Urinary incontinence: prevalence, need for treatment, and effectiveness of intervention by nurse

James O'Brien, Margaret Austin, Parminder Sethi, Patrick O'Boyle

Abstract

***Objective*—To measure the unmet need of patients with regular urinary incontinence (incontinence twice or more a month) treatable by a nurse.**

***Design*—Self completed postal questionnaire and randomised controlled trial of assessment and intervention by a nurse.**

***Setting*—One urban and one rural general practice in Somerset.**

***Subjects*—7300 adults randomly selected from 10 300 aged 35 and over on the combined practice lists. 515 women and 185 men with regular incontinence were offered assessment and treatment, of whom 134 women and 49 men had no intervention for three months (historical controls). They then joined the assessment and treatment programme.**

***Intervention*—Four sessions of pelvic floor exercises and bladder retraining supervised by non-specialist nurse who had taken a three week course on assessing and treating uncomplicated incontinence.**

***Main outcome measures*—Number of patients desiring treatment; self reported cure, improvement, or deterioration in continence after three months.**

***Results*—The questionnaire achieved a 79% response. Validated responses showed a prevalence of 4·4% in men and 16·4% in women aged 35-64. 315 (45%) of the 700 patients offered assessment refused it and seven had moved away or died, 64 men and 41 women were referred to their general practitioner. 197 of 292 treated women (68%) reported cure or improvement compared with seven (5%) of controls. 22 of the 86 men desiring treatment were suitable for intervention by the nurse. Seventeen were cured or improved compared with none of the men in the control group.**

***Conclusions*—About half the people with regular urinary incontinence took up the offer of treatment (9·2% of women and 3·4% of men in the study population). This condition can be effectively managed by a nurse with limited training.**

Somerset District Health Authority, Taunton TA2 7PQ
James O'Brien, MFPHM, *senior registrar in public health medicine*
Margaret Austin, SRN, *research nurse*

Musgrove Park Hospital, Taunton, Somerset
Parminder Sethi, FRCS, *clinical research fellow*
Patrick O'Boyle, FRCS, *consultant urologist*

Correspondence to:
Dr James O'Brien, Ministry of Health, PO Box 349, Honiara, Solomon Islands.

BMJ 1991;303:1308-12

Introduction

Incontinence is still a taboo subject. People are reluctant to bring up the topic with their doctor because of embarrassment or a feeling that the problem will get better.[1] This sensitivity among the public and the widely held belief among the medical and nursing professions that incontinence is more of a nuisance than a real problem,[2] has led to consistent under-reporting. Two previous studies on the prevalence of urinary incontinence have found that for every case of recognised incontinence (incontinence known to a member of the primary care team) there are about 20 unrecognised cases.[3,4]

For those patients who do present to their general practitioner good results can be achieved.[5] Case series from hospitals and specialist urological outpatient clinics report impressive results with cure and improvement rates reaching up to 90% in these self selected groups.[6,7] But these studies have not explored the link between the prevalence of the disorder in the general population, the proportion of people who desire treatment, and the success rate possible with this group.

Previous studies suggest that most incontinent patients have pure stress incontinence or urge incontinence or a mixture of both.[8,9] The primary treatment of these two conditions is not complicated: physiotherapy for the first and bladder retraining for the second.[10] These patients could be treated by suitably trained nurses[11] but this has not been tested in any controlled trials.

We conducted a study to measure the unmet need of patients with treatable incontinence by estimating the prevalence of regular incontinence in adults aged 35 years and over in two large Somerset general practices; estimating the proportion of affected people who demand treatment; and measuring the effectiveness of treatment from a suitably trained nurse in the survey cohort identified as regularly incontinent.

Subjects and methods

We started the prevalence survey in October 1989. The sampling frame was the 10 300 adults aged 35 years and over on the computerised practice lists of two large practices in Somerset (total list size 21 000), one urban and one rural. A sample size was calculated for each partner in proportion to the size of their list. Each partner was then given a random letter of the alphabet and surnames were then drawn sequentially until the total sample of 7300 was collected.

The definition used to determine regular incontinence was similar to that used in other studies—that is, two or more leaks in any one month.[1,3,4] Mild incontinence was defined as leaks less than twice a month. An invitation letter, signed by the patient's general practitioner and one of us (JO'B), and a self completion questionnaire were sent to all patients. Non-responders were sent a reminder letter four weeks later.

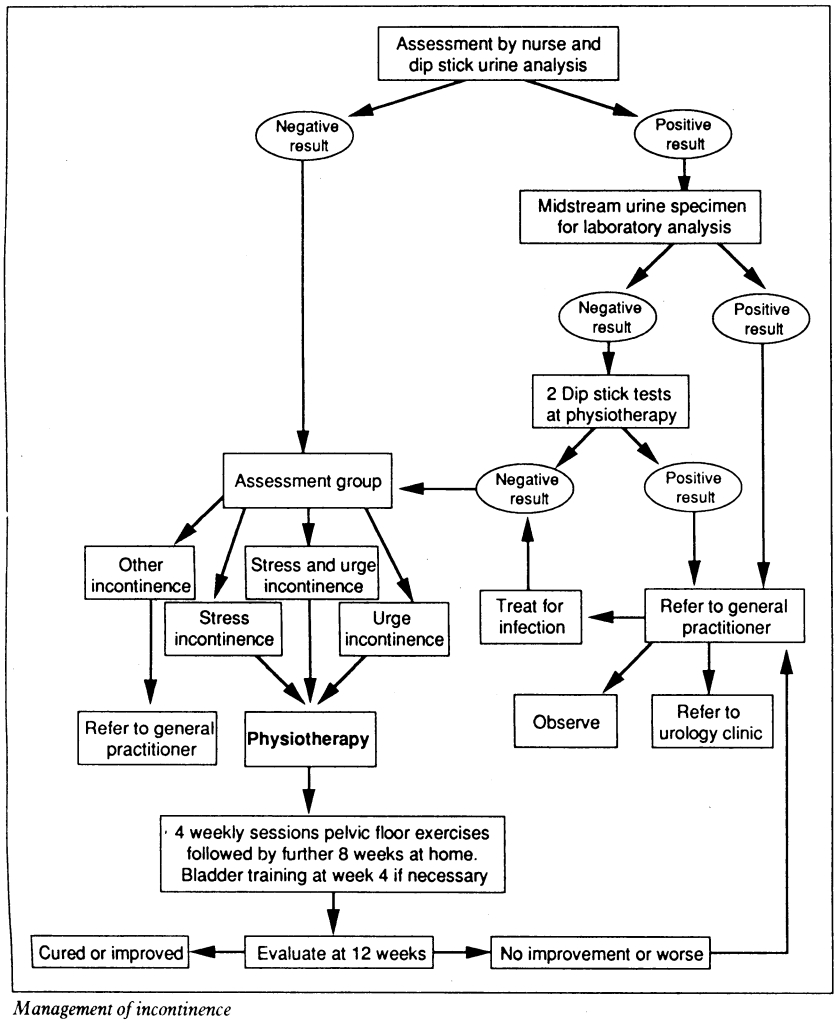
All patients reporting regular incontinence were followed up either by telephone or in person and their original written responses validated. We assigned all patients a study number, and from this list we selected a 50% random sample of patients, 134 women and 49 men, from the rural practice using a computer based random number generator. These patients were left for three months without assessment or treatment to act as historical controls. After this time the control group were asked about any intervening improvement or deterioration in their continence and were then offered assessment and treatment in the same manner as the intervention group. The results following intervention

in this group are included in the overall intervention group results.

A nurse (MA) who had no previous specialist urological training was recruited to conduct the assessments and treatment programmes for the study. She undertook a three week training programme with the continence adviser and specialist physiotherapist at the local district general hospital.

All patients were invited to attend an assessment at their local surgery. Each assessment took about 30 minutes. A detailed medical, surgical, and urological history was taken. The patient's urine was tested by dipstick (N-Multistix SG, Ames, United Kingdom). A midstream specimen of urine was taken if blood, protein, or nitrites were found in the urine. If this result was negative and blood had been detected by dipstick testing, two more specimens were checked by dipstick. Women were examined vaginally for atrophic vaginitis. Both men and women were palpated abdominally after micturition to attempt to ascertain whether they had any retention of urine. The figure summarises the management of patients.

The symptoms and findings of examinations were used to categorise patients into four groups: stress incontinence, urge incontinence, mixed stress and urge incontinence, and others. Stress incontinence was diagnosed when the predominant presenting symptom was leaking when coughing, walking, or rising from a chair or an inability to interrupt the stream. Urge incontinence was diagnosed when the predominant symptoms were a desire so great that patients would be wet if they could not get to the toilet or an inability to hold on for five minutes or more, or both mixed stress and urge incontinence was diagnosed when no one set of symptoms predominated. The others category included all those with symptoms or signs of voiding difficulties and those in whom the diagnosis was unclear.



Management of incontinence

TABLE I—*Prevalence of regular urinary incontinence (leaks twice or more a month)*

Age	Women: Sample size	Women: No (%) with regular incontinence	Men: Sample size	Men: No (%) with regular incontinence
35-44	677	109 (16·1)	576	14 (2·4)
45-54	577	96 (16·6)	511	28 (5·5)
55-64	713	119 (16·7)	584	33 (5·7)
65-74	644	91 (14·1)	506	61 (12·1)
≥75	544	100 (18·0)	319	49 (15·4)
Total	3165	515 (16·3)*	2496	185 (7·4)†

*95% Confidence interval 15·0% to 17·6%.
†95% Confidence interval 6·4% to 8·4%.

Pelvic floor exercise classes were offered to all patients with stress incontinence, urge incontinence, and mixed stress and urge incontinence. For patients with symptoms of urge incontinence bladder training was introduced four weeks after starting pelvic floor exercises. All patients with other diagnoses were referred to their general practitioner.

The nurse supervised all classes. Patients were taught a series of structured exercises aimed at improving pelvic tone. The classes (afternoon and evening) were conducted at a clinic within 3 km of the surgery. Very elderly or immobile patients were visited at home. After completing the four session course patients were asked to continue the exercises at home for another eight weeks.

Patients were followed up 12 weeks after assessment. A structured telephone interview was conducted whenever possible, and if not, patients were sent a postal questionnaire. These interviews were conducted by two doctors from the department of public health medicine to avoid the potential reporting biases of follow up by the research nurse. Patients were asked to report whether in their opinion their incontinence was cured, improved, the same, or had deteriorated. Specific questions aimed at enabling a more objective assessment of bladder function included their ability to hold on for five minutes and interrupt their stream and their use of incontinence pads.

Twenty one patients (15%) were selected by random number sequencing for reassessment by a clinical research fellow in urology (PS), who was blind to the results of the assessment and treatment plan. χ^2 tests were used to compare differences between groups. McNemar's test was used to compare before and after treatment indicators of bladder function.

Results

PREVALENCE SURVEY

We received replies from 5661 of 7300 patients sent questionnaires; 117 patients had died or were unknown at their address, giving a response rate of 79%. Response rates did not differ significantly between the urban and rural practices. The age and sex profile of the respondent population did not differ significantly from that of the total population of Somerset Health District (which has a slightly older population than the United Kingdom as a whole; 7·7% over 75 years compared with 6·4% in United Kingdom).

Of the respondents, 3762 indicated that they were continent, 1109 that they had mild incontinence, and 784 that they had regular incontinence; six returns were spoilt. All 784 regularly incontinent patients were contacted. Before assessment 32 were found not to comply with the definition used and at assessment a further 52 fell outside the definition. In total 515 women and 185 men had regular urinary incontinence (table I).

Of the 700 incontinent patients, 315 declined the offer of assessment. A further seven patients had either moved or died. Therefore 378 patients confirmed as regularly incontinent were enrolled in the treatment programme.

PATIENTS VOLUNTEERING FOR ASSESSMENT

Most of the patients enrolled in the programme (345; 91%) had been incontinent for more than a year (table II). About one third had discussed their problems with either their general practitioner or the district nurse at some time. Of these, 23 (20%) had been assessed within the past year, 56 (50%) between one and five years previously, and 34 (30%) had never been assessed. Overall 19% were using incontinence aids, mostly pads and pants, 95% of which were self supplied.

TABLE II—*Delays in seeking help and the pattern of service use*

	No (%) women (n=292)	No (%) men (n=86)
Incontinent for >1 year	268 (92)	77 (89)
Incontinent for <1 year	24 (8)	9 (11)
Using incontinence aids:		
Self supplied	64 (22)	3 (4)
NHS supplied	3 (1)	1 (1)
Discussed with general practitioner or district nurse	88 (30)	25 (29)

Sixty four men (74% of all regularly incontinent men) and 41 women (14%), were referred to their general practitioner (27% of the total). In 48 men, the referral was because of possible prostatic hypertrophy. Twenty seven women were referred for haematuria and nine for urinary tract infections.

Nineteen patients were referred to the urology department of the district general hospital. Thirty eight patients (all women) were treated for urinary tract infection and rejoined the programme. Forty two of the 48 men referred with prostatic problems were kept under surveillance by their general practitioner as their obstructive symptoms were judged not to warrant surgical intervention at that time.

Stress incontinence was diagnosed in 160 women (55%), urge incontinence in 29 (10%), mixed stress and urge incontinence in 91 (31%), and other incontinence in 12 (4%). In men the distribution of diagnoses was one (1%), 18 (20%), three (4%), and 64 (75%) respectively. In younger women (35-54) stress incontinence was diagnosed in about 65% of cases but in women over 65 it accounted for only 40%, decreasing to less than 20% in those over 85. The prevalences of mixed stress and urge incontinence and urge incontinence showed a reversed pattern with prevalence increasing with increasing age.

Twenty one patients were randomly selected from the urban practice for reassessment by PS. There was complete agreement on the diagnosis and management plan in 19 cases (90·5%, 95% confidence interval 69·6% to 98·8%). In the two other cases the nurse diagnosed stress incontinence whereas the doctor diagnosed combined stress and urge incontinence.

TABLE III—*Comparison of self reported change in continence in 378 patients offered assessment and treatment with 183 controls left without intervention for three months*

	No (%) of women		No (%) of men	
	Treatment group	Control group*	Treatment group	Control group*
Cured	31 (11)		1 (1)	
Improved	166 (57)	7 (5)	16 (19)	
Same	74 (25)	125 (93)	69 (80)	49 (100)
Deteriorated	5 (2)	2 (1)		
Lost to follow up	16 (5)			
Total	292 (100)	134 (100)	86 (100)	49 (100)

*Patients in the control group joined the assessment and treatment programme after a 12 week delay and the results following intervention with this group are included in the total treatment group.

TABLE IV—*Measures of continence before and after treatment in 311 patients* treated with pelvic floor exercises and bladder retraining*

	No (%) of patients	
	Before treatment	After treatment
Can you "hold on" for five minutes?		
Yes	186 (60)	235 (76)
No	125 (40)	60 (19)
Lost to follow up		16 (5)
Can you interrupt your stream?		
Yes	147 (47)	229 (74)
No	164 (53)	66 (21)
Lost to follow up		16 (5)
Patients using pads	73 (23)	52 (17)
No of pads used per day:		
0		21 (7)
1	29 (9)	22 (7)
2	20 (6)	11 (4)
3	11 (4)	5 (2)
≥4	13 (4)	9 (3)
Lost to follow up		5 (7)
Mean pad use/day	2·1	1·4

*Of the 378 patients assessed by the incontinence nurse, 64 men and three women were not suitable for bladder exercises because of symptoms of bladder neck obstruction or other complications.

RESULTS OF INTERVENTION

In all 197 (68%) women reported improvement or cure after treatment compared with seven (5%) in the control group (table III). Seventy four treated women reported no change and five women had deteriorated. In men only 22 out of 79 were suitable for intervention by the nurse but of these, 17 (77%, 95% confidence interval 59% to 95%) said they were cured or improved.

The proportion of patients' able to hold on for five minutes or more improved from 60% to 76% after intervention (table IV); 16 (5%) patients deteriorated after treatment (McNemar's test: $U=5·6$, $p<0·0001$). Similarly 74% of patients were able to interrupt their stream after treatment as compared with 47% before treatment, five (2%) patients deteriorated after treatment ($U=9·3$, $p<0·0001$). The use of pads also fell: 21 (29%) of those who previously had used pads no longer needed them, and the quantity of pads used by those still requiring protection fell on average by 35%.

Women with stress incontinence were more likely to benefit from intervention than those with urge incontinence or mixed stress and urge incontinence (table V). Proportionately more patients with urge incontinence reported cure, but the numbers within this group were too small to make valid comparisons. Patients with mixed stress and urge incontinence did less well with only just over half reporting improvement or cure. The differences in outcomes between diagnostic groups was significant ($p=0·014$).

Cure rates were highest among the 45-54 year olds and decreased steadily with age. Improvement rates were highest among the 55-64 year olds and thereafter decreased with increasing age ($p=0·022$). Improvement was strongly associated with increasing attendance at sessions ($p<0·0001$). As elderly patients were less likely to attend more than one session the association between improvement and attendance at sessions may be confounded by the association with age.

Discussion

Comparison with other studies shows that the prevalence of regular incontinence in Somerset is similar to that found elsewhere.[1,3,12] The diagnostic categories used in this study, stress, urge, and stress and urge, describe the symptoms of incontinence and do not describe the conditions of either genuine stress incontinence or detrusor instability as these diagnoses

TABLE V—*Factors influencing outcome of treatment in women*

	No (%) cured (n=31)	No (%) improved (n=166)	No (%) not improved (n=79)	Total (n=276)	p Value*†
Age group:					
35-44	9 (16)	33 (59)	14 (25)	56 (100)	
45-54	12 (20)	33 (55)	15 (25)	60 (100)	
55-64	5 (7)	48 (72)	14 (21)	67 (100)	=0·022
65-74	4 (7)	32 (59)	18 (33)	54 (100)	
⩾75	1 (3)	20 (51)	18 (46)	39 (100)	
Type of incontinence:					
Stress	19 (13)	104 (68)	29 (19)	152 (100)	
Urge	5 (18)	16 (57)	7 (25)	28 (100)	=0·014
Stress and urge	7 (8)	46 (51)	38 (42)	91 (100)	
Other			5 (100)	5 (100)	
No of attendances at classes:					
0	2 (9)	4 (18)	16 (73)	22 (100)	
1	4 (4)	51 (53)	41 (43)	96 (100)	
2	2 (14)	10 (71)	2 (14)	14 (100)	=0·001
3	5 (17)	19 (63)	6 (20)	30 (100)	
4	18 (16)	82 (72)	14 (12)	114 (100)	

*Sixteen of the 292 women treated were lost to follow up.
†χ^2 test.

TABLE VI—*Unmet need for treatment of incontinence*

	No (%) women (n=3165)	No (%) men (n=2496)
Self reported incontinence	576 (18·2)	208 (8·3)
Validated incontinence	515 (16·3)	185 (7·4)
Desiring treatment	292 (9·2)	86 (3·4)
Improved or cured by intervention from nurse	197 (6·2)	17 (0·7)

require urodynamic investigation.[13] Stress incontinence was the commonest symptom in women, followed by stress and urge, and urge incontinence. Similar symptom patterns have been shown in other studies[14] and the pattern equates closely with that of cystometric diagnoses among patients referred to urodynamic clinics.[15] These symptom diagnoses were validated in a random subsample of 21 patients and the level of concordance was high.

Our study confirms that regular incontinence is a common problem, particularly among middle aged women and elderly men. However, the prevalence of the condition does not necessarily equate with the need for treatment. Previous studies have suggested that services for patients with incontinence are inadequate as judged by comparing the levels of uptake of NHS supplied incontinence aids with the known prevalence of incontinence.[1 3 4 14] Almost half of all patients confirmed as regularly incontinent declined the offer of assessment and treatment despite our efforts to ensure that the treatment services were as accessible as possible. Physiotherapy and bladder retraining classes were held in the afternoons and evenings and as close to the patient's home as possible. Home visits were made to elderly immobile patients.

If the need for health care is defined as "the appropriate level of provision of health care interventions that is both effective and desired by the population"[16] then clearly the population requiring incontinence services is about half the prevalent incontinent population (table VI) and equates to about one in 10 women and one in 30 men aged over 35.

RESPONSE TO TREATMENT

The response to treatment in this study compares favourably with case series and randomised trials conducted both within primary care and in the hospital setting. For women with stress incontinence, treatment options range from conservative management such as physiotherapy to a variety of surgical procedures.[17] Clinical trials in women referred to hospital with stress incontinence have shown that physiotherapy continued over four weeks can improve or cure almost two thirds.[18 19] Our cure or improvement rates reached 80% in women with stress incontinence, with 13% becoming completely dry after three months. A good response to treatment was closely associated with attendance at physiotherapy sessions and reinforces the advice that success after pelvic floor exercises depends on the patient's cooperation and motivation. We have shown that a nurse given limited training on the anatomy and physiology of the pelvic floor and physiotherapeutic techniques can produce success rates comparable with those of a physiotherapist when treating women with stress incontinence.[18 19]

Over half the women with urge incontinence improved and 18% reported cure. Among women with stress and urge incontinence only 8% achieved dryness and a further 50% showed some improvement. These results are similar to those in other studies using bladder training alone.[20 21] In our study patients with urge and mixed stress and urge incontinence were given a course of pelvic floor exercises followed by sessions of bladder training. Bladder training, which consists of asking patients to hold on for longer and longer before using the toilet and also toileting at regular intervals, requires that the pelvic muscles are in good shape. Pelvic floor exercises give patients the encouragement and confidence to enable them to attempt bladder training.

Response to treatment was gauged by asking patients whether they felt their problem had been cured, had improved, had stayed the same, or had deteriorated. This subjective assessment needs cautious interpretation. Patients may have overestimated their true response to treatment, and it is difficult to estimate the contribution of the placebo effect. More objective methods of assessing improvement, for example perineal pad weighing before and after intervention, have been used in some small hospital studies.[22-24] This measurement technique is not feasible in such a large community based intervention study. However, the subjective assessments of patients match closely with the objective assessments of patients' ability to hold on for five minutes or more, their ability to interrupt their stream, and their use of pads. Cure and improvement rates were also strongly associated with attendance at classes. These findings suggest that the reported cure and improvement rates are indeed valid.

Seventy four per cent of all regularly incontinent men were referred to their general practitioner by the nurse, most because of possible prostatic hypertrophy. Though it is reassuring that the nurse could accurately diagnose prostatic hypertrophy, the diagnosis should always be checked by a general practitioner before referral. Seventeen of the 22 men who were confirmed as having incontinence that was potentially treatable by conservative management showed extremely encouraging improvement and cure rates.

Conclusions

Our study confirms the great reluctance of patients to bring their incontinence problems to the attention of members of the primary care team. Less than one third of all patients with regular incontinence had discussed their problem with either their general practitioner or their district nurse. Of perhaps greater importance is that even among those who had discussed their problems only 20% had been assessed within the past year and 30% had never had any form of assessment.

Since 1985 the number of nurses specifically employed as continence advisers has increased greatly, and almost all health authorities now employ at least one.[25] Their principal role is to advise members of the primary care team, in particular district nurses, on the correct diagnosis and management of patients with incontinence. There are, however, few reports of either district or practice nurses offering structured physiotherapy sessions to patients who would benefit.[11] If our findings are representative of other health

districts about a million women and 100 000 men in the United Kingdom are living with easily treatable regular incontinence.

We thank Drs H Yoxall, R Davies, and all the doctors and staff of Blackbrook and Williton surgeries. We also thank Mrs Brown, continence adviser; Mrs Pomeroy, physiotherapist; Dr P Ewings for statistical advice; and Dr C Bowie and colleagues in the department of public health medicine, Somerset, for comments on earlier drafts.

1 Holst K, Wilson PD. The prevalence of female urinary incontinence and reasons for not seeking treatment. *N Z Med J* 1988;**101**:756-8.
2 King's Fund. *Action on incontinence*. London: King's Fund, 1983. (Project paper No 43.)
3 Thomas TM, Plymat KR, Blannin J, Meade TW. Prevalence of urinary incontinence. *BMJ* 1980;**281**:1243-5.
4 Feneley RC, Shepherd AM, Powell PH, Blannin J. Urinary incontinence: prevalence and needs. *Br J Urol* 1979;**51**:493-6.
5 Jolleys JV. Diagnosis and management of female urinary incontinence in general practice. *J R Coll Gen Pract* 1989;**39**:277-9.
6 Jarvis GJ, Millar DR. Controlled trial of bladder drill for detrusor instability. *BMJ* 1980;**281**:1322-3.
7 Pengelly AW, Booth CM. A prospective trial of bladder training as treatment for detrusor instability. *Br J Urol* 1980;**52**:462-6.
8 Hilton P. Urinary incontinence in women. *BMJ* 1987;**295**:426-32.
9 Brocklehurst JC, Fry J, Griffiths LL, Kalton G. Urinary infection and symptoms of dysuria in women aged 45-64 years. *Age Ageing* 1972;**1**:41-7.
10 Urinary incontinence in elderly patients. *Lancet* 1986;ii:1316-7.
11 Hall C, Castleden CM, Grove GJ. Fifty six continence advisers, one peripatetic teacher. *BMJ* 1988;**297**:1181-2.
12 Mohide EA, Pringle DM, Robertson D, Chambers LW. Prevalence of urinary incontinence in patients receiving home care services. *Can Med Assoc J* 1988;**139**:953-6.
13 Bates P, Bradley WE, Glen E. Standardisation of terminology of lower urinary tract function. *Urology* 1977;**9**:237-41.
14 McGrother CW, Castleden CM, Duffin H, Clarke M. Provision of services for incontinent elderly people at home. *J Epidemiol Community Health* 1986;**40**:134-8.
15 Castleden CM, Duffin HM, Asher MJ. Clinical and urodynamic studies in one hundred elderly incontinent patients. *BMJ* 1981;**282**:1003-5.
16 Frankel SJ, Williams MH, Nanchahal K, Coast J. *Epidemiologically based needs assessment. Total hip and total knee joint replacement*. Bristol: Health Care Evaluation Unit, 1990.
17 Stanton SL, Cardozo LD. Surgical treatment of incontinence in elderly women. *Surg Gynecol Obstet* 1980;**150**:555-7.
18 Castleden CM, Duffin HM, Mitchell EP. The effect of physiotherapy on stress incontinence. *Age Ageing* 1984;**13**:235-7.
19 Harrison SM. Stress incontinence and the physiotherapist. *Physiotherapy* 1983;**69**:144-7.
20 Jarvis GJ, Millar DR. Controlled trial of bladder drill for detrusor instability. *BMJ* 1980;**281**:1322-3.
21 Pengelly AW, Booth CM. A prospective trial of bladder training as treatment for detrusor instability. *Br J Urol* 1980;**52**:463-6.
22 Sutherst J, Brown M, Shawer M. Assessing the severity of urinary incontinence in women by weighing perineal pads. *Lancet* 1981;i:1128-30.
23 Fantl JA, Harkins SW, Wyman JF, Choi SC, Taylor JR. Fluid loss quantitation test in women with urinary incontinence: a test-retest analysis. *Obstet Gynecol* 1987;**70**:739-43.
24 Henalla SM, Kirwin P, Castleden CM, Hutchins CJ, Breeson AJ. The effect of pelvic floor exercises in the treatment of urinary stress incontinence in women at two hospitals. *Br J Obstet Gynaecol* 1988;**95**:602-6.
25 Smith NK. Continence advisory services in England. *Health Trends* 1988;**20**:22-4.

(Accepted 17 July 1991)

The Future of General Practice

Caring for larger lists

G N Marsh

There is no reason why the average number of patients on the list of each general practitioner should not be about 4000. At the moment the average is well under 2000 and tending to fall. The new general practice contract contains incentives for list sizes to grow, and the government is interested that they should do so to contain expenditure on the health service. But larger lists can also make good professional sense.

Caring for 4000 patients obviously depends on good organisation and well developed teams, and the first advantage of large lists is that patients will receive care from team members more skilled than general practitioners in various types of care. Thus why should a general practitioner spend time providing marriage guidance when this can be done more competently (and more cheaply) by a counsellor? Or why should general practitioners run well person clinics when this can be done efficiently by nurses trained to do that task. Similarly it is sensible for practice management to be carried out by managers, leaving doctors to get on with the tasks for which their training particularly suits them.

The other important professional advantage to large lists is that the general practitioners see the various manifestations of disease more often. Thus they may be better able than practitioners with smaller lists to maintain their skills at diagnosing and treating emergencies like myocardial infarction and abdominal pain, dealing with rarer clinical appearances, as well as becoming more experienced in the commoner chronic illnesses.

This paper looks at how general practitioners can manage large lists and reviews the now considerable body of evidence on how this may bring benefits.

Norton Medical Centre, Stockton on Tees TS20 1AN
G N Marsh, FRCGP, *general practitioner*

BMJ 1991;**303**:1312-6

Primary health care team

Since the 1966 family doctor's charter[1] the grouping of doctors and formation of teams has gathered momentum.[2,3] Sharing care with fellow professionals in a primary health care team is the main way of reducing doctors' work. The new contract stipulates that doctors must provide adequate, daily, access to their patients; nevertheless, one of their main functions is to direct patients to other members of their team. Psychological and social problems can be shared with fellow carers better informed in these areas.[4] Even for physical illness, once the diagnosis has been established and management organised, much of the continued care can be done by nurses.[5-8] Patients must also have direct access to team members who are not doctors. Each member of the team has an important role in running an efficient practice.

ADMINISTRATIVE AND MANAGEMENT STAFF

Efficient trained receptionists and clerks should ensure a steady flow of patients to the doctors, and provide them with instant access to well ordered records on paper or computer.[9] Informed receptionists can answer many patients' queries, advise them who to see, and convey messages to and from the doctor. The practice manager coordinates the team, and by working with the family health services authority, accountants, architects, and solicitors, can relieve doctors of most of their administrative work.[10,11] It is the manager who should have taken on the work resulting from the new contract and fundholding.[12] Extra money is being paid to fundholding practices for more management staff.

NURSING TEAM

The nurses are the clinical powerhouse of the team. Effective traditional community nursing can reduce the doctors' load[5-8] and information gained during home visits, particularly to elderly and chronically sick patients, can be shared with doctors, thus reducing the need for doctors to visit. Practical nursing can be delegated to less highly trained assistants, in theory