FACTORS INFLUENCING THE REFERRAL OF PATIENTS TO PSYCHIATRISTS BY GENERAL PRACTITIONERS

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This paper is an account of an inquiry into the process by which general practitioners working in a mining valley in South Wales refer patients to the local mental health services. The aim of the study has been to examine those factors which seem to influence such referrals.

MATERIAL

The investigation was carried out among a defined population of 27,000 occupying a valley about 6 miles long and nowhere more than half a mile wide. The inhabitants live in eight named townships strung out along the valley floor to form what amounts to a continuous narrow ribbon of urban-type housing. Physical features of the local mountain landscape clearly establish the boundaries of the valley community, except at its lower end where the valley joins another similar valley and where, for the purposes of this study, an arbitrary line of demarcation is drawn.

From the point of view of mental health services the valley population is in the catchment area of Morgannwg Hospital, Bridgend (2,300 beds), and is in the administrative county of Glamorgan. The hospital is 15 miles from the valley, but members of the staff conduct an out-patient clinic in a general hospital only 9 miles away and also provide a domiciliary consultant service. A few patients from the valley are also admitted to Whitchurch Hospital, Cardiff (800 beds; 13 miles distant), the staff of which conduct an out-patient clinic in Cardiff Royal Infirmary, 17 miles from the valley. There are virtually no private psychiatric facilities in South Wales and it was evident on talking to the general practitioners in the valley that referral to a private psychiatrist outside South Wales was an extreme rarity.

The general practitioners whose practices form the basis of this study comprise all those working in the valley in 1959 and consist of eight male married doctors with an age range of from 37 to 70 years

(mean 53.2). The mean time since registration as medical practitioners was 26.4 years (range 7 to 37). All eight doctors had spent the greater part of their working lives in the valley. Four of them were working single-handed; the remaining four were in two partnerships of two doctors each, making six practices in all. For purposes of analysis the practices will be designated A, B, C, D, E, and F. As will be seen from Table I, the position in 1959 was that practices A, D, E, and F were manned by one doctor each, designated Doctor Ai, Di, Ei, and Fi respectively, while practices B and C were partnerships of Doctors Bi and Bii, and Doctors Ci and Cii. All six practices were long-established and changes in the doctor-membership during the period under scrutiny for this inquiry were relatively slight. In almost 9 years—from January 1, 1951, until September 20, 1959—four changes in the practices in the valley took place, as shown schematically in Table I.

TABLE I
CHANGES IN NUMBER AND CONSTITUTION OF
VALLEY PRACTICES BETWEEN 1951 AND 1959

General Practice	1951	1953	1955	1957	1959
A	Ai	Ai	Ai	Ai	Ai
B	Bi —	Bi Bii	Bi Bii	Bi Bii	Bi Bii
C	Ci Cii	Ci Cii	Ci Cii	Ci Cii	Ci Cii
D	Di Dii	Di —	Di Gi	Di —	Di —
E	Ei	Ei	Ei	Ei	Ei
F	Fi	Fi	Fi	Fi	Fi
G	Gi	Gi	—	—	—
H	Hi	—	—	—	—

At the beginning of 1951 there were six single-handed practices in the valley (A, B, E, F, G, and H) and two partnerships of two doctors each (practices

C and D). In March, 1951, Dr. Hi retired and most of his patients joined the lists of Drs. Ci and Cii of practice C. In September, 1951, Dr. Dii left the valley and most of his patients were taken over by his partner, Dr. Di. In July, 1954, Dr. Gi, whose practice G had a small list, went into partnership with Dr. Di; he retired 2 years later (in September, 1956) and most of his patients remained with his partner in practice D. Meanwhile, in 1953, Dr. Bii joined Dr. Bi in practice B. Apart from these changes in the number and constitution of the valley practices during the years under scrutiny, most of the doctors concerned employed assistants from time to time for short periods.

The undergraduate training in psychiatry for almost all the practitioners had consisted of a short course of lectures and a series of visits to mental hospitals for case demonstrations. One doctor had attended psychiatric out-patient clinics as a medical student, and another had held a student resident appointment in a mental hospital for 6 months. None of the doctors had received postgraduate training in psychiatry and only one had shown a special interest in the field. This doctor (Ei) had tried to apply the principles of dynamic psychiatry in the treatment of neurotic disorders in his practice some years previously. The results, however, had been disappointing to him, so that, although retaining an interest in psychiatry, he no longer spent much time treating patients by methods which approximated to exploratory psychotherapy.

METHOD

Two kinds of data were collected:

- (1) Patients referred directly to mental health services by each doctor (or partnership) during a specified period of almost 9 years were enumerated and were studied in relation to the population at risk in each practice.
- (2) A structured interview, conducted with each practitioner, was designed to elicit attitudes to and opinions about the local mental health services; the treatment and disposal of psychiatric problems encountered in general practice; the frequency and changes in frequency in recent years of various types of mental disorder; and the causes of mental illness. An analysis of some of this interview material has been published elsewhere (Rawnsley and Loudon, 1962).

Patients referred to Mental Health Services.—Hospital and clinic records were searched for all individuals aged 15 or over (on referral) with an

address in the valley who were admitted to the psychiatric in-patient, out-patient, or domiciliary services during the period January 1, 1951, to September 20, 1959. The data for each case were collated on an item sheet and included address, sex, age, civil state, occupation, clinics or hospitals attended, admission status (voluntary, certified, etc.), latest diagnosis, general practitioner, and circumstances of referral—whether directly by the G.P. in the first instance, or indirectly. The latter include referral by other hospital departments (*e.g.* medical or surgical out-patient clinics) or by an extra-hospital agency other than a G.P.—*e.g.* Ministry of Pensions. In a few cases the records were inadequate to decide whether referral was direct or indirect.

Estimation of the Population at Risk.—The principal source of demographic information about the six practices was a private population census conducted in the valley at the end of 1957. The census was taken by house-to-house visiting of all dwellings in the area and information was gathered about the age, occupation, and other social characteristics of all residents. Each person was asked the name of his general practitioner. The total number of patients on each practice list in 1950 and in 1960 was obtained from official sources. These patients did not all necessarily have addresses in the valley, but the number of those on each list aged 15 or more with addresses in the defined area at the end of 1957 was known from the private population census.

It was assumed that the rate of population change for any given practice was constant over the period studied and on this basis the estimated mid-point population aged 15 or over with addresses in the valley was computed by simple proportions. It was also assumed that the sociodemographic characteristics of the practice populations were constant throughout the period. The estimated mid-point population for each practice is set out in Table II.

TABLE II
ESTIMATED PRACTICE POPULATIONS AGED 15 OR OVER, LIVING IN THE DEFINED AREA AT MID-POINT OF PERIOD 1/1/51 TO 20/9/59, BY SEX

General Practice	Estimated "Mid-point" Population		
	Male	Female	Total
A	605	616	1,221
B	1,022	1,125	2,147
C	2,862	3,254	6,116
D	2,083	2,252	4,335
E	738	809	1,547
F	1,604	1,704	3,308
Total	8,914	9,760	18,674

FINDINGS

RATE OF REFERRAL TO PSYCHIATRIC SERVICES

Using the mid-point population for each practice as denominator, direct referral rates were computed and expressed as the average number of patients referred to psychiatric services per annum per 10,000 at risk. A rate was similarly computed for patients referred indirectly and included in this figure was the small group of persons for which the mode of referral was uncertain (Table III). The rates are based upon persons referred and take no account of multiple referrals of the same individual during the period.

TABLE III
INDIVIDUAL PATIENTS AGED 15 OR OVER REFERRED TO PSYCHIATRIC SERVICES DURING PERIOD 1/1/51 TO 20/9/59

(a) directly, (b) indirectly or not known, by G.P. and by sex expressed as the average annual rate per 10,000 at risk

General Practice	Average Annual Rate per 10,000			
	(a) Directly		(b) Indirectly and Not Known	
	Male	Female	Male	Female
A	17.1	33.5	17.1	22.3
B	15.7	19.4	4.5	5.1
C	14.8	17.6	4.4	8.5
D	15.4	18.3	6.1	6.1
E	37.3	36.8	10.9	18.4
F	15.0	10.8	10.7	12.8
Total Population	17.1	19.4	7.3	10.0

For males, five practices show direct referral rates which closely approximate each other; practice E, however, has a rate more than twice the general average. For females, two practices show relatively high direct referral rates, three have intermediate rates, and one a low rate. Practice E has the highest rate for both males and females.

Table IV serves to compare the observed numbers of cases referred directly to psychiatric services with the theoretically expected numbers computed by proportional distribution of the total direct referrals according to the estimated "mid-point" populations.

TABLE IV
"OBSERVED" COMPARED WITH "EXPECTED" NUMBERS OF INDIVIDUAL PATIENTS AGED 15 OR OVER REFERRED DIRECTLY TO PSYCHIATRIC SERVICES DURING THE PERIOD 1/1/51 TO 20/9/59, BY G.P. AND BY SEX

General Practice	Male		Female	
	Observed	Expected	Observed	Expected
A	9	9	18	10
B	14	15	19	19
C	37	43	50	55
D	28	31	36	38
E	24	11	26	14
F	21	24	16	29
Total	133	133	165	165

The χ^2 test indicates a statistically significant departure of the observed from the expected distribution for each sex (Male $\chi^2_{15} = 17.18$; $p < 0.01$. Female $\chi^2_{15} = 23.48$; $p < 0.001$).

POSSIBLE FACTORS INFLUENCING DIRECT REFERRAL RATE

In theory, variations in direct referral rate to psychiatric services may depend upon differences in the respective populations at risk or upon differences in the attitudes and practice of individual doctors:

(1) *Differences in Practice Populations.*—The socio-demographic characteristics of a practice population will, in general, resemble those of the community living in the area. To a degree, therefore, the composition of the practice is independent of the doctor.

Variations may, however, occur which are dependent upon the doctor and which arise from a complex selection process. Thus, a doctor may be chosen by a patient according to the doctor's sex, age, personality, and reputation for handling particular kinds of persons or illnesses.

In the present study, it is not possible to distinguish between those variations in population characteristics which are independent of the doctor from those which are dependent upon him. Nevertheless, a comparison is made of the practice populations by sex, age, occupation of individuals, household characteristics in terms of size of household, household composition, birthplace, education.

The data are set out in Table V, and in Tables VI to XI (opposite). Although there are differences between the practices in the distribution of these characteristics, the variations are trivial and are certainly not sufficient to explain the variations in direct referral rates.

TABLE V
ADULT POPULATION OF THE DEFINED AREA IN DECEMBER, 1957, BY G.P. AND BY SEX

General Practice	Numbers		Percentages	
	Male	Female	Male	Female
A	651	663	49.5	50.5
B	1,056	1,163	47.6	52.4
C	2,720	3,092	46.8	53.2
D	1,976	2,136	48.1	51.9
E	702	769	47.7	52.3
F	1,529	1,625	48.5	51.5
Total	8,634	9,448	47.7	52.3

The recruitment of patients to a doctor's list in terms of beliefs about the doctor's special interest and aptitudes may lead to substantial differences in the morbidity pattern for each practice without necessarily influencing the socio-demographic features mentioned above. Ryle (1960) estimated that

TABLE VI
ADULT POPULATION OF DEFINED AREA IN DECEMBER, 1957, BY G.P., BY AGE AND BY SEX
(PERCENTAGE DISTRIBUTION)

General Practice	Age Group (yrs)											
	15-24		25-34		35-44		45-54		55-64		65+	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
A	17.2	16.0	23.0	19.9	14.7	18.4	17.7	17.8	16.4	15.8	10.9	12.1
B	21.7	20.0	21.3	16.8	16.1	16.4	14.9	16.7	14.1	15.6	11.9	14.5
C	16.9	15.7	17.8	15.8	18.7	18.9	18.9	17.6	15.0	16.0	12.7	15.9
D	18.5	18.7	18.7	15.2	18.7	19.4	18.3	16.8	13.0	15.1	12.8	14.7
E	21.2	16.6	17.4	15.3	16.1	18.1	18.5	18.8	14.7	17.3	12.1	13.8
F	17.1	17.0	18.9	16.6	19.0	18.6	20.3	17.8	12.9	15.4	11.8	14.5
Total Adult Population	18.3	17.2	19.0	16.2	17.9	18.6	18.4	17.5	14.1	15.7	12.3	14.8

TABLE VII
TOTAL POPULATION OF DEFINED AREA IN DECEMBER, 1957, BY G.P. AND BY OCCUPATION
(PERCENTAGE DISTRIBUTION)

General Practice	Professional and Managerial Worker	Clerical and White Collar Worker	Miner	Manual Worker	Housewife	Schoolchild or Student	Other
A	2.0	2.4	18.0	13.8	28.9	19.2	15.6
B	1.6	2.1	18.0	12.6	30.2	19.0	16.5
C	2.9	3.5	14.7	13.1	30.7	19.1	16.1
D	1.9	3.3	16.8	13.3	29.7	19.8	15.2
E	1.5	4.0	14.1	17.7	29.8	17.8	15.0
F	1.2	2.6	17.5	15.7	28.9	19.6	14.4
Total Population	2.0	3.1	16.3	14.0	29.8	19.2	15.5

TABLE VIII
HOUSEHOLDS IN DEFINED AREA IN DECEMBER, 1957, BY G.P. AND BY NUMBER IN HOUSEHOLD
(PERCENTAGE DISTRIBUTION)

General Practice	Number in Household								
	1	2	3	4	5	6	7	8	8+
A	6.9	25.3	28.1	20.1	10.9	5.0	1.6	1.4	0.5
B	9.5	27.7	21.3	19.7	10.3	6.4	2.9	1.1	1.1
C	9.4	29.0	25.8	19.4	9.0	4.5	1.6	0.7	0.5
D	8.5	28.4	25.2	19.9	9.7	4.9	2.0	0.6	0.6
E	8.5	29.4	24.0	19.8	10.5	3.9	2.0	0.8	1.1
F	8.6	26.2	25.8	19.3	11.6	4.8	2.3	0.7	0.6
Total Population	8.8	28.0	25.2	19.6	10.0	4.9	2.0	0.8	0.7

TABLE X
HOUSEHOLDS IN DEFINED AREA IN DECEMBER, 1957, BY G.P. AND BY BIRTHPLACE
(PERCENTAGE DISTRIBUTION)

General Practice	Birthplace*									
	1	2	3	4	5	6	7	8	9	0
A	62.5	7.3	22.7	1.4	1.6	3.3	0.9	0.2	—	0.3
B	57.0	7.6	25.8	1.9	1.5	5.0	0.7	—	0.3	0.2
C	63.3	6.8	21.7	1.2	1.4	4.3	1.0	—	0.1	—
D	63.5	6.4	22.3	0.8	1.0	5.0	0.8	—	—	—
E	59.2	8.1	23.2	1.4	1.6	5.5	0.6	0.2	—	0.2
F	62.6	6.5	22.9	0.9	1.5	4.3	1.1	0.1	—	0.1
Total Population	62.1	6.9	22.7	1.2	1.4	4.6	0.9	0.1	0.1	0.1

* Key to summary birthplace:

1. All defined area
2. Defined area and South Wales mining valleys
3. Defined area and U.K. (and mining valleys)
4. Defined area and abroad (and U.K. and mining valleys)
5. All mining valleys
6. All U.K.
7. U.K. and mining valleys
8. Abroad and mining valleys
9. U.K. and abroad
0. All abroad

TABLE IX
HOUSEHOLDS IN DEFINED AREA IN DECEMBER, 1957, BY G.P. AND BY HOUSEHOLD COMPOSITION
(PERCENTAGE DISTRIBUTION)

General Practice	Composition of Household				
	Single Person	Married Couple	Other one Generation	Elementary Family	Joint Families
A	6.8	19.1	5.7	45.4	23.1
B	9.5	19.1	5.8	40.2	25.4
C	9.4	20.9	6.9	39.6	23.1
D	8.6	20.0	5.1	41.9	24.3
E	8.5	19.7	6.9	37.7	27.1
F	8.6	19.2	5.4	41.0	25.8
Total Population	8.8	20.0	6.0	40.7	24.5

TABLE XI
HOUSEHOLDS IN DEFINED AREA IN DECEMBER, 1957, BY G.P. AND BY EDUCATION
(PERCENTAGE DISTRIBUTION)

General Practice	Education*			
	1	2	3	4
A	72.6	23.8	3.5	0.2
B	71.6	23.8	4.1	0.4
C	66.2	27.4	6.2	0.1
D	72.0	24.1	3.9	—
E	70.2	26.0	3.8	—
F	73.9	23.8	2.3	—
Total Population	70.4	25.2	4.4	0.1

* Key to summary education:

1. All elementary
2. Some elementary; some secondary or university
3. All secondary or university
4. Not known

12 per cent. of a group of ascertained neurotic patients in his general practice had joined the list because of his known interest in neuroses. Rigorous examination of this factor would be difficult and would involve *ad hoc* morbidity studies in the practice populations coupled with inquiries into the current beliefs about the doctor's capabilities and qualities. The issue may be looked at indirectly from the present data in the following way. It may be supposed that patients prone to a certain category of illness would be willing to register with a doctor having a reputation in that field who is situated further away than the nearest G.P. In this event, the distribution of addresses (by distance from the surgery) for patients with the particular category of illness will differ from the distribution of addresses of all patients on the list.

If, therefore, the practices with high direct referral rates are those which selectively attract psychiatric patients, the proportion of direct referrals with an address outside the township where the practice is situated will be higher than the proportion of the total practice population with comparable addresses. The relevant data are presented in Table XII. Practice E provides the sole instance of a significant difference in the distribution of direct referrals by address compared with the practice population. Practice E has the highest referral rate, but the referred patients from this practice include a lower proportion with addresses outside the township where the practice is situated than the practice population. The data does not therefore support the theory of self-selection of psychiatric patients into certain practices in the area studied.

TABLE XII

PROPORTION OF DIRECT REFERRALS WITH ADDRESSES IN TOWNSHIPS WHERE THE REFERRING G.P.'S SURGERY IS SITUATED COMPARED WITH THE PROPORTION OF THE PRACTICE POPULATIONS WITH ADDRESSES IN THOSE TOWNSHIPS

General Practice	Percentage Individuals with Addresses in Townships where G.P.'s Surgery is situated				
	Direct Referrals	Practice Population	χ^2	d.f.	<i>p</i>
A	77.8	72.3	0.20	1	n.s.
B	94.0	91.0	0.08	1	n.s.
C	62.1	64.1	0.20	1	n.s.
D	67.2	64.3	0.12	1	n.s.
E	78.0	63.2	4.18	1	<0.05
F	67.5	66.5	0.00	1	n.s.

(2) *Differences in Attitudes and Practice of Individual Doctors.*—There is evidence from other studies (Mowbray, Blair, Jubb, and Clarke, 1961) that doctors differ in their judgment of what constitutes a psychiatric problem. Where the populations at risk in

different practices are similar in social, demographic, and presumably in medical characteristics, therefore, the fraction of the sick population regarded as psychiatric will vary in accordance with the doctors' views. The selection of patients from this fraction for specialist care will be governed in part by the attitudes of the doctor to specialists in general and to psychiatrists in particular. It will also depend upon the doctor's view of his own competence in the diagnosis and treatment of psychiatric ailments. These variations in criteria and outlook may in theory lead to proportional differences in cases referred by clinical severity, type of problem and type of person.

(a) CLINICAL SEVERITY.—The criterion used here is the proportion of the total individuals referred to mental health services from each practice who became psychiatric in-patients during the period studied. The figures for each practice are presented in Table XIII.

TABLE XIII

DIRECT REFERRALS FROM GENERAL PRACTICES DURING PERIOD 1/1/51 TO 20/9/59 ACCORDING TO WHETHER PATIENTS REFERRED BECAME IN-PATIENTS OR NOT, BY SEX

General Practice	Sex			
	Male		Female	
	In-Patient	Not In-Patient	In-Patient	Not In-Patient
A	4	5	9	9
B	11	3	12	7
C	19	18	33	17
D	17	11	25	11
E	17	7	13	13
F	12	9	12	4
Total	80	53	104	61

The log likelihood ratio test* indicates that the variation in proportions between practices for males and females separately is not significant (Males $G_s = 5.5013$; Females $G_s = 4.9829$).

(b) TYPE OF PROBLEM.—Patients have been classified as psychotic or non-psychotic on the basis of the diagnosis made by the clinic or hospital psychiatrist. The psychotic group includes all organic states, schizophrenic, manic-depressive, involutional, and paranoid disorders. Patients from the large group labelled "depression", "depressive reaction", "depressive state" were allocated to the psychotic group only if there was evidence from the case records of manic-depressive or involutional features.

The numbers of psychotic and non-psychotic direct

* The log likelihood ratio test (Fisher, 1922) was used for convenience of computation. The distribution of G closely approximates that of χ^2 .

referrals from each practice are shown in Table XIV. The distribution of the two categories shows no significant difference between practices for males or females (Males $G_s = 2.5514$; Females $G_s = 5.0521$).

TABLE XIV
DIRECT REFERRALS FROM GENERAL PRACTICES
DURING PERIOD 1/1/51 TO 20/9/59, BY DIAGNOSIS
(PSYCHOSIS/OTHER), AND SEX

General Practice	Sex			
	Male		Female	
	Psychosis	Other	Psychosis	Other
A	2	7	12	6
B	5	9	7	12
C	10	27	24	26
D	12	16	16	20
E	8	16	10	16
F	8	13	9	7
Total	45	88	78	87

(c) TYPE OF PERSON.—It is possible from the data to examine variations in proportions referred of old to young patients, single to married, and, for males, of the principal occupational categories, namely, mining and non-mining.

Table XV shows the numbers of patients aged 15 to 39 years and 40+ years for each practice. The practices do not differ significantly in the proportions of these groups (Males $G_s = 2.8742$; Females $G_s = 5.8651$).

TABLE XV
DIRECT REFERRALS FROM GENERAL PRACTICES
DURING PERIOD 1/1/51 TO 20/9/59, BY AGE AND SEX

Sex		Male		Female	
Age (yrs)		15-39	40+	15-39	40+
General Practice	A	6	3	8	10
	B	9	5	8	11
	C	21	16	19	31
	D	12	16	17	19
	E	14	10	17	9
	F	11	10	6	10
Total		73	60	75	90

Table XVI sets out the numbers of single and ever-married patients. The difference between practices is not significant ($G_s = 3.1081$).

TABLE XVI
DIRECT REFERRALS FROM GENERAL PRACTICES
DURING PERIOD 1/1/51 TO 20/9/59, BY CIVIL STATE

General Practice	Civil State	
	Single	Ever Married
A	8	19
B	9	24
C	27	60
D	15	49
E	16	34
F	7	30
Total	82	216

Table XVII indicates for each practice the numbers of male patients referred who were either coal-miners at the time of referral or who had been engaged in coal-mining at some previous time, and the numbers of non-miners. There is no significant difference between the practices in the proportions of the occupational groups referred ($G_s = 1.8180$).

TABLE XVII
DIRECT REFERRALS FROM GENERAL PRACTICES
DURING PERIOD 1/1/51 TO 20/9/59, BY OCCUPATION
(MALES ONLY)

General Practice	Miners and Ex-miners	Non-miners
A	6	3
B	9	5
C	23	14
D	20	8
E	13	11
F	14	7
Total	85	48

Practitioners may have similar criteria for defining psychiatric disorders and may recognize similar thresholds beyond which they would seek a specialist opinion. They may differ, however, in the channel through which they choose to enlist specialist aid. Thus, whereas one doctor might unhesitatingly refer a case to the psychiatric out-patient department, another would prefer to send the patient to the general medical or neurological service in the first instance in order, perhaps, to meet what he considers might be the patient's objection to being sent straight to a psychiatrist.

In these circumstances, the number of direct referrals to psychiatric services should be inversely proportional to the number of patients reaching psychiatrists indirectly. For each sex taken separately, however, the rank correlation coefficient is positive for direct and indirect referral rates, though in neither instance does the value of the coefficient achieve a statistically significant level (R Males = +0.71; R Females = +0.37).

To summarize the findings so far, therefore, variations between the practices in direct referral rates to mental health services cannot be accounted for by differences between the practice populations at risk in distribution by sex, age, occupation, number in household, constitution of household, birthplace, or education. The evidence available does not support the view that psychiatric patients are selectively recruited to the lists of G.Ps with high direct referral rates. Furthermore, there is no significant variation between practices in the distribution of direct referrals by clinical severity, major diagnostic category, age, civil state, or occupation.

During the interview, each of the eight G.P.s was asked to say what factors usually influenced him in deciding to refer a patient for psychiatric opinion. The commonest was the failure to respond to treatment provided by the G.P. (Ai, Bi, Bii, Di). Other "clinical" factors were (a) recognition by the doctor of the need for in-patient care (Cii, Ei); (b) type of illness, *e.g.* dementia and melancholia (Ci). Among the "non-clinical" factors were the following: (a) pressure from relatives for something else to be done (Bi, Bii, Fi); (b) request by patient to see a specialist (Ei); (c) serious impairment of patient's working capacity (Bii); (d) lack of emotional support for the patient from members of the family (Ci); (e) G.P.'s opinion that the patient may find it more acceptable to be told he has nervous trouble by a specialist, rather than by his own doctor (Ai, Fi).

The influence of these separate factors upon referral practice cannot be estimated accurately from the present data. Their diversity, however, even among the eight G.P.s here studied, is noteworthy. The varying weight accorded to these non-clinical factors by different G.P.s could perhaps account, in part, for the variation in direct referral rates.

DISCUSSION

It would not be appropriate to make a direct comparison of the referral rates found in the present study with the rates from other inquiries where the period of observation has been limited to a single year. Rates in the present investigation are derived by averaging referrals over many years, during which time the same person may have been referred more than once by his G.P. Since individual patients, rather than spells of illness, are the units making up the numerator for the calculation of rates, the average annual rate will show an apparent increase, the shorter the total period of observation.

With this reservation in mind, it is worth noting that Kessel (1960), in his study of psychiatric morbidity in a London suburban general practice, found a direct referral rate of 88 per 10,000 during a 12-month observation period. The referral rate reported by Bodkin (1953) increased from 4 per 10,000 in 1949 to 73 per 10,000 in 1951, during a period of growing collaboration with a particular psychiatrist. Data are not available to permit the computation of a national referral rate. A very rough estimate may be derived from the figures for new psychiatric out-patients in England and Wales during 1958 (Ministry of Health, 1959). This figure takes no account of patients admitted directly to mental hospitals nor of patients seen in consultation at home. It also presumably includes cases referred from sources other than general prac-

tice, *e.g.* general medical out-patient departments. Taking as denominator the estimated home population aged 15 or over in England and Wales on June 30, 1958 (Registrar General, 1960), the referral rate is 43.8 per 10,000.

Although the figures quoted above may not be strictly comparable with one another because of the variation in period of observation, and because of differences in the exact nature of numerators and denominators, they serve to indicate the order of magnitude of the referred fractions. What proportion of all the psychiatric cases consulting the G.P. annually are thus referred? In selecting a figure to represent the total psychiatric morbidity in general practice one has a wide choice among the several reported studies (see Ryle, 1960 for a summarized account). The figure will depend upon the precise morbidity index used; the definition of a psychiatric case; the outlook of the G.P.; the nature of the practice population. In the large-scale inquiry by the General Register Office in collaboration with the College of General Practitioners (Logan and Cushion, 1958), 171 volunteer G.P.s situated throughout England and Wales kept a special account of all consultations for a period of 12 months. The number of patients with psychiatric illness consulting for the first time during the survey year was 50 per 1,000 on the practice lists. The study does not present figures for the cases referred to specialists, but using material quoted earlier in the discussion it appears, as a rough estimate, that no more than one in ten of the patients recognized by the G.P. as psychiatric problems are sent on to a psychiatrist in the course of a year. Furthermore, on the evidence of the present study, the criteria used to select cases for referral vary among G.P.s, and include both clinical and non-clinical factors.

In the study of a suburban London practice (Kessel, 1960), the neurotic patients referred to hospital by the practitioners did not differ in the form of their illnesses from many of those not so referred. It was difficult to decide what factors had led to their referral. Kessel and Shepherd (1962) have drawn attention to the striking difference in age distribution of neurosis in hospital and general practice. The prevalence in general practice increases with age from youth to early adulthood and shows no subsequent decline. The prevalence of neurosis in psychiatric hospital in-patients and out-patients shows a marked decline after the early adult peak. This evidence suggests some form of selective referral of young people. Mowbray (1961) analysed a series of G.P.s' letters referring patients to a psychiatric clinic. The findings suggested that few practitioners referred patients on the basis of a positive diagnostic

appraisal, tending rather to stress abnormalities of conduct, the existence of social problems, or inappropriate responses to medical attention as reasons for referral. It was concluded that variations in the type and number of referrals could be due to a wide variety of attitudes to psychiatry on the part of practitioners.

G.P.s are regarded as having an important role to play in the recognition and treatment of psychiatric ailments (Council of College of General Practitioners, 1958). In any event, it would be quite impracticable and probably very undesirable for all, or even for the majority, of the patients with psychiatric problems in general practice to receive specialist attention. The question arises which cases would most benefit by referral to a psychiatrist. Clearly, since psychiatrists themselves show marked differences in their preferred mode of practice, there can be no definitive and exclusive answer. It should nevertheless be possible by operational research to sketch out the broad indications and contraindications, both clinical and social, for referral. We mention contraindications here because the deleterious effects of referral to a specialist, particularly to a psychiatrist, in terms of enhanced anxiety, guilt, hypochondriasis, and invalidism, have scarcely been examined apart from studies of the long-term effects of residence in a mental hospital (Barton, 1959).

The variation in rates of referral to psychiatric services shown in the present study has implications for epidemiological research in psychiatry based on specialist-treated cases. Since the G.P. is the principal agent by whom patients are passed to the mental health services, he must exercise a powerful influence on mental hospital and clinic morbidity statistics. The habits of G.P.s in referring cases may well be determined, in part, by the nature of the training in psychiatry received at the medical school. The psychiatric morbidity statistics for a large population, say in N.E. Scotland, might be influenced by the teaching policy in psychiatry at the University of Aberdeen through its effect on generations of medical students who later practice in the area. Mowbray and others (1961) have shown that the recognition of psychological illness by G.P.s is related to the number of years since qualification. Young doctors tend to identify a higher proportion of their practice populations as psychiatric cases than do their older colleagues. This may have a bearing upon the reported rates for mental disorder from new housing estates and new towns which are probably served by doctors who are younger, on average, than those practising in other areas.

The findings in the present study suggest that some doctors take their cue for referral from the relatives'

attitude or from that of the patient. To this extent, therefore, referral will depend in part upon the attitudes prevailing in the population to illness, to doctors in general, and to psychiatrists in particular. There may well be variations in such attitudes which are related to sex, age, social class, area of residence, and other factors.

SUMMARY

A comparison has been made of the numbers and characteristics of patients referred to the mental health services from six general practices in a South Wales mining valley during a period of almost 9 years. It is shown that the substantial variations in rate of referral between the practices cannot be accounted for by social and demographic differences between the populations at risk, nor by selective recruitment of psychiatric patients to the lists of certain practices. Furthermore, the differences do not seem to be related to variations in the clinical severity, major diagnostic category, age, civil state, or occupation of the patients referred.

Evidence is presented from interviews with the general practitioners which suggests that they are influenced to a varying degree by social and attitudinal factors in deciding whom to refer for psychiatric advice.

The implications of this finding for epidemiological studies of mental disorders is discussed. Operational research is required to clarify the indications and contraindications for referral of patients to psychiatrists by G.P.s.

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