MEDICAL PRACTICE

*General Practice Observed***Team Work Load in an English General Practice—I**

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A survey of the total care provided by a general practitioner and his paramedical team for 3,137 patients in Teesside in 1972 showed that even in this area of high morbidity and mortality the work load was very small. The doctor held an average of 2.3 consultations per patient per year, and the overall average for the team of doctor, nurse, and health visitor was only 3.1. By delegating work to a team of trained paramedical workers, by increasing the proportion of personal medicine, and by engaging the co-operation of his patients, the general practitioner reduced his work load considerably, without any apparent reduction in standard of care.

Introduction

Implementation of the British Medical Association Charter of 1965¹ has led to continuing improvements in the organization of general practice. Though of value in themselves, these changes mainly aimed to facilitate better care of the patients, and when possible to allow time for research and teaching.

From the numerous work load studies that have been carried out since,^{2–11} culminating in the construction of workload “league tables,”¹² two main findings have emerged—firstly, the great variation in total work load, and, secondly, the fall in home visits made by doctors.^{12–13} Surgery attendance rates seem also

to have fallen.^{10–12} Analyses of the work loads of nurses,^{14–24} health visitors,^{25–27} and social workers^{28–32} have suggested that sharing the total work load can reduce the work of the general practitioner.

We report here the distribution of work for a primary medical care team in Teesside during 1972, together with the rate of referral to hospital for outpatient or inpatient treatment.

Methods

The five partners of this practice in the Teesside conurbation share central premises and the capital and running costs. They employ two State-registered nurses, four receptionists, two filing clerks, one administrative secretary, and one research secretary. In addition the local authority attaches two district nursing sisters, a part-time State-enrolled nurse, a health visitor, and a midwife. The practice also has formal links with a social worker from the local authority social services department, and a marriage guidance counsellor. Each partner has his own list of about 3,000 patients filed separately, and, though off-duty periods are covered by other members of the practice, the aim is to provide personalized care where each patient can identify one partner as his own family doctor.

At the beginning of this study a form was completed for each patient on the list of one of the doctors containing details of age, sex, social class (according to the Registrar General's Classification), and also the household to which he belonged and the date when he joined (or left) the list. Any consultation by these patients with the doctor, nurse, or health visitor, and where it occurred, was entered on special forms. Those for the doctor could record up to four diagnoses at each consultation, using a modified version of the Royal College of General Practitioners' classification,³³ and they noted any subsequent referral to the paramedical team. The forms also recorded whether the consultation had been initiated by the doctor or the patient; a consultation was initiated by the doctor if he instructed the patient to return to the surgery, but if he instructed him to

Teesside

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return only if the condition did not respond to treatment, then the patient's attendance was regarded as self-initiated.

Separate forms listed any use of the hospital service by patients, either as referrals to outpatient or inpatient departments, or to diagnostic departments (such as radiology and pathology) or as casualty attendances. Contact with the local general-practitioner obstetric unit was also recorded. The forms were designed for computer collation and analysis, and enabled us to build a comprehensive profile of the work load for the doctor and his team in one year.

Results

Of the 3,137 patients surveyed, 49% were male, which corresponded with the sex ratio reported by the 1971 Population Census. The age structure, however, showed some variations from national averages. The practice had a deficit in pre-school children of 14% in boys and 6% in girls, and in the 45-64 age group of 10% in men and 25% in women. There was an excess in schoolchildren of 15% but the proportion of the over-64 age group corresponded with the national average. In terms of social structure there was a slight excess of patients in the higher social classes.

The doctor, nurse, and health visitor had an overall average of 3.1 consultations per patient per year. The doctor himself had an average of 2.3 consultations per patient and an attendance visit ratio of 5:1. The nurse was the most domiciliary orientated member of the team with an attendance/visit ratio of 0.6:1, and the health visitor the least with a ratio of 6.7:1 (table I).

The majority of the work was caused by a comparatively small proportion of the practice, with the doctor seeing only 62% of his patients. This feature was even more noticeable in the case of the nurse, who did all her work for 17% of the patients, and the health visitor, who did all her work for 6% (table II). Nevertheless, 82% of households with two people and over 95% of households with three or more people were contacted by the team (table III).

TABLE I—Overall Team Work Load

	Attendances	Visits	A:V Ratio	Total No. of Consultations	Consultations per Patient p.a.
Doctor ..	6,086	1,211	5.0:1	7,297	2.3
Nurse ..	724	1,200	0.6:1	1,924	0.6
Health visitor ..	493	74	6.7:1	567	0.2
Total	7,303	2,485	2.9:1	9,778	3.1

TABLE II—Work Load and Proportion of Patients

Percentage of Consultations	Percentage of Practice Causing this Proportion of Consultations		
	Doctor	Nurse	Health Visitor
100	62	17	6
50	13	1	1
25	5	<<1	<<1
10	4	<<1	<<1

TABLE III—Proportion of Households Contacted

Household Size	No. of Households	Percentage contacted					
		Doctor			Nurse	H.V.	By Doctor, Nurse, or H.V.
		Attendances	Visits	Consultations			
1	751	44	11	47	12	1	48
2	300	80	25	82	30	9	82
3	177	93	27	93	38	18	95
4	146	94	37	95	47	26	96
5	69	100	41	100	57	28	100
6	28	96	46	100	68	18	100
7+	11	100	82	100	64	36	100

Of all the consultations held by the doctor, 39% were "self-inflicted" and of these, 56% were visits and 36% attendances at the surgery. 4% of all the patients who attended the doctor at his surgery were immediately referred to the nurse, mostly for diagnostic routines (venepunctures, E.C.G.s etc.), and 14% of patients visited by him were also referred to her, mainly for assessment of their clinical progress. There were, however, few direct referrals to the health visitor or midwife, and only 25 referrals of patients with social problems to the social worker.

Including her treatment of those patients referred to her by the doctor, the nurse held 1,924 consultations. The type of care she gave is shown in table IV, and as part of her work she gave 435 injections, did 342 dressings, carried out 251 venepunctures, and made 114 blood pressure checks. The health visitor concentrated on the paediatric side of the practice and over half her 576 consultations were concerned with giving general health advice about babies.

Respiratory illness was the most common diagnosis in the practice, occurring in 25% of consultations and accounting for 25% of illness episodes. The next most common was psychiatric illness, which was diagnosed in 14% of consultations and caused 12% of illness episodes (table V). The seven most common diagnoses are shown in table VI.

TABLE IV—Type of Nurse Consultation

	Surgery	Home	Total
New acute illness ..	205	103	308
Follow-up of acute illness ..	182	271	453
Follow-up of chronic illness ..	276	669	945
Post hospital ..	7	147	154
Other ..	54	10	64
Total	724	1,200	1,924

TABLE V—Analysis of Consultations and Illness Episodes according to Disease Groups

Diagnosis	Consultations at which this Diagnosis was Mentioned	Percentage of Total Consultations	Episodes Associated with this Diagnosis	Percentage of Total Episodes
Infective and parasitic	367	5.0	260	5.6
Malignant neoplasms ..	97	1.3	24	0.5
Benign neoplasms ..	14	0.2	12	0.3
Allergies, etc. ..	283	3.9	169	3.6
Blood ..	148	2.0	79	1.7
Mental ..	1,048	14.4	571	12.2
Central nervous system	217	3.0	128	2.7
Eyes ..	215	2.9	181	3.9
Ears ..	317	4.3	219	4.7
Cardiovascular system	849	11.6	275	5.9
Respiratory symptoms	1,813	24.8	1,334	28.5
Gastrointestinal system	587	8.0	392	8.4
Genitourinary system ..	428	5.9	296	6.3
Pregnancy ..	657	9.0	167	3.6
Skins ..	522	7.2	386	8.2
Locomotor system ..	585	8.0	402	8.6
Congenital anomalies ..	23	0.3	14	0.3
Perinatal ..	1	0.0	1	0.0
Symptoms, etc. ..	56	0.8	33	0.7
Accidents, etc. ..	392	5.4	295	6.3

TABLE VI—Most Frequent Diagnoses

Diagnosis	Consultations at which this Diagnosis was Mentioned	Percentage of Total Consultations	Episodes Associated with this Diagnosis	Percentage of Total Episodes
Acute nasopharyngitis (non-febrile) ..	692	9.4	588	12.6
Depression (all types)	499	6.8	194	4.1
Normal pregnancy; prenatal care ..	422	5.8	64	1.4
Acute bronchitis and bronchiolitis ..	309	4.2	204	4.4
Anxiety state ..	286	3.9	220	4.7
Congestive heart failure ..	231	3.2	52	1.1
Tonsillitis ..	190	2.6	154	3.3

The number of hospital referrals was relatively small; the proportions of patients admitted to inpatient departments and referred to outpatient departments were respectively two-thirds and one-third of the national average. In addition, 1,193 investigations were carried out by hospital diagnostic departments, and these produced the comparatively high abnormality rate of 42% (table VII).

TABLE VII—*Diagnostic Referrals*

Type of Investigation	Total No.	Total of Abnormal Findings	Percentage of Abnormal Findings
Haematology (Hb, E.S.R., Hb in pregnancy, W.B.C., etc. . . .)	431	161	37
Bacteriology	335	168	50
Serology (incl. P.B.I., Rose-Waaler test, pregnancy test)	120	36	30
Biochemistry	112	61	54
Histology (incl. smears)	88	26	30
Chest x-ray examination	41	16	39
Bone and joint x-ray examination . .	29	14	48
Barium meal examination	9	3	33
Gall bladder x-ray examination . . .	9	7	78
Intravenous pyelogram	8	5	63
Other x-ray examination	6	5	83
Necropsy	5	5	100
All types	1,193	507	42

Discussion

The most striking feature we found in this survey was the low work load caused by these 3,137 patients. The doctor's rate of 2.3 consultations per patient per year is one of the lowest in Britain and about half the national average.¹² The number of his visits was also comparatively small, resulting in an attendance/visit ratio of 5:1, while the average for the North East of England is 3:1.³⁴ On the other hand, the nurse did comparatively more visiting and had an attendance/visit ratio of 0.6:1. Nevertheless, this is a considerable change from pre-attachment days when almost all a district nurse's work was done in patients' homes.³⁵ A health visitor with adequate facilities can base herself more at the surgery, and her attendance/visit ratio of 6.7:1 reflected this.

Even though a small proportion of the practice caused most of the work, a finding in many other studies,^{4 36-38} a very high percentage of the households on the doctor's list did come into contact with the team during the year. An even smaller proportion of patients received most of the doctor's visits, yet 25% of households with two or three members and 37% of those with four or more were visited by him. These figures are reassuring, as one of the criticisms of reducing the number of doctors' visits is that knowledge of patients' homes would become limited. Overall, despite the low work load, 80% of households with two or more people made some contact with the team (mostly with the doctor), and every household of five or more consulted at least the doctor, while 50% consulted the nurse.

Various factors are known to produce a small work load, such as the absence of atmospheric pollution and heavy industry,^{5 8} and a low proportion of women,³⁸⁻⁴⁰ the young, and the old⁴¹ (see part II, in this issue). But none of these factors operated in this practice. Indeed there were two additional factors that should have increased the work load: an influenza epidemic in December 1972, and the low hospital inpatient and outpatient referral figures.

We would like to be able to dismiss the thought that the general care provided for the patients might have been poor, but as yet no acceptable and defined standards of quality of clinical care in general practice have been worked out. Nevertheless, the high referral rate to diagnostic departments at the hospital, and the high proportion of abnormal findings, together with the low number of consultative referrals does suggest that the academics of clinical care were being undertaken, and that the general practitioner retained general responsibility.

REASONS FOR SMALL WORK LOAD

In the absence of the commonly accepted reasons for a small work load, we looked for other ones.

A recent study in Aberdeen¹¹ has shown that a general practitioner can largely control his own work load by regulating the number of repeat consultations he orders. The 142 doctors in this study had an average of 56% of self-initiated consultations, and only six had a return consultation rate as low as 40%. In a study in London⁸ 47% of consultations were initiated by the doctor. In this practice, however, only 39% were "self-inflicted" by the doctor, and this was achieved by careful attention to the "management" of illness as well as its purely clinical care.

Once he and his patients know and trust each other, an experienced general practitioner need only follow up those illnesses where the patient cannot determine for himself whether he is recovering or not, or where a severe or chronic continuing illness must be monitored. With familiar patients and familiar problems, if the patient is given a thorough assessment of his illness at the start and a summary of its expected course, he will not only be prepared to recover without further consultations but also be better able to know whether he needs them. Of course, new and unfamiliar patients still need longer consultative and diagnostic procedures, but the time and effort saved over well-known patients is enormous.

The concept of the "single-handed" practice under the umbrella of the group with its paramedical team has helped to reduce the work load in this way, and to an extent not possible if patients moved freely from one doctor to another. Telephone consultations, repeat prescriptions for continuing and recurrent illnesses, accustoming patients to a particular style of work with fewer home visits, and use of the paramedical workers, etc., have allowed for increased personal care, and have in turn been made easier by it.

DELEGATION OF WORK

Delegation of work to the paramedical team, which was the main measurable result in the survey, is done in informal meetings each morning. In these meetings, which last about 15 minutes, work is allocated, cases are discussed, and the management of patients is arranged; this ensures that there is no duplication of work, and that each member of the team can work at a level appropriate to his or her skills.

Because the State-registered nurses were supported by a State-enrolled nurse and a bath attendant, who relieved them of former chores, they could devote more time to primary care previously undertaken by the doctor. The constant availability of nurses at the surgery, prepared to see patients with problems not previously seen by the doctor, and the use of local authority nurses to make primary visits at home (following a careful assessment of both records and information from trained receptionists about the type of call) has facilitated some primary care by nurses. 20% of their work was the follow-up and management of acute illness. Most of the diagnostic routines—venepunctures, E.C.G.s, swabs, etc.—were also delegated to the nurses, but the largest part of their work load was the nursing involved in the continuing follow-up of chronic illness.

There were few direct referrals to the health visitor or the social worker. The health visitor had a constantly accumulating fund of knowledge of her paediatric patients arising from her visits and her primary care in the well-baby clinic at the surgery. The social worker too was already aware of many of the problems of patients on the list, and though few cases were referred to her, the problems were frequently extremely time-consuming. The work of a social worker is hard to evaluate, quantitatively or qualitatively, but doctors find, as their experience of a social worker grows, that they can delegate more work to her. It is, of course, vital for all members of the team to understand and continually appraise each other's attitudes, interests, and capabilities.

Hence the doctor's work load was reduced considerably, but he could delegate still more work if the public were more educated to the fact that nurses and other workers are available for consultation. The surgery card that patients now receive on registering gives information about the availability of nurses for consultation, and plans are being drawn up to give the nurses greater privacy in which to develop consultative rapport.

CHANGING ROLES

Not only the public need educating, however. With the concept of team care in general practice the roles of the different members of the paramedical team are changing. The nurses carry out more primary and continuing clinical care, the health visitor concerns herself with paediatric patients, while much of her former work with problem families and the aged is now undertaken by the social worker and the nursing team. Training courses are needed to help these workers adapt to their new roles in the community, but as yet few are available.

With both the doctor and midwife attending, the antenatal clinic remained an area of duplicated effort throughout 1972. A programme of antenatal care is to be introduced, however, in which, following an initial assessment by the doctor, much of the month-to-month care will be left to the midwife, the doctor being available if problems arise.

Conclusion

Given a desire to reduce and rationalize work load, given an attitude that patients should monitor the care of their own short-term illnesses, given a delegation orientated doctor and a team of readily available paramedical workers whose facilities are excellent, given a clinically confident and experienced general practitioner who does not devalue or minimize the training, experience, and ability of the members of the team, given a known group of patients, and even given an attitude which avoids hospital referral rather than seeks it, it would appear that even in a high morbidity and high mortality area, the work load of a general practitioner can become small. General practitioners are working increasingly in groups and with the increasing development of health centres and large group practices integrated team work is being increasingly facilitated. The average list size of 2,400 patients will rapidly become too small to occupy the time of established general practitioners. Educational, operational, and research interest will occupy some—but for the majority an increase in list size will be mandatory to satiate their clinical interests. The number of doctors required for general practice may well not be as high as is currently being suggested.

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