued by the Department of Health (Department of Health, 1993a). Strict criteria are in place to ensure GPs are appropriately qualified, have suitable premises and equipment and, in addition, consent from the Regional Health Authority has to be received before any procedures are undertaken. However, consultants have expressed concern about whether appropriate mechanisms for supervision are in place (Anon, 1993).

Further evidence of the difference in service provision between urban and suburban/rural areas is indicated in the results of the study set out in Table 5, which show minor surgery provision, by area, before and after the 1990 contract was implemented.

The London Inner City and Midlands Urban areas had the lowest percentage of practices providing minor surgery both before and after the 1990 contract (55% and 76% respectively), with the East Rural area having 98% and the other 3 areas 80%. 24% of practices in the London Inner City area and 13% in the Midlands Urban area did not provide minor surgery sessions, compared with 2-8% of practices in the other study areas (see Table 5).

Overall, 47% (71) of practices providing minor surgery both before and after the 1990 contract reported increased activity, but for the London Inner City area, the corresponding

Table 5 Minor Surgery and the 1990 contract, by area

Minor Surgery Provision	NW Suburban	London Inner City	Thames Valley	East Rural	NE Industrial	Midlands Urban	Total
Increased activity since 1990 no. (%)	-	9 (27)	17 (49)	22 (55)	-	23 (50)	71 (47)*
Decreased activity since 1990 no. (%)	-	0 (0)	2 (6)	0 (0)	-	1 (2)	3 (15)
No change in activity no. (%)	-	9 (27)	7 (20)	17 (43)	-	11 (24)	44 (29)
Not asked	50 (100)	0 (0)	2 (6)	0 (0)	56 (100)	0 (0)	108 -
Provided both before and after 1990 no. (%)	40 (80)	18 (55)	28 (80)	39 (98)	45 (80)	35 (76)	205 (79)
Provided only after 1990 no. (%)	6 (12)	7 (21)	5 (14)	0 (0)	10 (18)	5 (11)	33 (13)
Not applicable	4 (8)	8 (24)	2 (6)	1 (2)	1 (2)	6 (13)	20 (8)

* % of the 152 practices asked. There was also a concern that suturing, a very regularly performed procedure, was omitted.

figure was 27%, compared with 55% in the Thames Valley area (Table 5). Three practices (15%) had decreased minor surgery activity, and for a further 44(29%) there was no change. Doctors in the North West Suburban and North East Industrial areas were not asked.

The inclusion of very minor procedures on the list such as wart removal, led to the concern that doctors would concentrate on quick procedures that did not produce histological specimens, and indeed, initial evidence showed this to be the case (Roberts, 1991). This was reinforced by the Government's decision not to use a system of differential payments. Data on the types of minor surgery carried out may be kept at a practice level and sometimes by the FHSA, but are not available generally to enable analysis of the effect of a non-differential payment system.

Suturing, however, is not a procedure which affects waiting lists and therefore its inclusion would not help to fulfil the aim of reduction of waiting lists. A recent study has indicated, however, that despite a large increase in minor surgery procedures undertaken by GPs in 4 FHSA's since the contract changes, hospital workload had not decreased (Lowy et al, 1993). Procedures most likely to be performed by GPs were wart and verrucae treatment, followed by periarticular injections, abscess incision and sebaceous cyst removal. Very few GPs were treating varicose veins or piles (Morrison and Murray, 1993).

Activity Analysis

The frequency with which minor surgery sessions are held in the study areas is set out in Table 6. The usual choice, by 37% (94) of all practices, was opportunistically. Weekly sessions were offered by a further 62 (24%) practices. Practices in the NE Industrial area

Table 6 Frequency of provision of minor surgery sessions

Frequency	NW Suburban	London Inner City	Thames Valley	East Rural	NE Industrial	Midlands Urban	Total
Not applicable	2 (4)	8 (24)	2 (6)	1 (3)	1 (2)	6 (13)	20 (8)
Weekly	11 (22)	3 (9)	8 (23)	6 (15)	22 (39)	12 (26)	62 (24)
Fortnightly	7 (14)	1 (3)	3 (9)	1 (3)	7 (13)	1 (2)	20 (8)
Monthly	2 (4)	1 (3)	0 (0)	0 (0)	3 (5)	2 (4)	8 (3)
Opportunistically	13 (26)	17 (52)	10 (29)	27 (68)	10 (18)	19 (41)	96 (37)
Weekly and opportunistically	1 (2)	2 (6)	5 (14)	1 (3)	2 (4)	0 (0)	11 (4)
Daily	7 (14)	0 (0)	0 (0)	2 (5)	2 (4)	1 (2)	12 (5)
Other	7 (14)	1 (3)	7 (20)	2 (5)	9 (16)	5 (11)	31 (12)
Total	50	33	35	40	56	46	260

were more likely than those in the other areas to offer weekly sessions (39% compared with 24% for all practices). Opportunistic sessions were most frequent in the East Rural area, where 68% of practices used this option.

Cost Implications

There has been little research on the cost effectiveness of minor surgery at a primary level. This is partly because of the relatively short time since its introduction, and partly because of the difficulties of comparing like with like and of providing hard figures for a sample case, particularly when some hospital cases may be dealt with in several different departments. Theoretically, provision for minor surgery at a primary care level should reduce the rate of hospital referrals (Steele, 1984), and a recent study has shown minor surgery by GPs to be more cost-effective than similar procedures carried out at the hospital. O’Cathain et al. (1992) estimated that the excision of a lesion by a GP cost £33.53 and at the hospital, £45.54. The major saving for the GP lay in not having to provide an initial outpatient visit, and the very much cheaper cost of a follow up visit (£1.07 v £5.96). These findings confirmed previous studies which were carried out before the introduction of the new contract (Godfrey et al, 1990; Wall, 1987; Brown, 1979). Shrank (1991), however, argued that the mean cost for a patient seeing a dermatologist may be lower than estimated by O’Cathain et al (1992), as no procedure may be recommended or the procedure may be performed during the first and only visit. The hospital based dermatologist may be more confident in the diagnosis than a GP would be and might incur a further saving by not ordering a histological examination.

There are some costs which must be borne directly by the GP. These include purchase of equipment, refurbishment and upkeep of suitable premises, the availability of a practice nurse

and the provision of sterile packs and liquid nitrogen (Sims, 1985). However, some of these costs might be supported by the cost rent scheme (premises) or by FHSA reimbursement (staff). Capital outlay for equipment alone is estimated at a minimum of £1410 (Wiggins, 1992), although, as shown in this study, many practices will have some or all of the necessary equipment already available. Wiggins further estimated the cost of running a 30 minute session at £9.80, to include nurses' time and consumables such as sterile gloves, dressings and local anaesthetic. A comparison of such costs to the GP and to hospital are not included in the calculations of O'Cathain et al. (1992).

The maximum which an individual GP can earn from minor surgery, given the restrictions of 3 sessions (15 procedures) per quarter for £106.20 per session, is £1274.40 per year. The average for England is, however, only 34 procedures performed per GP per year (instead of the 60 per year allowed) giving an income per GP of £722.16. In 1990/91 minor surgery per FHSA varied by a factor of 12 in terms of sessions per GP (Audit Commission, 1993).

An analysis of the procedures carried out by GPs in England between October 1991 and October 1992, showed that 30% were injections, 26% excisions, 25% curette, cautery and cryocautery, 9% "other", 5% incisions and 5% aspirations (Department of Health, 1993). Since warts are included in excisions and in curette, cautery and cryocautery, it would be useful to know how many of these procedures were specifically for warts.

Quality Assurance

Although FHSAs are expected to inspect facilities and check the qualifications of GPs, quality assurance is problematic. A survey of 74 GPs in Great Yarmouth and Waveney (Castle,

1990) found that all but one felt they had adequate experience and training to provide minor surgery. This experience had been gained through general practice (36%), house officer posts (41%) and outpatient clinics or experience as medical students or clinical assistants. A more detailed study on training for minor surgery during pre-registration surgical posts, however, revealed a low rate of overall confidence in the ability of students to perform minor surgery (Pringle et al, 1991). A small study by Chew (1991), in which vocational trainees were surveyed, revealed a wide variation in the trainee's perception of the adequacy of their training in each of the procedures, and none felt confident in all the procedures listed, even those who had been surgical senior house officers. Pringle et al. (1991) suggested that for vocational trainees, most minor surgery procedures could be mastered during a pre-registration surgical post. Alternatively, special attachments to dermatology and to Accident and Emergency departments could be made. For qualified GPs there is potential for teaching within the practice and on day release courses (Wall, 1991), and there has been provision by colleges such as the Royal College of Surgeons and the Royal College of General Practitioners and by commercial organisations for postgraduate training. In regions where there is a continuing GP education programme which includes minor surgery, this is thought to have contributed to a high success rate in the excision and management of skin tumours (Haynes, 1992).

However, GPs may not have access to the support services such as histology which are available in hospitals, and may lack experience because of the limit placed on the number of procedures which may be performed for payment in a year, although there is no reason why additional, unpaid, procedures should not be carried out. It has been suggested that FHSAs should set up training sessions in conjunction with other local bodies, and provide accreditation. There should also be monitoring of outcomes (Audit Commission, 1993).

Implications of changes in general practice for the hospital based dermatology service should be considered against the benefits to GPs and their patients. The benefits of GPs holding minor surgery sessions including dermatology have already been mentioned, and include a reduction in waiting times and a possible cost saving. The benefits for fundholders of consultant held clinics within the practice similarly include a direct saving to the practice of hospital outpatient appointment costs, which would be set against the cost of employing the consultant, and an increase in patient satisfaction through a reduction in waiting time (Benady, 1992), and, in many cases, easier access.

The effect of the new arrangements on hospital waiting lists has yet to be fully evaluated, and indeed this is a very problematic area, since their length is influenced by many different factors. In the relatively short time since the introduction of the new contract, there is some evidence of an increase in the number of minor surgical procedures performed by GPs, without a corresponding fall in local hospital numbers (Lowy et al, 1993) implying that GPs are performing procedures which would not otherwise be done. However, some areas were experiencing an increase in the number of skin biopsy specimens submitted by GPs to local hospitals even before the new contract was introduced (Williams et al, 1991) whilst in others, an increase in the numbers of specimens from GPs was observed simultaneously with an increase in the numbers from surgical units (Bull et al, 1991; McWilliam et al, 1991). It has indeed been argued that several of the listed procedures are so far down that hospital waiting lists that they would be unlikely to be carried out anyway (Shrank, 1991).

Discussion

The new arrangements for minor surgery included in the new contract of April 1990 were one of the few parts of the contract that was greeted with any enthusiasm by GPs. The evidence from this study of practices in six FHSAs indicates that GPs have taken up the minor surgery option with enthusiasm, indicated by the increased activity. There are many issues which are, however, still of concern and of these, lack of appropriate skills and expertise are foremost. Many aspects of the concerns discussed could be addressed by appropriate training, and there is an urgent need for further research into the most effective methods of teaching diagnostic, management and surgical skills. In effect, the issues of quality and cost effectiveness have not been sufficiently addressed. Hospital waiting lists for minor surgery are still high, and it will probably never be possible to evaluate completely the effects of the new arrangements on such a complex issue. The cost effectiveness and appropriateness of minor surgery at a primary level have received little attention, although again these are difficult to evaluate precisely. There is no doubt that evaluation would be assisted by a thorough audit of minor surgery both by GPs and by hospitals, to include the types of procedures being done, waiting times for treatments, the proportion of procedures generating specimens for examination, infection and complication rates and health benefits to patients. Until such information is available, little progress can be made on the evaluation of the new arrangements. Increased activity as a result of the 1990 contract changes is not in dispute, but the wider, and important issue of quality and health benefits have still to be addressed, although recent training initiatives should go some way towards redressing the balance. There is, however, a need for local agreements with FHSAs which provide detailed arrangements for audit and for improving quality, to ensure that increased activity leads to improved patient care.

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