Use of acute medical and general-practitioner beds by the practitioners working in one new town

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SUMMARY Patients admitted to hospital by a defined group of general practitioners under their own care differ in age, diagnostic category, perceived needs, use of services and outcome, from those admitted by the same general practitioners to consultant beds. However, problems of methodology have to be kept in mind when interpreting the results.

These findings suggest that general practitioners see consultant and general-practitioner care as having different attributes but only broadly indicate the nature of these. This study has not attempted to answer the question of outcome: What are the needs of the patient which can be most satisfactorily met by different forms of care—consultant care, general-practitioner care in hospital, and general-practitioner care at home?

The next stage must be the development of both a more valid measure of a wide range of needs, and controlled trials of care into the effects of different forms and place of care on patients with differing types of needs.

Introduction

The establishment of a tripartite National Health Service in 1948 formalised the division which already existed between general-practitioner or primary care and hospital or secondary care. Since then there has been a great deal of controversy about the general practitioner's precise role in the hospital, the need for him to have access to beds, and the practical organisation of such beds within the hospital service. Recent studies appear to confirm the long held view that not all cases in consultant beds require the skills of the consultant (Crombie and Cross, 1959; Loudon, 1972; Torrance *et al.*, 1972). The two most recent studies were based on general-practitioner attitudes in areas where there were no practitioner beds.

Little is known about whether general practitioners do, in practice, select patients for consultant or general-practitioner care in hospital when a choice is available. Many studies have described the characteristics of patients in general-practitioner beds (Wilkinson, 1968; Wigoder *et al.*, 1968; Warren, 1962; Oxford RHB, 1965), but few have formally compared the demographic and diagnostic characteristics of patients in general-practitioner and acute specialist beds to see if these beds are being used in different ways.

The Chief Medical Officer of the Ministry of Health (*Annual Report of the Chief Medical Officer of Health*, 1960) using the hospital in-patient enquiry reports has compared the demographic and diagnostic data for patients in officially designated general-practitioner hospitals with those for patients in specialist beds, and Clarke and Bennett (1973) looked at all immediate admissions to one group of hospitals from a defined area. They both found that those cared for by general practitioners were older, stayed longer in hospital and represented a higher proportion of stroke, cardiovascular, and respiratory

disease cases than those under the care of consultants. We obtained similar results from a study of the use of acute medical and general-practitioner beds in Basingstoke (Trevelyan and Cook, 1972). But all these studies have differences which makes comparison difficult. The Chief Medical Officer used the official designation of general-practitioner and specialist beds which may bear no relationship to their actual use. Clarke included only immediate (not waiting list) admissions and obtained details from the general practitioner on only 50 per cent of these. In our study patients in general-practitioner and consultant care came from two populations which may have been different. The consultant cases lived up to 20 miles from Basingstoke and were referred by 55 general practitioners. The patients under general-practitioner care came from within a six mile radius of the town and were referred by only 24 general practitioners.

This study

It seemed necessary to find out more accurately whether practitioners select the cases they admit to their own care and whether they thus fulfil a different function from consultants in their care of patients in hospital. We therefore carried out a further analysis of our Basingstoke data. We included only those individuals admitted by the 22 general practitioners with surgeries in the Basingstoke Municipal Borough in an attempt to minimise the effect of differing geographical pressures and styles of practice. The results of this analysis are reported here.

Method

Basingstoke is a designated new town in the south-east of England with a planned population of 75,000 by 1976. In 1971, 52,505 people lived in the Basingstoke municipal borough. At the time of the study in 1970 there were 22 general practitioners practising within the municipal borough, all of whom had access to the local cottage hospital. At that time there was one consultant medical ward in the newly completed Basingstoke District General Hospital (Villa V) and one cottage hospital (Basing Road) in Basingstoke with two acute wards. These three wards formed the study wards. The number of beds and services are shown in figure 1. Some of the beds in the acute wards of the cottage hospital were not available to the general practitioners. These two wards were also used for preconvalescent cases from the District General Hospital surgical wards and during the period of the study only 56 per cent of admissions to these wards were general-practitioner cases. In addition, the male beds in this hospital were cut from 18 to 12 in the second month of the study while the ward was redecorated.

Figure 1

	Villa V Basingstoke DGH	*Basing Road Hospital*
Situation	2½ miles from town	Edge of town
	Acute medical ward	Cottage hospital
Consultant beds	40	By arrangement only
General practitioner beds	0–5 (depending on (availability)	40 (18 male/22 female)
24 hour medical cover	Registrar and housemen	General practitioner or partners
Supporting services		
Laboratory	Full	at D.G.H. collection × 2/week
X-ray	Full but 3–6 month wait for contrast x-rays	At D.G.H.
Physiotherapy	Daily	Daily
Medical social work	Daily	Once weekly
Other aspects		Male ward reduced to 12 in second month.

All admissions to the two Basing Road acute wards and Villa V of the District General Hospital were recorded during a four-month period between September and December 1970. A questionnaire in three parts was made out for each patient (figure 2).

Part 1 Basic information, completed by the ward staff (nurses or ward clerk) at the time of admission.

Part 2 State of the patient at time of admission, completed by the patient's general practitioner. This was sent to the general practitioner within seven days of admission.

Part 3 Use of services and outcome, completed by the doctor responsible for the patient's care during admission—either general practitioner or registrar. For cases in consultant care this part was completed by the registrar responsible as soon after discharge as possible. For general-practitioner care, it was completed at the time of discharge. Failing this, the form was sent to the general practitioner by post and had to be completed without the help of the hospital notes.

In order to learn the reason for admission, the practitioner was asked whether the patient had a need for each of six facilities (figure 2, No. 12 a–f) and if the need was adequately met at home. Needs not adequately met at home were defined as " unmet needs."

Figure 2
SOURCES OF DATA

	Admitting individual	*Own general practitioner*	*Doctor responsible for cases during admission*
Part 1: Basic information			
1. *Basic descriptive data	+	−	−
2. Patient's general practitioner	+	−	−
3. Doctor responsible during admission	+	−	−
4. Type of area of residence (from address)	+	−	−
5. Length of stay	+	−	−
6. Place from which admitted	+	+	−
7. Type of admissions (direct or inter-hospital transfer)	+	+	−
Part 2: Pre-admissions information			
8. Route of admission (Emergency/W.L.)	+	+	−
9. Principal diagnosis (on admission)	−	+	−
10. Underlying conditions	−	+	−
11. △G.P.'s first choice for type of bed	−	+	−
12. △Perceived needs at time of admission:			
**(a) Diagnostic facilities	−	+	−
(b) Skilled nursing	−	+	−
(c) Skilled observation	−	+	−
(d) Physiotherapy	−	+	−
(e) Unskilled support	−	+	−
(f) Unskilled surveillance	−	+	−
Part 3: 'Discharge' information			
13. Principal diagnosis on discharge	−	−	+
14. Use of laboratory services and other facilities during stay	−	−	+
15. Consultation with, or transfer to consultant during stay	−	−	+
16. Place to which discharged	−	−	+

* Basic descriptive data = sex, date of birth and marital status.
△ Only collected in general-practitioner initiated admissions.
** The practitioner was asked whether the patient had a need for each facility (a–f) and if the need was adequately met at home. Needs not adequately met at home were defined as 'unmet needs'.

Figure 3
DIAGNOSTIC GROUPS USED, AND THE DIAGNOSES CARED FOR

Group	*Individual diagnoses cared for*
CARCINOMA	Cancers of: stomach, colon, lung, breast, cervix, bladder, skin, brain and blood.
CEREBROVASCULAR ACCIDENTS	
ISCHAEMIC HEART DISEASE	Acute myocardial infarction, other ischaemic heart disease and angina.
RESPIRATORY DISEASE	Pneumonia, acute and chronic bronchitis, asthma, emphysema.
DRUG OVERDOSE	All cases of overdosage, deliberate or accidental.
OTHER CARDIOVASCULAR DISEASE	Rheumatic carditis, arrhythmias, cardiac failure, peripheral vascular disease, thrombophlebitis, hypertension.
ALIMENTARY DISEASES	Peptic ulcer, appendicitis, hernia, diseases of liver and gall bladder.
GENITOURINARY DISEASE	Nephritis, urinary infection, prostatic disease, fibroids and vaginal prolapse.
LOCOMOTOR DISORDERS	Rheumatoid arthritis, prolapsed intervertebral disc, lumbago.
PSYCHOSES OR NEUROSES	Schizophrenia, senile dementia, depression, anxiety states.
TRAUMA	Fracture of wrist, sprains and lacerations, head injury.
DIABETES	
ALL OTHER DIAGNOSES	Viral infections, thyroid imbalance, anaemias, Parkinsonism, epilepsy, varicose veins, minor respiratory disorders, skin diseases.
ALL UNDIAGNOSED SYMPTOMS	All codes classified as 'signs and symptoms' in the Royal College of General Practitioner's code.

The diagnoses were coded according to the Royal College of General Practitioners' modification of the *International Classification of Diseases* (1963). For the analysis the recorded codes were grouped as shown in figure 3. The principal admission and discharge diagnoses were also compared by one of the authors (MHT) and placed in one of four groups; diagnostic agreement, diagnosis advanced (progress to definite diagnosis), diagnosis retarded (change from definite to symptomatic diagnosis), and diagnostic disagreement.

For the purposes of this paper the study population consists of all those patients admitted to the study wards during the study period who were:

(1) registered with one of the 22 Basingstoke Borough general practitioners,

(2) admitted by the general practitioner (and not by another agency i.e. casualty) to the general practitioner's first choice of wards,

(3) had forms adequately completed by the general practitioner.

Results

A total of 453 patients from all areas were admitted on 505 occasions during the study period. Reasonably complete information was obtained for (418) 93 per cent of these individuals (table 1) though there were delays of up to two months between discharge and completion of parts 2 and 3.

Of the 453 patients admitted, 171 fulfilled the criteria of being registered with a Basingstoke general practitioner, admitted by him to the ward of his choice and having a complete form, and these constitute the study population. Seventy-nine (46·2 per cent) were admitted to general-practitioner care and 92 (53·8 per cent) to consultant care (tables 1 and 2). Since our main interest was in the individual, information about second and subsequent admissions during the study period was excluded from the analysis.

TABLE 1

TOTAL NUMBER AND SOURCE OF INDIVIDUALS ADMITTED TO THE STUDY WARDS DURING THE STUDY PERIOD

	Registered with Basingstoke general practitioners			*Registered with other general practitioners*			*Total*		
	Number	%	%	Number	%	%	Number	%	%
Admitted from the community:									
—via general practitioner	184	*67·1*		78	*54·2*		262	*62·7*	
—via casualty	25	*9·1*		21	*14·6*		46	*11·0*	
—via other	26	*9·5*		20	*13·9*		46	*11·0*	
Transferred from other ward or hospital	38	*13·9*		25	*17·4*		63	*15·1*	
Source unknown	1	*0·4*		0	*0·0*		1	*0·2*	
Total with complete information	274	*100·0*	*(93·5)*	144	*100·1*	*(90·0)*	418	*100·0*	*(92·3)*
Incomplete information	19		*6·5*	16		*10·0*	35		*7·7*
Grand total	293		*100·0*	160		*100·0*	453		*100·0*

TABLE 2

PATIENTS ADMITTED FROM COMMUNITY BY THE BASINGSTOKE PRACTITIONERS TO GENERAL-PRACTITIONER AND CONSULTANT CARE (FIRST ADMISSIONS ONLY)

	General-practitioner care		*Consultant care*		*Total*	
	Number	%	*Number*	%	*Number*	%
Ward of first choice	79	*92·9*	92	*92·9*	171	*92·9*
Other ward	3	*3·5*	7	*7·1*	10	*5·6*
Choice unknown	3	*3·5*	0		3	*1·6*
Total	85	*100·0*	99	*100·0*	184	*100·0*

Tables 3 to 10 give the main demographic findings, principal diagnosis on discharge, unmet needs at the time of admission as perceived by the general practitioner, investigations

TABLE 3

MARITAL STATE

	General-practitioner care		*Consultant care*		*Total*	
	Number	%	*Number*	%	*Number*	%
Married	47	*59·5*	70	*76·1*	117	*68·4*
Single						
Widowed	28	*35·4*	18	*19·6*	46	*26·9*
Divorced						
Unknown	4	*5·0*	4	*4·3*	8	*4·7*
Total	79	*100·0*	92	*100·0*	171	*100·0*

TABLE 4

AGE DISTRIBUTION OF PATIENTS ADMITTED TO GENERAL-PRACTITIONER AND CONSULTANT CARE
(excluding 4 cases where age was unknown)

Age in years	*General-practitioner care*		*Consultant care*		*Total*	
	Number	*%*	*Number*	*%*	*Number*	*%*
15–29	5	*6·4*	19	*21·3*	24	*14·4*
30–39	5	*6·4*	7	*7·9*	12	*7·2*
40–49	4	*5·1*	14	*15·7*	18	*10·8*
50–59	11	*14·1*	21	*23·6*	32	*19·2*
60–69	24	*30·8*	17	*19·1*	41	*24·5*
70–79	14	*17·9*	7	*7·9*	21	*12·6*
80+	15	*19·2*	4	*4·5*	19	*11·4*
Total	78	*100·0*	89	*100·0*	167	*100·0*
Mean age						
Women	60·9		49·3			
Men	65·3		44·3			
Both	63·2 years		49·0 years		55·9 years	

undertaken during admission, length of stay and place to which discharged. It appears that those individuals whom the general practitioners chose to admit to their own care were older and died more often than consultant cases. They were perceived by the general practitioners to have less need for diagnostic facilities, and a greater need for unskilled support, surveillance and physiotherapy. This was matched by the lower use of pathological services, ECG and x-ray. There was also a slight but not significant increase in the number of underlying conditions, length of stay and use of physiotherapy and the medical social worker services in this group. The numbers are small but it appears that proportionately more cases of carcinoma, strokes, respiratory disease, mental illness, trauma

TABLE 5

PRINCIPAL DIAGNOSIS ON DISCHARGE FOR THE PATIENTS IN DIFFERENT TYPES OF CARE
(excluding one case where diagnosis unknown)

Diagnostic group	*General-practitioner care*	*Consultant care*	*Total*
Malignant disease	15	8	23
Coronary thrombosis and other ischaemic heart disease	4	16	20
Acute and chronic respiratory disease	8	5	13
Drug overdose	0	12	12
Cerebrovascular accident	9	2	11
Other cardiovascular disease	7	8	15
Locomotor disorders	7	6	13
Alimentary disease	4	6	10
Genitourinary disease	3	5	8
Psychoses and neuroses	7	2	9
All other diagnosed disease	13	13	26
All undiagnosed symptoms	1	9	10
TOTAL	78	92	170
Mean number of diagnoses per individual	1·68	1·52	

TABLE 6

THE PROPORTION OF PATIENTS ADMITTED TO GENERAL-PRACTITIONER AND CONSULTANT CARE WITH AN UNMET NEED FOR EACH OF SIX DIFFERENT FACILITIES
(as perceived by the general practitioner)

Unmet need	*General-practitioner care* %	*Consultant care* %	*Total* %	*Total number with need*	*Total where need was assessed*
Diagnostic facilities	*39·7*	*72·2*	*57·1*	96	168
Skilled observation	*57·7*	*86·6*	*73·2*	123	168
Skilled nursing care or treatment	*80·8*	*86·8*	*84·0*	142	169
Physiotherapy	*31·8*	*23·3*	*26·9*	45	167
Unskilled support	*32·4*	*11·2*	*21·1*	35	166
Unskilled surveillance	*14·1*	*4·5*	*9·0*	14	166

The differences in totals where need assessed are due to incomplete response by the general practitioner

TABLE 7

HIGHEST LEVEL OF SKILL NEEDED BY PATIENTS ADMITTED TO DIFFERENT TYPES OF CARE AS PERCEIVED BY THE GENERAL PRACTITIONER
(excluding 7 where information on unmet need was incomplete)

Highest level of need perceived	*General-practitioner care*		*Consultant care*		*Total*	
	Number	%	*Number*	%	*Number*	%
1. Diagnosis or skilled observation	51	*67·1*	83	*94·3*	134	*81·7*
2. Nursing care or physiotherapy	20	*26·3*	5	*5·7*	25	*15·2*
3. Unskilled support or surveillance	5	*6·6*	0	—	5	*3·0*
Total	76	*100·0*	88	*100·0*	164	*99·9*

TABLE 8

PROPORTION OF PATIENTS HAVING DIFFERENT INVESTIGATIONS DURING THEIR STAY IN HOSPITAL

Investigations used	*General-practitioner care*	*Consultant care*	*Total*	*Total number investigations*	*Total where question was answered*
	%	%	%		
Bacteriology	*29·9*	*65·9*	*49·4*	83	168
Biochemistry	*20·0*	*91·2*	*59·5*	100	168
Haematology	*40·2*	*92·3*	*68·4*	115	168
X-ray	*37·2*	*84·6*	*63·1*	106	168
ECG	*3·9*	*54·9*	*31·7*	53	167

TABLE 9

DISCHARGES AND DEATHS OF ALL STUDY AREA RESIDENTS△ OVER 15 YEARS OF AGE FROM ALL LOCAL GENERAL PRACTITIONER AND MEDICAL BEDS DURING THE PERIOD 1 OCTOBER—31 DECEMBER 1970
(Data obtained from Wessex, S.W. Metropolitan and Oxford R.H.B.s hospital activity analysis)

Area of residence	*Numbers of discharges and deaths*						*Totals*	
	From Basingstoke D.G.H. & Basing Road		*From other Wessex R.H.B. Hospitals*		**From other contiguous R.H.B. hospitals*			
	Number	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*
Basingstoke M.B.	150	*86·7*	16	*9·2*	7	*4·0*	173	*99·9*
Basingstoke R.D.	47	*81·0*	4	*6·9*	7	*12·0*	59	*99·9*
The rest of the study area	60	*25·2*	89	*37·4*	89	*37·4*	238	*100·0*
Total	257	*54·8*	109	*23·3*	103	*22·0*	469	*100·1*

△ The study area consisted of seven administrative districts: Basingstoke M.B., Alton urban district, and Basingstoke, Kingsclere and Whitchurch and Hartley Witney rural districts.

* Oxford and S.W. Metropolitan Regional Hospital Board. No information was obtained from the other contiguous R.H.B.—N.W. Metropolitan R.H.B.

TABLE 10

PROPORTION OF PATIENTS USING DIFFERENT FACILITIES DURING THEIR STAY IN HOSPITAL

Facility used	*General-practitioner care* *%*	*Consultant care* *%*	*Total* *%*	*Total number using facility*	*Total where question was answered*
Physiotherapy	*36·6*	*22·8*	*29·0*	49	169
Medical social work	*12·8*	*9·8*	*10·7*	18	168
Appliances	*2·0*	*0·0*	*1·2*	2	169

TABLE 11

PLACE TO WHICH DISCHARGED AND LENGTH OF STAY
(excluding one patient where place unknown)

Place to which discharged	*General-practitioner care*		*Consultant care*		*Total*	
	Number	*%*	*Number*	*%*	*Number*	*%*
Home	46	*59·0*	74	*80·4*	120	*70·6*
Institution	9	*11·5*	10	*10·9*	19	*11·2*
Died	23	*29·5*	8	*8·7*	31	*18·2*
Total	78	*100·0*	92	*100·0*	170	*100·0*
Mean stay in days	19·5		16·1		17·7	
S.D.	15·4		14·9		15·2	

and locomotor disease were admitted to general-practitioner beds and coronary thrombosis, overdose and diabetes to consultant beds.

Discussion

To examine the difference in perceived needs at the time of admission more closely, we grouped the six needs into three categories:

(1) *Diagnostic* need for diagnostic facilities or skilled observation which were not available at home.

(2) *Skilled care* need for nursing skills or skilled treatment or physiotherapy which were not available at home.

(3) *Unskilled care* need for help in washing, dressing, feeding or for unskilled surveillance not available at home.

We then classified individuals by the level of skill required:

(*a*) Medical: those with diagnostic needs, with or without other needs.

(*b*) Nursing: those with needs for skilled care but not for diagnostic facilities.

(*c*) Social: those with needs for unskilled care only (table 8).

As can be seen from this table, general practitioners admitted a greater proportion of ' medical ' cases to consultant beds and of ' nursing ' cases and all ' social ' cases to their own care. These results confirm Torrance *et al.* (1972) who found that cases with medical factors needing admission were assessed by the general practitioner as having a need for consultant care.

Cases admitted to consultant beds had a greater perceived need for and use of diagnostic facilities and a greater proportion were discharged with symptomatic diagnoses only (tables 6 and 7). In these cases there also appeared to be greater (but not significant) uncertainty and disagreement over diagnoses when admission and discharge diagnoses were compared. The last two differences could be due in part to differences in questionnaire completion. In consultant cases the admission and discharge sections were completed by a general practitioner and a hospital orientated doctor respectively, while for general-practitioner cases both sections were completed by the general practitioner. In spite of this, these findings do suggest that general practitioners tend to admit diagnostic problems under the care of consultants.

It would have been interesting to examine needs, age, length of stay and number of underlying conditions within diagnostic groups to see if cases at different stages in the disease were admitted for different type of care, but in this group of patients admitted by the Basingstoke general practitioners the numbers are too small. In an analysis of the 418 first admissions from all areas, we did find differences in mean age, length of stay and number of underlying conditions between general-practitioner and consultant cases in the seven commoner conditions. This was especially true of cancer where cases of malignancy admitted to the care of the general practitioner were older, stayed longer and also had markedly less perceived need for, and subsequent use of, diagnostic facilities, suggesting that for this group at least, consultant cases tended to be at the stage of presentation and diagnosis and general-practitioner cases to be in the terminal phase.

The general practitioners in Basingstoke appear, therefore, to admit elderly terminal cases, those with predominantly social and nursing needs and cases of cancer, stroke and respiratory disease to their own care; and diagnostic problems, those with medical needs and cases of coronary thrombosis, cardiovascular disease and overdose to consultant care. This group, being all the general practitioners working in one South England town, appears to be carrying out in practice the theoretical statements made by the group of volunteer practitioners in Dundee (Torrance *et al.*, 1972). But various factors can affect the results of this kind of study: the numbers available for analysis, selection of practitioners and patients involved, local pressures, and errors of methodology; and it is perhaps appropriate to consider these briefly in the context of our study.

Numbers available

In order to gain more accurate information on the characteristics of patients that general practitioners choose to admit to their own or consultant care, we limited the analysis to

' first choice ' admissions from all the general practitioners working in one area who had access to the same cottage hospital. This will have eliminated the possibility of the two groups being differently affected by styles of practice and geographical and other pressures, but it does reduce the numbers and make it more difficult to draw conclusions. The numbers of cases in each diagnostic group especially were small, but our findings of greater diagnostic certainty and of proportionately more cases of carcinoma, strokes, respiratory disease and locomotor disease in general-practitioner beds were repeated in the analysis of the total admissions from all areas.

Selection

The 22 general practitioners practising within the Basingstoke municipal borough had open access to general-practitioner beds and all but two used these beds during the study period. Fortunately all of them agreed to take part in the study and provided information on 90 per cent of individuals admitted. All but one provided information on the majority of their patients. From information on hospital activity analysis, provided by Oxford, South-West Metropolitan, and Wessex Regional Hospital Boards, it appears that the Basingstoke hospitals dealt with 87 per cent of all Basingstoke municipal borough residents admitted to hospital during the study period (table 9). Therefore, our findings can probably be taken to be representative of medical admissions from a group of South-east England general practitioners.

Local pressures

Local pressures and conditions will inevitably affect the decision about under whose care a particular patient is admitted. The present differences in age, diagnoses, perceived needs and use of available facilities, may be more of a reflection of the difference in facilities in Basing Road and the consultant medical wards, than of the general practitioners' perception of the differing roles of the general practitioner and consultant in caring for acute medical cases. Provision at Basing Road of wider and more frequent diagnostic facilities or of resident emergency cover might result in the practitioner choosing to care for a greater proportion of diagnostic problems or cases requiring skilled 24-hour observation. This objection could have been overcome by comparing only general-practitioner and consultant cases admitted to the same ward, but the number of general-practitioner cases (14) admitted to the consultant ward was too small for this. Any future study should try to examine groups admitted under similar conditions.

Errors of method

Errors of method in this study may have influenced the results. It is possible that there were great differences in interpretation between general practitioners over the questions on perceived needs. Differential time delay and answering with or without the hospital notes may have had an effect on the answers given to questions on perceived needs and services used. It is possible that after delays of up to two months the general practitioner is unlikely to remember the precise details of a case and more likely to answer the questionnaire with reference to his standard concept of a general-practitioner or consultant case. Without massive fieldwork support, such delays in completion seem inevitable if the study population is identified on or after admission. The alternative would be to rely on reporting from a defined group of general practitioners with questionnaires filled in at the time of the decision to admit. This would be likely to increase the accuracy of some of the answers, but would equally decrease the response rate and limit the information gained (Clarke and Mulholland, 1973).

Acknowledgements

We wish to thank the following. All the Basingstoke general practitioners for their help throughout in initiating, planning and running the study and for their comments on the results—especially Drs D.

Burrell, T. Hughes and H. Gibberd. Dr P. Arblaster for his help in planning and for permission to collect information on patients in Villa V, Basingstoke D.G.H. The following general practitioners for their part in completing the questionnaire:

Balderston, S., Barker, I. A. H., Barker, R. W., Barrett, J. S., Blade, P. D., Bowen-Jones, J. A., Burrell, D., Cane, J. M., De Souza, A. P. G. C., Dunkley, A. H., Eustace, J. D., Fiducia, C. M. F., Geach, A. R., Gibberd, A. A., Goode, A. F., Hamber, B. H., Harward, R. L., Haselden, J. E., Hawken, M. J., Hilditch, H. P., Hudson, C. K., Hudson, W. S., Hughes, T. O., James, J. P., Knowles, M., Larcombe, W. S., Macve, J. S., Mark, J. W. E., Moore, W. P. N., Morland, J. S., Morrison, R. W. M., Mullen, D. G., Munro, D. F., Page, Philip, D. N., Pope, S., Rushmer, P. J., Shaw, G., Shortt, E. P., Side, D. E., Skinner, E. G., Smeaton, A. M., Speight, M., Teall, J. G., Tomlinson, J. M., Trust, D. G. L., Walker, R. H., Watts, A. V., Watt, A. D. J., Williams, J., Williams, M, J., Wilson, M. B., Zorab, W. G.

The sisters and staff of the Basing Road Wards and Villa V; the registrars in the D.G.H., especially Dr D. Simms for the care and effort expended in completing the forms; Professor Holland for his advice, support and help in co-ordination; Miss M. Eddie for the fieldwork and Mrs. Z. Corkhill for the analysis. Without their help and co-operation this study would have been impossible. This study was supported in part by a grant from the Department of Health and Social Security to whom we express our gratitude.

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