

## A YEAR OF GENERAL PRACTICE: A STUDY IN MORBIDITY

BY

JOHN FRY, M.B., F.R.C.S.

During the past four years there has been a great deal of discussion concerning the work, status, and remuneration of general practitioners. Many loose statements have been made in connexion with general practice, without any accurate data to support them. This paper is an attempt to provide some information on general practice. Its scope and objects are: (1) to present a picture of the work of a general practitioner as recorded by facts and figures collected over a period of one year (1951); (2) to examine the causes of ill-health in the particular community under consideration; (3) to stress the conditions which are most often encountered in general practice; (4) to show that a so-called large practice can be managed easily, and I hope efficiently; and (5) to indicate the large scope which exists for research in general practice.

Few reports on this subject have been found in the medical literature. The only similar one is by McGregor (1950), who reports on a year's work in his Scottish practice. Other papers which have a bearing on the subject have been published by Pemberton (1949) and Bradford Hill (1951).

The great importance of estimating the amount of ill-health in the nation has only recently been stressed. It is particularly necessary if plans for further improvements in social medicine are to be soundly based and if the National Health Service is to function efficiently. General practice records offer an easy and relatively reliable method for studying morbidity. The general practitioner is usually the first medical man to be consulted by a sick person. He treats most illnesses alone, and they never reach hospitals or other medical units. He is therefore in a good position to report on communal ill-health. It must be mentioned that according to the Social Survey (Stocks, 1949) report on national morbidity only 23% of all people who reported an injury or illness during a period in question consulted a doctor. Other sources of information on the extent of national morbidity are the National Morbidity Survey, National Insurance records, notification of prescribed infectious diseases, hospital records, the disabled persons register, and the certification of certain scheduled diseases for purposes of entitlement to special food allowances.

### Type of Practice

It is necessary to give a short description of the practice from which this report emanates. The work of a general practice obviously varies according to its situation, the type of population, the practitioner in charge, and the diagnostic and therapeutic facilities which are available to him. The particular practice under review has been established for some 20 years, and has always been worked by a single practitioner. I have been in the practice for five years. It is situated on the south-east urban outskirts of London, in a borough with a population of 75,000. The area is closely populated by persons of the lower middle classes, whose occupations are chiefly in local industry or in clerical duties in London. The district is classified as one which is relatively over-doctored. The area of the practice covers some four square miles, but, even so, the yearly mileage involved is approximately 14,000 miles. The practice is almost entirely of N.H.S. type, with only a small proportion of private patients. The method of work is briefly as follows.

A typical day begins with a visiting round from 8.30 to 9.30 a.m., followed by a morning consulting session from 9.30 to 11.30. A further round of visits is from 11.30 a.m. to 1.30 p.m. The afternoons are occupied with hospital duties three times a week and in carrying out work which has not been completed on earlier rounds. A second consulting session is from 6 to 8 p.m. An average of 25 patients are seen in a single consulting session, the average time taken for each patient being five minutes. If there is not enough time in a consulting session to examine a patient a further appointment is made for him to be seen when mutually convenient.

It should be pointed out to those who are not familiar with general practice that the vast majority of consultations are not for any real organic diseases and do not necessarily require any thorough medical examination.

The number of daily visits averages about 10, the time taken for these being 10 to 15 minutes a visit. A part-time secretary is employed to help with the clerical duties.

There are admirable local diagnostic facilities, and I wish to express my sincere gratitude to the local hospital authorities for making these radiological and pathological facilities available to all the local practitioners. This area is well supplied with hospitals. There are four in the local hospital group, and the large London hospitals are within 30 minutes' travelling time. There are no hospital beds available where the practitioner can treat his own cases; once they are admitted to hospital patients cease to be under his care.

The numbers of patients who have been referred for consultant opinion either in hospital or elsewhere and those who have been referred for local radiological or pathological investigations are shown in Table I. It will be

TABLE I

Disposal	No.	Percentage of Practice
Referred for consultant's opinion ..	307	6.9
.. .. radiological investigation ..	240	5.4
.. .. pathological ..	220	4.9

seen that 460 patients have had investigations carried out at the local hospital without the cases having left my care. These have therefore been spared the need of being referred to a hospital out-patient department for their investigations, which, in my opinion, were necessary. Those who were eventually referred for consultant's opinion had in many cases already had appropriate investigations carried out.

*Certification.*—A good deal has been heard concerning the abuse of certification. It is interesting to note that in this practice during 1951 the number of certificates issued for purposes of incapacity for work, food priorities, and other miscellaneous reasons was 2,018. This means that one consultation in seven necessitated a certificate of some form.

### Record-keeping

In order that this investigation could be carried out, relatively simple methods of recording the results had to be employed. A first step is to define morbidity or ill-health. In this survey all persons who sought my medical advice were considered to be ill. The only exceptions were those who were examined for insurance or emigration purposes. This was a small number, amounting to only 75 during the year. The numbers at risk were easily ascertained from N.H.S. record cards and the number of private patients was known. In order that the investigation could be kept within limits of practical endeavour too much information was not sought. The principal facts to be investigated were to determine the common disease groups, their sex and age distribution, and the volume of work done during the year.

It was decided to classify cases under age and disease groups rather than according to specific ailments. Classification according to age was in five-year groups, from 5 to 85, and two separate groups consisting of infants under 1 and

young children from 1 to 4. Classification of disease was more difficult. The only practical method was to group the diseases under fairly large headings, and the following 21 groups were considered appropriate.

Self-explanatory were groups containing digestive, respiratory, cardiovascular, orthopaedic, genito-urinary, dental, rectal, eye, and gynaecological disorders. Other groups were those concerning accidents, varicose veins, vaccination and immunization, and patients seen in connexion with pregnancy and diseases of the central nervous system. Groups which require some explanation were upper respiratory infections, including "colds," sore throats, and the acute coughs, with no abnormal chest signs. The ear, nose, and throat group contained patients suffering from affections of these organs but not those mentioned in the previous group. The rheumatic group contained patients suffering from specific arthritis and that large ill-defined condition of "muscular rheumatism" or "fibrositis." Specific fevers were grouped together with those cases thought to be true influenza. Skin disorders consisted of the usual recognized conditions and also conditions of the subcutaneous tissues such as infected fingers, boils, and carbuncles.

The neuroses presented a difficult definitive group. It was easy to classify the severe psychopaths, but the majority in this group had mild anxiety states and depression. There was left a miscellaneous group which contained those cases which did not fit into any of these groups.

As each patient was seen his name, age, sex, and disease were noted and also whether he was given a certificate or was referred to hospital or for radiological or pathological investigations. This information was recorded in a notebook, thus:

Smith, G. M. 52. Resp. C. XR

This gives a record of the individual, his sex and age, that he was suffering from a respiratory disorder, for which he was referred for an x-ray examination, and that he was issued with a certificate. This type of information was transferred into a ledger at weekly intervals.

## Results

### 1. Number of Patients

The practice is a growing one, and a mid-year figure was taken to establish its size. The distribution in age groups is shown in Table II. The sex ratio was 2,150 males to 2,306 females.

TABLE II.—Numbers at Risk at Various Ages

Age	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+
No.	319	334	454	665	785	775	548	369	169	38

### 2. Work Done

This was estimated by recording the total number of surgery attendances and visits completed over the year. 1951 was exceptional in having a relatively severe influenza epidemic in January and February. During this period 225 individual cases of influenza were seen, requiring some 750 attendances. In other respects it was an apparently "normal" year.

In 1951 surgery attendances numbered 11,846, and visits 2,758, a total of 14,604. This gives an average number of attendances per person per year of 3.28. It is interesting to compare these figures with those of the years 1950 and 1949, bearing in mind that the National Health Service began in July, 1948. In 1949 the total attendances were 12,838, with an average medical attendance figure of 3.7 per person. In 1950 the total attendances were 15,135, with an average medical attendance figure of 3.8 per person. In spite of an influenza epidemic and with a larger practice the actual amount of work per person has decreased.

These figures may be compared with others: Bradford Hill (1951) gives a figure of 5 attendances per person per year for 1938 for National Health Insurance patients; the

British Medical Association (quoted by Bradford Hill) a figure of 5.13 for 1936. The Ministry of Health, at an inquiry in 1937, gave a figure of 3.66. McGregor's figure (1950) was 5, as was that derived by the Social Survey Unit.

Patients have, on the whole, been co-operative in easing one's burden by leaving requests for calls at the correct time—that is, before 10 a.m. However, even so, 110 night visits were paid during the year, between 8 p.m. and 7 a.m.

This volume of work done varied with sex, age, season, and day of the week.

Sex.—As in other reports, there was an obvious predominance of females, the ratio being approximately 5 : 4 (Table III).

TABLE III.—Number of Attendances, Showing Sex Distribution

Sex	Surgery Attendances	Visits	Total
Male ..	5,389	1,228	6,617
Female ..	6,457	1,530	7,987

Age.—Table IV shows the variation in incidence of ill-health in each age group as indicated by the average number of attendances per individual in each group. The healthiest age group was 10-19, and those requiring most medical attention were the over-70's.

TABLE IV.—Number of Attendances Per Person During 1951 in Age Groups

Age Group:	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+
No. attendances per person per year ..	3.7	3.3	2.4	2.8	2.8	2.8	3.7	4.1	7.0	7.7

Day of Week.—Monday was undoubtedly the busiest day for both visiting and surgery attendances. Friday, Tuesday, and Wednesday were next in order. It is remarkable how this uniformity was maintained throughout the different monthly groups. (It must be mentioned that there are no evening consulting sessions on Thursday or Saturday—on the latter day only since April.) These results are similar to those reported by Bradford Hill (1951). Table V shows the mean results obtained from keeping monthly (four-weekly) records during 1951.

TABLE V.—Services Rendered on Each Day of the Week—Percentage Distribution

	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Surgery attendances ..	22.5	18.8	17.7	8.8	19.1	13.1	—
Visits ..	19.3	16.8	15.3	13.9	15.3	12.4	7.0

Season.—As might be expected, there was a seasonal variation in the volume of work. This is shown graphically in Fig. 1; the variations for the two preceding years are inserted for comparison.

### 3. Individual Attendance

Out of the 4,456 individuals at risk 3,373 had cause to consult me professionally during 1951. This means that three out of four (or 75%) of the community under consideration required medical attention. This is a surprisingly high proportion. 2,700 were seen on five or fewer occasions, but one patient was seen 61 times. McGregor (1950) found that "over 60%" of his practice were seen in a year.

According to the Social Survey only 23% of sick people (adults) actually consult a doctor in any one month under review. It is astounding to think of the amount of national ill-health if in fact this figure is correct. No record was kept of the frequency of attendance in relation to the various family groups, but the general impression is that in some families the medical attendance quota is very much higher than in others.

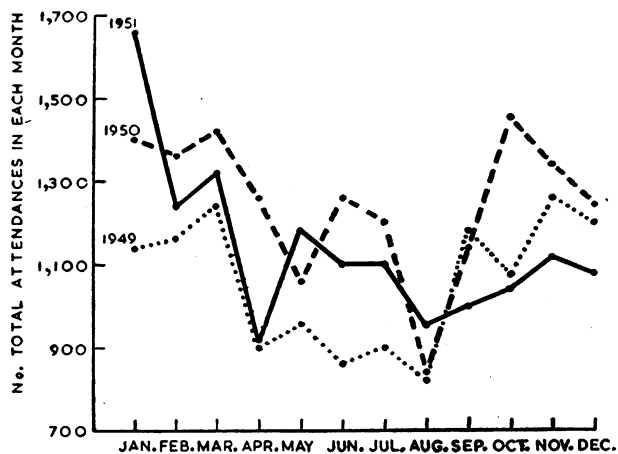


FIG. 1.—Graph showing seasonal variation in volume of work for years 1949-51.

**4. Incidence of Disease Groups**

The disease groups which were responsible for sickness in this general practice during 1951 can be arranged in four orders of frequency. (1) Groups which were responsible for most attendances and which each accounted for at least 7%—that is, over 1,000—of the total medical attendances during 1951 are shown in Table VI. (2) Groups next in order of frequency, each accounting for between 500 and 1,000

TABLE VI.—Number of Medical Attendances, Certain Disease Groups, and Sex Ratio

Disease Group	No. of Surgery Attendances	No. of Visits	Total Attendances	Ratio M.: F.
Upper respiratory infections ..	1,448	363	1,811	0.97: 1
Respiratory diseases ..	1,012	669	1,681	1.11: 1
Digestive diseases ..	1,213	223	1,436	1.11: 1
Neuroses ..	1,315	64	1,379	0.46: 1
Skin disorders ..	1,148	63	1,211	1.02: 1
Cardiovascular disorders ..	565	446	1,011	0.79: 1

attendances, were specific fevers (790 total attendances); ear, nose, and throat disorders (723); rheumatic group (667); and disorders of the central nervous system (508). (3) Disease groups which accounted for 300-500 total attendances per group were orthopaedic disorders (489); attendances for

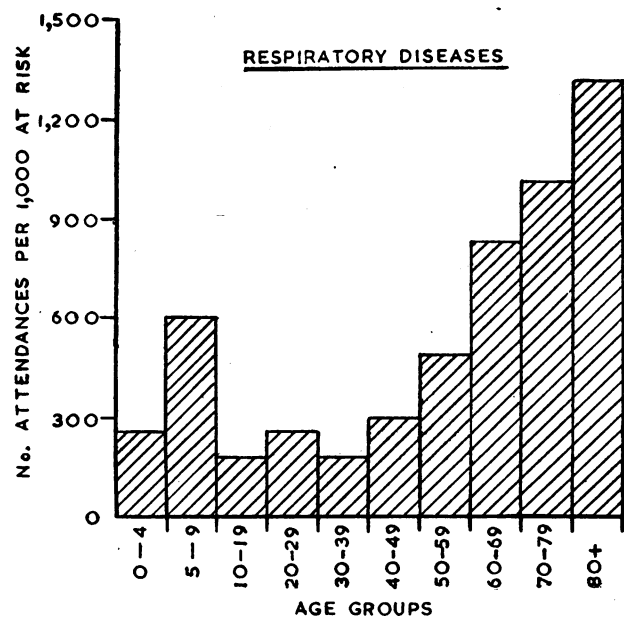


FIG. 2.—Influence of age on incidence of respiratory diseases.

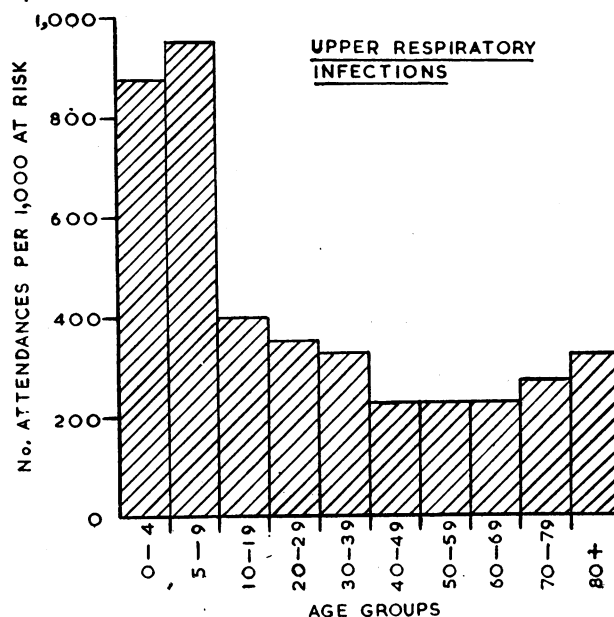


FIG. 3.—Influence of age on incidence of upper respiratory infections.

pregnancy (410); gynaecological diseases (383); eye ailments (364); accidents (357); and genito-urinary conditions (304). (4) The remaining groups showed a low rate of incidence (fewer than 300) with the exception of the miscellaneous group, which accounted for 585 attendances. Variations of the disease groups with age, sex, and season were observed.

Age.—The attendance rates per 1,000 persons were calculated for each disease in 10-year age groups. From these two distinct patterns appear: (1) *Where the incidence of disease group rises with age:* This is seen in the cardiovascular, central nervous system, digestive, rheumatic, genito-urinary, eye, varicose vein, and respiratory groups. A typical histogram of this group is that for respiratory disorders (Fig. 2). (2) *Where there is no increased incidence of the disease group with age:* Upper respiratory infections are particularly interesting in that the greatest frequency is in the 0-9 age group, and after this there is a fall (Fig. 3). Neuroses are most common between 30 and 60 (Fig. 4), and this is almost entirely accounted for by a rise in female incidence. Accidents and disorders of the skin and of the ear, nose, and throat show a more or less even frequency

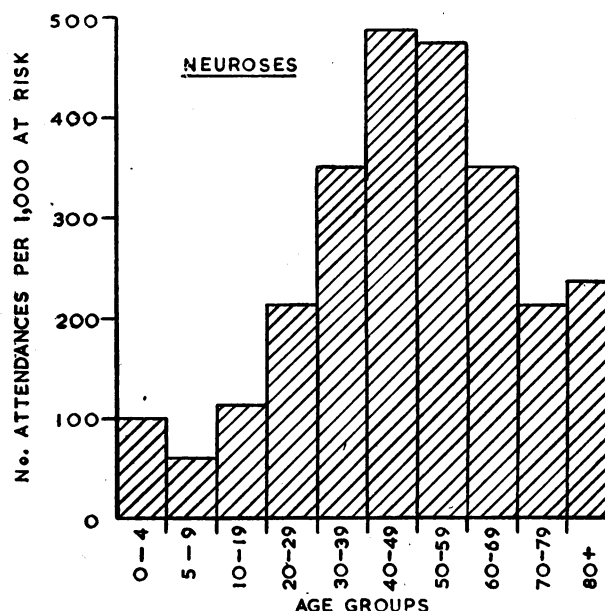


FIG. 4.—Influence of age on incidence of neuroses.

distribution at all ages. Orthopaedic disorders are most frequent in the active age groups, and fevers in children.

Sex is known to influence the incidence of certain diseases. Significant differences in distribution were noted in the neuroses and varicose vein and rheumatic disorders, in which females predominated. This was particularly noticeable in the neurotic group, in which there was a 2 : 1 difference. Males tended to predominate to a less extent in accidents and in orthopaedic, genito-urinary, respiratory, and digestive disorders (see Table VI).

Seasonal variations were significant only in respiratory diseases, in upper respiratory infections, and in the fever group, when a rise in the winter months was noted.

### 5. Survey of Incidence of Specific Organic Disease

Each patient's record card was examined and a note of any organic disease was made. For obvious practical reasons only certain common diseases were reviewed. The results of the frequency of the disease, the sex incidence, and the incidence per 1,000 are shown in Table VII. The penulti-

TABLE VII.—Number of Diseases of Various Kinds, Their Sex Incidence, and Their Frequency per 1,000

Disease	No. in Practice	Sex Incidence	No. per 1,000	No. per 1,000 Social Survey Results	Remarks
Hypertension ..	58	M. 16; F. 42	12.9	13.5	
Coronary artery disease ..	29	M. 22; F. 7	7.0	1.1	
Valvular disease of heart ..	18	M. 11; F. 7	4.0	2.6	
Peptic ulcers ..	55		12.3	15.3 (for London)	D.U. (M. 39; F. 6.); G.U. (M. 6; F. 4)
Neoplasms (malignant) ..	31	M. 19; F. 12	6.9	—	
Epilepsy ..	16	M. 8; F. 8	3.5	0.88	
Tuberculosis ..	40 (active 21)	M. 21; F. 19	8.8 (active 4.2)	4.5 (for London)	Pulmonary, 32; other sites, 8
Diabetes mellitus	10	M. 7; F. 3	2.3	2.35	New cases n year=3
Organic neurological diseases ..	18	M. 8; F. 10	4.0	—	Parkinsonism, 4; disseminated sclerosis, 4
Severe "disk lesions" ..	30	M. 18; F. 12	6.7	4.8 (sciaticas)	
Pneumonias (all types) ..	66	M. 37; F. 29	12.5	—	
"Chronic chests" ..	44	M. 24; F. 20	10.0	31.0	
Rheumatoid and osteoarthritis ..	14	M. 5; F. 9	3.1	4.3	
Pernicious anaemia	9	M. 5; F. 4	2.0	1.4	New cases in year, 3

mate column shows the results arrived at by the Social Survey. A close similarity between the figures will be noted. It can be seen that the most frequent serious organic diseases which were encountered in this general practice in 1951 were hypertension (and consequent cardiac failure), cardiac infarction, peptic ulcers, malignant disease, acute and chronic lung infections, tuberculosis, and "disk" lesions.

### Discussion

An attempt has been made to illustrate the work of a general practitioner and to indicate the chief causes of minor ill-health. A general practitioner deals predominantly with minor causes of ill-health and with those major diseases which do not require admission to hospital. Only records from general practice or some form of national morbidity survey can uncover the extent and form of the vast amount of minor ill-health, in the community.

The practice from which this report comes is an ordinary urban practice run by an ordinary practitioner. In this practice the amount of work as recorded by the average number of attendances per person per year has remained relatively constant over the past three years, and that average figure is 3.5 per person. The amount of work could, in my opinion, be cut down in three directions: (1) By using trained medical auxiliaries to perform tasks such as injections and minor routine procedure; (2) by educating

the public on health and disease and to control certain unnecessary demands made on practitioners; and (3) by cutting down the need for certification.

The most frequent causes of ill-health in this practice during 1951 have been respiratory and upper respiratory tract infections, digestive and cardiovascular disorders, and, surprisingly, skin and neurotic ailments. Sir George Newman (1933) found that the most common causes of incapacity were respiratory infections, "influenza," digestive and rheumatic affections, and accidents. The Social Survey found that cardiovascular, respiratory, digestive, rheumatic, and skin disorders, upper respiratory tract infections, and neuroses were the common causes. McGregor's common groups were upper respiratory, digestive, and skin diseases. When the extent of serious organic disease is examined we find that the commonest diseases are cardiovascular, respiratory, and digestive. This knowledge should be reflected in stressing to medical students the frequency of these conditions.

General practice, as other things in life, is what you make it. If one is keen an enormous amount of interest and pleasure is to be derived from it, and there exists great scope for research in such fields as acute pulmonary and other infections and minor gastro-intestinal disorders, as well as in the social sphere and in studying the natural history of certain common diseases. I am fortunate in practising in an area where excellent facilities are available for carrying out direct radiological and pathological investigations; this adds greatly to the interest of the work. It would be even better if a few beds were available for general practitioners to treat their own cases in hospital.

### Summary

A report is presented of the work of a general practitioner in a so-called large practice.

Methods of work and record-keeping are described.

An estimate of the incidence of morbidity in the community in question is attempted.

Results show that the average number of medical attendances per person for 1951 was 3.28.

Variation of the volume of work with sex, age, and seasons are noted. The healthiest age group was 10-19 and the incidence of sickness was greatest in the over 70's. Females predominated in the ratio of 5:4. There was the expected seasonal variation. Monday and Friday were the busiest days.

It is revealing to find that three out of every four patients at risk were seen during the year.

Disease groups which caused most ill-health were upper respiratory infections, digestive disorders, cardiovascular, respiratory, and skin diseases, and the neuroses.

Variations in disease groups with age and sex are described. Females predominate in neuroses and rheumatic disorders and males to a less degree in respiratory, digestive, and genito-urinary disorders.

A survey of the incidence of serious organic disease in the practice shows that the most common clinical conditions are hypertension, cardiac ischaemia, peptic ulcers, and respiratory infections.

Scope for clinical research in general practice is noted and the benefits from using the local radiological and pathological services are acknowledged.

It is a pleasure to acknowledge the help received from Mr. Clive S. Sabel in keeping records up to date, etc.

### REFERENCES

- Hill, A. Bradford (1951). *J. roy. stats. Soc.*, 114, 1.  
 McGregor, R. M. (1950). *Edinb. med. J.*, 57, 433.  
 Newman, G. (1933). Annual Report of Chief Medical Officer, Ministry of Health, London.  
 Pemberton, J. (1949). *British Medical Journal*, 1, 306.  
 Stocks, Percy (1949). Sickness in the Population of England and Wales in 1944-7. Studies on Medical and Population Subjects. No. 2. General Register Office, London.