

**THE KEEPING OF RECORDS  
IN GENERAL PRACTICE\***

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One of the earliest known instances of the keeping of sickness records in a small community was given by Keevil (1958); following on the failure of an expedition to the West Indies in 1625 the General Officer in Command of the British Fleet called for a sick list from each of the ships in the squadron. Details of the method used are not given but one can obtain an indication of the difficulty in obtaining the information requested by considering the instructions issued for a Collective Investigation by the British Medical Association some 250 years later (McConaghey, 1956),

“it has been accepted as a principle that no written answers to questions beyond a single stroke of the pen, a figure, a date or occasionally a few words must be asked for.”

One of the major difficulties in the technique of sickness recording lies in defining the conditions to be recorded. As recently as 1944 the Medical Research Council report on the classification of disease noted the possibility of different observers making differing decisions in assigning priorities in statistical classification. Playfair (1957) described one method of recording, utilizing a commercial filing system: but one of the drawbacks was the difficulty in converting the data collected into statistical equivalents. Walford (1955) stressed that clinical notes are basically an *aide-mémoire*, and that the most convenient time for recording the details is as they occur, and later (1956) he stated that one should avoid anything that cannot be clearly defined whether it be a disease, a symptom or a sign; if a word means one thing to one doctor and something quite different to another then the sum of their observations means nothing to anyone. Sharpe (1953) outlined the difficulty experienced in maintaining a constant degree of accuracy and relevance with a simple method of record keeping, where this had to be done by several observers in an outpatient department.

Fry and Blake (1956) describe their method of maintaining good

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records: stress is laid by them on the insufficient attention that has been given to discussion of the various everyday techniques of general practice: of these the proper keeping of suitable records is an important matter to the doctor, to the patient, to the State, and to medicine as a whole.

McGregor and Potts (1956) observe that although the keeping of records has never been popular among family doctors none of them has reached national or international eminence without having kept some form of notes, and go on to describe their system utilizing a 6 in. x 4 in. card for each patient, on which are written the name, address, sex, date of birth, marriage—where applicable the date is given—parity (where applicable) and occupation. One of the major difficulties highlighted by this painstaking method has been the classification of the numerous minor ailments that cannot easily be defined. The family doctor by his knowledge of his patient and the environment in which he lives is aware constantly that the reason that brings the patient to him cannot readily be found in any nosological pattern. These authors conclude that whatever system is used it must suit the temperament of the user, and that it is essential to make all entries at the time of observation.

The College of General Practitioners, through its Epidemic Observation Unit, has found that it can obtain results of considerable epidemiological value utilizing the method of asking for answers to very simple questions from a large number of observers. The reports on the incidence of Bornholm disease in 1957 and the retrospective survey of the 1957 epidemic of Asian influenza (1958) illustrate the value of the methods used by the Epidemic Observation Unit.

In a recent paper, the Research Committee of the College (1959) outline the proposed three-tier plan for the classification of conditions seen in general practice: a method so devised that with a minimum of writing a maximum amount of relevant information can be recorded effectively and easily. This question of defining the extent of morbidity in general practice is discussed fully by Howard (1959) who lists the following difficulties that have been experienced whilst carrying out surveys of this nature:—

- Lack of previous experience
- Difficulties of nomenclature
- Personal relations that defy statistical analysis
- Lack of time

The third item has been elaborated further to reveal the effects of hidden bias of figures due to specific interest of the observer; of the parochial element, i.e., the effect of the practice area on morbidity statistics; and of observer error.

An instance of the manner in which genuine differences can arise unwittingly because of the inadequacy of nomenclature is given by considering Hope Simpson's figures for the incidence of "common cold" (1958 a) and the views of his critics that he was really describing the "wet nose" syndrome (1958 b). McMahon (1955) in a paper of considerable relevance drew attention to the over-riding need to ensure that two compared measurements made on individuals or groups are meaningfully comparable: he refers to the inevitability of error arising when attempts are made to measure characteristics that are dependent on the subjective interpretation of either patient or observer.

If an attempt is made to delineate the different approaches to the problem of recording on an integrated basis all that one sees in general practice, it is possible to divide the reports available into three groups. The foreign reports, the British reports on general practice by observers other than the doctors concerned, and the reports of studies in general practice by the family doctors themselves in this country. It is a significant and entirely unexpected tribute to the soundness of and emphasis upon clinical teaching in the United Kingdom that the greatest number of reports have come from the pens of British general practitioners working in the National Health Service during the past decade.

In Europe, Mrugowski (1942) developed an ingenious theory of associating the incidence of infectious disease, as reported centrally from the health department, with amplitude and periodicity. He illustrated his paper with a sine-wave curve of the incidence of cerebro-spinal meningitis over a period of time and suggested that each disease had its individual cycle. Of the more recent literature Braun (1957) in a series of papers of which only two need be quoted, pleads for recognition of the need for a fully integrated system of statistical recording in general practice. Nowhere, he declares, are the basic principles of a systematic statistical approach to diagnosis in general practice to be found. In a later paper (1958) he says that ordinary diagnostic terms are too self-limiting when applied to general practice. He believes that general practitioners should attempt to convey to others exactly what the range and scope of general practice is.

Turning to the United States of America, a series of reports, each dealing with general practice on a massive scale, has become available in recent years. Couter *et al.* (1953) analyse a series of 1,000 consecutive residence visits to acutely ill medical patients. But when it is realized that the survey excluded automatically all children under 13 years of age, that all patients who asked for visits over the

telephone for complaints that appeared to belong to specialties other than internal medicine were advised to seek treatment elsewhere at the time without being seen, then the survey cannot be compared adequately with conditions obtaining in general practice here. Petersen *et al.* (1956) carried out a detailed survey, often referred to. This investigation was described as an analytical examination of general practice in the State of North Carolina. Ninety-four physicians took part, a total of 15,039 home visits and office attendances were analysed. A considerable degree of emphasis was laid on an examination of the physicians' own professional background and status. One of the main comments, however, was the striking variability in accuracy of diagnosis, as revealed by examination of the observations made during the study. "Either the physician was too busy or there was a lack of detail in the degree of accuracy and consistency." In this context the comment of MacMahon (1955) is relevant. Discussing the importance of statistical methods in medicine, he observes that differences should be measured so as to show real differences between things measured, and not merely differences in techniques of measurement.

Standish *et al.* carried out the Washington Sickness Survey in 1953. A series of four individual days in January, April, July and October were chosen and all doctors, specialists, and osteopaths in the State were asked to take part in the study. On these four days a total of 73,188 visits (home and office consultations) were recorded by some 40 per cent of the qualified medical strength of the State as well as a number of osteopaths. At each consultation the age, sex, chief complaint, and diagnosis were recorded. Fifty-two per cent of the attendances were seen by general practitioners, 40 per cent by osteopaths and 8 per cent by specialists.

To the distant observer, used to the discipline of a continuous study, and aware of the necessity to rehearse each new series before commencement, there are serious factors inherent in the organization of these surveys that will inevitably distort any conclusions that may be drawn from an investigation of this nature. The results cannot be compared effectively with studies in the same field of activity on this side of the Atlantic.

In another paper Standish *et al.* (1955) compare their results with four American and two British surveys (Fry, 1952; Logan, 1953). What is immediately apparent is the over-riding importance of respiratory system dysfunction as a cause of attendance in all seven series; health supervision consultations occupy second place in the American series. When considering the attendance of patients by age and sex the authors confirm the massive incidence of attend-

ance of women between 25 years and 65 years of age, compared with all other groups of either sex; one in five of all attendances was a woman between 25 and 44 years of age, one in eight a woman between 45 and 64 years of age. In all, a total of over 26,000 in 73,188 recorded consultations. Of the 38,060 recorded consultations given by general practitioners approximately one third were women between the ages of 25 and 64 years of age.

A later United States survey was made in 1958 in which 1,000 physicians throughout the nation reported details of age, sex, location of visit, diagnosis, and details of drug therapy for all private patients seen during a period of 48 hours once a quarter during the year. The survey was concerned principally with details of therapy rather than diagnosis, and so, interesting as it is, it is deficient in controls as well as being subject to a high degree of inherent observer bias. Information as to fact is sought on a basis of observer or patient subjective interpretation. Conclusions so arrived at are given undue weight because they are interpreted as valid factual observations.

Comparison with studies in the United Kingdom is not practicable. One cannot help recalling the appositeness of Walford's dictum quoted earlier, that definitions unless exact and specific mean different things to different observers, when considering these transatlantic reports.

When one turns to review the British workers in the field of investigation of general practice these can, as has been observed, be divided into two broad groups; those in which the investigations are carried out by workers ancillary to the practitioners themselves, and those in which the investigations are made and reported on by the practising doctors.

The first group's activities were initiated by Pemberton who in 1949 co-operated with eight general practitioners in Sheffield. These eight volunteers were asked to record the age, sex, and diagnosis of all patients seen in one week in February (the winter phase) and one week at the end of June (the summer phase). A total of 4,656 consultations were recorded and analysed. The results are pertinent and valuable and will be referred to later.

The next major report was that of Hill in 1951 in his presidential address to the Royal Statistical Society in which he detailed his investigation into conditions in general practice from 1st January 1938 to 30th June 1939. A total of 6,000 practitioners volunteered to take part. Five hundred were selected each month of the survey and asked to record among other data all consultations by location

(surgery attendance or home visit). 97.1 per cent of those participating reported on a total of 2,138,699 surgery attendances and 650,157 visits. The report shows in detail the doctor's day 20 years ago. The figures came to be regarded as supremely important in that they were used as a basis by the Government for deciding the financial terms which the profession was to be offered upon entering the National Health Service on the 5th July 1948.

Backett *et al.* (1953; 1954) in 1954 reported the investigation of one National Health Service general practice in north-west London for a period of one year; from 1st April 1950 to 31st March 1951. The team of investigators included medically qualified observers, social workers, and others who reported in detail on a total of 15,788 consultations recorded during the year, as well as upon other data. O'Neil described in 1954 the results of a survey in which six general practitioners widely separated in location and type of practice participated. The investigation was based primarily on measuring the amount of stress met with in general practice. Although the survey does not comply with full statistical requirements it does give a useful indication of the amount as well as the mode of clinical presentation of stress in general practice.

Logan (1953) produced the next major study of importance. He and his team at the General Register Office devised and analysed the results of a year's study of eight general practices which were diverse in character and location. The period under review was 1st April 1951 to 31st March 1952. The criteria laid down for recording the observations were specific and detailed. Different methods of recording were used by the participating practitioners—each used the method he preferred. This report was of considerable interest and importance, both for its context and for the example it gave; it has been used as a guide by many other workers both in the United Kingdom and abroad (for example, Standish (1955) refers to it). This report, No. 7, was followed by a sequel, No. 9 of the General Register Office *Studies on Medical and Population Subjects*. In it 10 practices (including 7 of the original ones in the first report) were followed for two separate consecutive periods, 1st April 1952 to 31st March 1953 and 1st April 1953 to 31st March 1954. In the first of these three years 104,739 consultations were recorded for an estimated population of 27,365 patients; in the second year 37,189 patients consulted 138,565 times; in the third year 36,133 patients consulted their doctors 128,529 recorded times.

The importance of these two combined reports cannot be gainsaid. In their planning, organization, execution, and final analysis they bear the hallmarks of competence, relevance, and accuracy, all based on attention to detail. It was following upon this experience

that the General Register Office co-operated with the research committee of the council of the College of General Practitioners in carrying out the later 12 month period of continuous observation of over 100 general practices in this country and in which the writer was privileged to take part.

Logan and Cushion produced the first volume of the report in 1958. This was a statistical presentation of the data accumulated; the clinical reports have not yet been completed. Some figures that are relevant may be mentioned: a total of 1,436,155 consultations (surgery attendance and home visits only) were recorded, 256,595 patients attending during the period. This number of patients was 67 per cent of the total registered population (all practices combined) of 382,829 patients—180,060 males, 202,769 females. In this survey standard record cards were prepared and used for each patient and a strict procedure was followed by all participants. By this means a diagnosis was entered on one line of this record card when it was made by the family doctor, and dates of all subsequent attendance for this particular condition were entered in the "date-boxes" along the relevant line. Facilities were provided for linking together and change of diagnoses so that the patient's progress could be given statistical interpretation eventually for the analysis. Upon the expiry of the survey each practitioner returned all cards remaining in his possession to the General Register Office.

The relevant sections of these reports will be referred to later.

The next report to appear was that of Brotherston, Chave, *et al.* in 1956; this was a survey of general practice on a new housing estate. Six practitioners on the estate, possessing altogether an estimated practice population of 18,000, participated. Each recorded the date, place, diagnosis, reason for attendance, treatment, certification, and referral to hospital. From the report some figures may be quoted. Of a representative sample—25 per cent—of the patients on the estate who were observed during the period under review, 86 per cent registered with a doctor. The average time during which the patients became and remained registered with a doctor on the estate was 10.9 months. Of the sample, some 3,081 patients required 15,286 consultations. One quarter of the registered population in the sample did not seek medical advice during the year. This paper is a valuable one, affording a review of the behaviour of patients seen in general practice and in whom certain ecological factors are of more marked importance. The population as a whole was new to the estate and individually to each other; the numbers were increasing all the time; there had not been time for inherent stability to develop. Because of all these

factors it was decided that the extent of neurosis arising in the group under observation should be estimated. A report by Martin, Brotherston and Chave (1957) followed the earlier one and deals with this aspect. Brotherston (1958) elaborated some of the earlier conclusions, stating that children of better educated mothers saw the doctor more frequently; that women working full time saw the doctor more often than their non-working counterparts. Logan's 1953 report on eight practices, referred to above, was used by these observers to give a measurement of 'normal' trends. One significant comment was made by Martin *et al* that the wide variation between practices studied by Logan was believed to be partly due to differences in diagnostic practice as well as to the incidence of illness in different areas.

Both papers shew the value of simple methods of recording when applied by several observers, and indicate some of the difficulty in interpretation of results due to variations in technique of those actually recording.

The remainder of the reports to be appraised in this section follow a different approach. Cartwright and Jeffreys (1958) investigated the ecology of married women who work in relation to their own and their children's health, in a housing estate in Hertfordshire during 1954—1957. In an estimated population of 17,000 patients three sources of gathering information were used. The interview in the homes of adults aged 15 years and over who had left school; the reports of school teachers in the area; and the records of doctors (six in number) who had practices in the district. In the sample selected for observation by these workers there were 3,040 individuals. 86 per cent of the population registered with one or other of the six practitioners.

Of the clinical records available it was shewn by frequency of consultation that school-age children whose mothers worked full time were seen less often than children in the same age group whose mothers worked part time, or were not in paid employment outside the home. A higher percentage of children aged 5—9 years whose mothers worked full time never saw the doctor at all, compared with other similarly aged children whose mothers were more at home. Of the mothers those who were in paid employment consulted the family doctor more than those who were not so working.

Park and Kidd (1958) presented the results of their survey from Government records of Morbidity in the Insured Population of Northern Ireland during the period 1950—1956. The investigation covered 80 per cent of the male population and 40 per cent of the female population in comparable age groups. From diagnoses



recorded on sickness certificates the authors concluded that there was a higher incidence of psychoneurosis and rheumatism in married women. When considering sickness absence it was shewn that of their respective total numbers 21 per cent of males, 22 per cent of other women, and 50 per cent of married women had at least one spell of sickness during the year. Another unexpected finding was that there was more long-term sickness among men in Northern Ireland *pro rata* than in the comparable group in Scotland. This is an interesting paper shewing a novel approach to the question of investigating the behaviour of patient populations. Certain of the conclusions drawn may have their validity queried; it is not certain whether all diagnoses recorded each week or month during each individual spell of illness were used, or only the final diagnoses given on return to work after each spell of illness were referred to. It is probable that there could be considerable difference if the results using one method were to be compared with those arising from use of the other.

There is a further method of assessing morbidity in the general population, and, indirectly, of assessing that seen by doctors. This is by considering the official Survey of Sickness which was started in 1943 and ended in 1952. This is more loose in its approach and depends to a greater extent on subjective interpretation; the use of memory by the individual questioned. The results cannot therefore be subjected to strict statistical interpretation to the same extent. Logan in 1950 reported on the National Survey of Sickness for the years 1946—1947 and 1947—1948, and stated that analysis of the information given suggested that two thirds of all patients who recollected having some form of illness never saw their family doctor. This compares with Stocks (1949) who showed that 77 per cent of persons complaining of some illness in an average month did not visit the doctor.

These two reports were followed in 1957 by the publication of a final report on the Survey of Sickness by the General Register Office. It is of interest to note that one of the five towns studied originally in 1912 for this purpose was Warrington, and that these five towns were re-studied in 1924 to obtain a comparison. It was during this second study that the modern method of survey by sampling was used for the first time. This method was used again in 1929 when the Merseyside Survey was completed for the University of Liverpool.

For the period covered in the report 1947—1951 medical consulting rates are quoted. The areas from which the samples were taken include in Lancashire both Warrington Rural District (in which the

writer's practice is situated) and Whiston Rural District (in which some of his patients reside):—

<i>Sex</i>	<i>Age</i>	<i>No. of persons who consulted the doctor</i>	<i>No. of persons who said they had been ill in past month</i>
Male	16—44	27	100
Male	45—64	50	100
Female	16—44	48	100
Female	45—64	60	100

Thus it is reasonable to believe that the profession as a whole, i.e. including family and hospital doctors, does not see more than one person in three who complains of illness of some degree.

Taylor (1958) commented on the Survey of Sickness: his two main points were that the essential factor in such procedures is the technique employed at the point of collection of the data, and that the survey can never shew the amount of morbidity and incapacity which does not reach the doctor's attention. A further comment in the writer's opinion would be that the influence of hidden bias and observer-error would militate against a high degree of accuracy in an investigation of this type.

### **Statistical Analysis: Studies of their own Practices by General Practitioners**

One of the earliest reports was that made by Cowan in 1840. He stated that:

The details are limited to the facts which the register contains, the object being to illustrate the value and practical working of the forms we have ventured to recommend without concealing the difficulties or imperfections attached to even a brief entry of any large number of cases.

Very significantly he observed later:

Were one hundred practitioners annually to publish the results of their experience on any uniform and comprehensive plan much valuable information as to the locality and treatment of disease would be obtained and many points in the natural history of particular complaints now uncertain and contested might be satisfactorily demonstrated and for ever set at rest.

One hundred and thirteen years later his foresight was confirmed and the Morbidity Survey of over 100 practices, referred to above, was carried out. Cowan gives a total of 1,349 patients seen during the year of which 433 were male and 916 female. Of the men, there were 204 married and 102 single, all over 20 years of age: of the women, there were 435 married and 306 single, all over 16 years of age. An instance of the difficulty at that time in communication

and transportation is shewn by consideration of his figures of attendance by quarter:

Winter	—	254
Spring	—	375
Summer	—	372
Autumn	—	348

the winter being the least busy. This is in marked contrast to present-day tendencies.

Pickles (1934, 1937) was the next to demonstrate his classical illustrations of epidemiological investigations in country practice in the early nineteen-thirties of this century. In one thoughtful paper written at the onset of the National Health Service he quotes Pasteur's aphorism: "In the field of observation chance favours the mind which is prepared," and goes on to stress the need to take advantage of recording facilities that will become available in the new health service. Editorial comment on the first James Mackenzie Lecture given by Pickles in 1954 was that Pickles had solved his problems without the aid of any other tools than his own process of reasoning and recording.

Snellgrove in 1945 reviewed a year's work as one member of a partnership of four in general practice. The period covered was 1943—1944. Details of the practice arrangements were followed by figures of surgery attendance and home visits. The practice population was estimated to consist of equal numbers of panel and private patients. Total consultations numbered 18,479; over 2,000 prescriptions and certificates were issued. Visits totalled 3,924, 37 per cent of all surgery attendances, which totalled 14,555. Snellgrove outlined his method of recording using a series of graphs marked up daily. The information was derived from entries made in a day book. He also emphasized the need to record the event at the time it happened. These figures cannot be subjected to full statistical analysis because of the difficulty involved in deciding the population at risk. It is much more difficult to estimate the number at risk when persons do not contact the practitioner until his services are needed.

In 1950 Pinsent produced his paper based on one year's investigation of his practice in Birmingham just prior to the National Health Service. Although a practice population of 1,680 panel and 1,520 private patients is given, it is fair comment to observe that one of the problems in making studies of private practice is to ascertain the population at risk; for private patients rarely signify their intentions before seeking a consultation. Pinsent's figure of 1,520 private patients must therefore be regarded primarily as the number of

patients actually seen in comparison with the standard method of calculating the numbers one is likely to be called on to see. Based therefor on an estimated population of 3,200 patients, Pinsent produced a series of figures analysing his observations.

There were 10,803 consultations during the year; 3,065 were home visits, 7,738 were surgery consultations. The consultation rate per patient was 3.3 per annum; 2.4 patient consultations per annum at the surgery, and 0.9 patient consultations per annum home visits. The visits to the patients' homes comprised 37 per cent of the surgery attendances. When these figures are broken down into the respective "panel" and "private" groupings, a different picture appears.

**Panel:** Surgery attendances 3.5 items per patient per annum.  
Home visits 0.6 items per patient per annum.  
A total of 4.1 patient consultations per annum.

**Private:** Surgery attendances 1.2 items per patient per annum.  
Home visits 1.3 items per patient per annum.  
A total of 2.5 patient consultations per annum.

The panel patients attended for consultation at the surgery 6 times out of 7, and received over half as much again of the doctor's services per patient during the year when compared with private patients. Private patients were seen almost equally at home and at the surgery. The ratio of certificates issued was 15 to the panel patient for every one for the private patient (2.46 per patient per annum, panel: 0.17 per patient per annum, private).

These figures seem unusual to-day, after ten years of the National Health Service; but they do reflect the importance that certification carries in general practice and show what one practitioner observed in his general practice, and so are relevant.

The next paper, also published in 1950, was that of McGregor, who reviewed one year's work in general practice in a small town in southern Scotland. These results were also the first to be published of a year's work in the new health service. A detailed description of the human ecology and environment was given, accompanied by a statistically well illustrated paper. Included in the tabulations are estimates of the population at risk by age and sex and by percentage ratios of the age and sex groupings. McGregor was one of the first to offer a definition of morbidity by a general practitioner; he stated that "Morbidity was simply any condition of the mind or body that caused the patient to visit a doctor or ask for his assistance." Some of the figures given in this paper may be quoted.

A total of 1,550 patients consulted him out of a practice population of 2,486; the patient consulting rate was therefore 62.3 per cent of which the male consulting rate was 65 per cent (656 males out of a total of 1,190) and the female 69 per cent (894 females out of a total of 1,296). There are detailed tables of the number of illnesses, surgery attendances, home visits, with ratios of attendance per illness and visits per illness, all differentiated by age and sex. Surgery attendances numbered 5,749 for 2,486 patients: visits numbered 6,549 for 2,486

patients. The surgery attendance/home visit ratio was 4 : 5, and the number of patient consultations per annum was 4.9.

An analysis of the death rate by age, sex and diagnosis was also given. This paper gave a thorough and detailed survey of one general practitioner's experience, based on the method of recording simply and at the material time, all the observations made; a summary of the method used was given later (1956). The paper is frequently referred to by other workers because of its value.

In a later paper, McGregor (1953) discussed the accident rate in general practice. With care equal to that displayed in the paper above he outlines the problem and discusses the relationship of accident incidence to sickness incidence in the 282 male and 186 female patients who were the subject of his investigation. By simple analytical methods he shews that the mean time lost by incapacity due to each accident was 6.9 days for men. This is in contrast to the mean time lost by incapacity due to sickness, which was just over 10 days per man per spell of sickness. There was a seasonal incidence, accidents being commoner during the months of May, June and July; since there is more tourist traffic through the area in these months McGregor wondered if this might be a contributory factor. He found that the accident-prone are largely the sickness-prone; that the male is more prone to accidents during school life and in his early years at work; that the most severe accidents happen to men in adolescence and early adult life; that women are more prone to accidents after the age of 45, when the accidents are again more severe in their effect. This paper is also well reasoned with firm statistical support for the points made.

Crawford in 1954 reviewed his study of two years' work in Northern Ireland general practice; the period covered two separate years—1 November 1951 to 31 October 1952 and 1 November 1952 to 31 October 1953. The author claimed that despite organized efforts there was still a place for individual studies, and that the diagnoses made are more likely to be uniform when made by one individual, than when made by several observers working together. The practice background and the doctor's day (single-handed practice) are described. Estimated practice populations for the two separate years are given. The population at risk, in this report calculated as the number of patients registered who individually remained on the doctor's list without moving off it during each of the twelve months under review, was 1,384 for the first year, and 1,341 for the second year. The method of recording is described. Separate cards were made out for each patient on the register; the cards were over-printed with a 'grid', and each single attendance or visit was marked on the appropriate place. Each diagnosed com-

plaint was entered separately.

During the first year:

Surgery attendances numbered 2,404, home visits numbered 1,919, this gave a ratio of 53.3 per cent attendances of male patients and 57.1 per cent of female patients; and

1.7 patient/consultations at the surgery per annum.

1.4 patient/consultations at home per annum.

A total of 3.1 patient consultations per annum.

During the second year:

Surgery attendances numbered 2,298, home visits numbered 2,074, a ratio of 50.3 per cent attendance of male patients, and 54.3 per cent attendance of female patients; and

1.7 patient consultations at the surgery per annum.

1.5 patient consultations at home per annum.

A total of 3.2 patient consultations per annum.

The total patient consulting rate was 63.2 per cent with a non-attendance rate of 34.8 per cent.

Crawford compared his figures for non-attendance (34.8 per cent), with those of Fry (25 per cent), McGregor (36.8 per cent), Backett *et al.* (28 per cent), and went on to state that in making comparisons between practices the age and sex composition was relevant. He instanced the difference between his figure of 42.05 per cent for male patients, Fry's 48.25 per cent males, McGregor's 47.07 per cent males, and Logan's 44.3 per cent males. These differences are significant because women normally require more attention than men. Lastly, his figure of patient consultations per annum of 3.19 per cent, (mean of 2 years), is compared with Fry's 3.28, Logan's 3.78, Backett's 5.1 and McGregor's 5.9. (The writer was surprised at this high figure and has re-calculated the patient consulting rate per annum for McGregor from the figures he gives: this, as quoted above is 4.9).

This paper is a valuable study and perhaps has not received the consideration it deserves in contrast to others quoted more frequently because of the rather small numerical size of the practice. The author is unduly strict in his standards when assessing the population at risk. The majority of workers are prepared to accept the quarterly summary issued by the executive councils to them as a basis. Crawford, however, proceeds to limit his unduly by regarding only the actual number of patients who remained on his list throughout the twelve-monthly period as the population at risk on which to base his calculations. The method does not allow however, for the number of patients who were on his list for some part of the twelve months, for whom he was at some time responsible, and who therefore can legitimately be included among the estimated population at risk. There was a fair degree of movement in his practice, for he gives the numbers on his registered list as 1,488 in the first

year and 1,450 in the second year; in each case the difference between the figures just given and those quoted earlier is over 100, or between 7 and 8 per cent of his list.

In 1952, Fry produced his first paper reviewing one year's work in general practice. This was a compact, well-tabulated paper, full of useful information. The method of keeping records was described later (1956); the entries are brief and to the point. There are five series of observations recorded; the normal clinical record, the daily record of morbidity, and volume of work done, the sickness record of individuals, the index of specific diseases, and the special records for research purposes. The main source of information, and the one in which all details are originally penned is a stout notebook kept on the desk or carried in the car in which the relevant entries are made at the time, and transferred weekly into a ledger. Of the practice population of 4,456, there are 2,150 male and 2,306 female patients.

	<i>Male</i>	<i>Female</i>	<i>Total</i>
Surgery attendances .. .. .	5,389	6,457	11,846
Home visits .. .. .	1,228	1,530	2,758
Totals .. .. .	6,617	7,987	14,604

Consultations by day of the week and other information regarding the volume of attendance by the month for the years 1949—1951 are also given. Fry estimated that he saw 3,373 out of a total of 4,456, i.e. 75 per cent of the population at risk. The patient consultation rate was 3.28 per annum. 2,018 certificates were issued during the year, i.e. one certificate was issued for one consultation in seven.

In 1957, Fry described in a short paper, the care of the elderly in general practice. The report, which is again factual, covered 315 patients aged 70 or over; these patients numbered only 6 per cent of the practice population but required ten per cent of the work carried out in the practice.

Also in the same year a report on "Five Years in General Practice" followed (Fry, 1957). This review was a combination of study of general practice and simple epidemiology. The author again stressed the need for proper planning in record keeping, and a discriminate analysis of the results. The practice population for each of the five years 1952 to 1956 is given. The basic unit of recording is again the consultation. The attendance rate per patient,

(defined as the sum of all attendances, surgery, home, hospital, divided by the number of patients at risk) for each year, grouped according to age and sex is given. The mean for all attendances for the five years is given as 3.3 attendances per patient per annum. During the five years Fry estimated he had seen 91 per cent of the population at risk individually. The detailed figures are relevant and will be referred to later.

These three reports taken together constitute one of the most effective illustrations of the nature and scope of general practice in a large urbanized area that have been produced. They are essentially factual; comment where made is based primarily on the evidence produced by statistical analysis of the records kept.

In 1954, the Horders reviewed the results of their survey in their general practice. The objectives defined were: (a) to study the pattern of illness; and (b) to decide how one study in one general practice would be representative of the over-all pattern of illness. They argued that comparison of different reports is difficult if not at times impossible because differing methods of recording are used, different criteria are adopted and different diagnostic labels are preferred by some workers. They analysed some 2,000 cases, 1,000 observed between October 1951 and March 1952, and 1,000 between April and September 1952. The first consultation for a given diagnostic condition only was noted in comparison with the alternative method commonly used of recording all consultations for each complaint, irrespective of the number of times the patient was seen. A pathological diagnosis was made in 81 per cent, a symptomatic diagnosis in 14 per cent, and no diagnosis in 5 per cent. For all cases observed (some 2,000) a total of 370 separate diagnoses were made.

Concurrently the authors organized and carried out a sample survey of 300 patients from 98 families on the practice list. The sample was chosen by taking the first few names listed under each letter of the alphabet. Of the total morbidity estimated from the sample—721 separate items of illness, for only 190 did the patients questioned seek medical attention. Thus it was argued that only 26 per cent of all illness suffered is seen by the doctor. (This estimate compares equally with the results of the Survey of Sickness reported by Stocks (1949), Logan (1950), Taylor (1958) and the Official Report of the Survey (1957).

This paper is of considerable interest for this is one of the earliest in which the patient consulting rate i.e. (the number of patients consulting for a specific condition divided by the total number of patients) is described and used by individual practitioners making



their own survey. The difficulties of making comparisons between individual practices are also mentioned.

Hopkins (1956) described the results of an investigation into the number of and reasons for hospital referrals in his practice. Some of the figures that are relevant are as follows:

During the three years 1951, 1952 and 1953 the practice population was based on the numbers on the list given in the quarterly summaries; the calculated mean over three years was 1,355. Hopkins considers he saw 85 per cent of all patients on his list in the three years (no supporting evidence). The total number of consultations was 10,101, the surgery attendance was 76.5 per cent and home visits 23.5 per cent of this number. There was a high degree of movement in and out of the practice, the proportions being 20 per cent of the estimated mean population at risk moving out of the practice in 1951, 22 per cent moving out in 1952, and 18 per cent moving out in 1953. Nevertheless, the inward movement was higher, for the practice increased from 1,217 in the first quarter of 1951 to 1,515 in the last quarter of 1953—an increase of 25 per cent on the original figure. These proportions are of interest for they are higher than those usually quoted in the official figures of internal migration in this country; reference to this will be made later.

McLean (1956) discussed the influence of home conditions in the first five years of life, with particular reference to the child population of 281 aged 5 and under in his practice. This detailed paper contains one table of interest:

<i>Age</i>	<i>No. of patients</i>	<i>" Doctor/patient contacts "</i>	<i>Average " doctor/patient contacts " per patient at risk</i>
—1 year ..	56	474	8.4
— 2 years ..	59	575	9.7
— 3 years ..	60	520	8.7
— 4 years ..	49	364	7.4
— 5 years ..	57	279	4.9
	281	2,212	7.9 <i>mean number doctor/patient contacts per patient at risk</i>

These figures although based on a small population illustrate the demand made upon the doctor's services by the youngest patients in his practice.

Crombie and Cross described an ingenious approach to the subject of investigation of general practice during 1956. The practice was composed of a dual partnership, one partner only carrying out the survey. Each " doctor/patient contact " was recorded on punch-

cards. Surgery attendances and home visits only were included in the term " doctor/patient contact ". Time spent on each " contact " was recorded, and summaries were completed at the end of each episode of illness of each patient seen.

Using punch-card analytical techniques the time spent by the practitioner in contact with his patients was calculated:

13.4 hours a week in contact with patients at the surgery,

6.9 hours a week in contact with patients in their homes,

5.1 hours a week for travelling (estimated time),

a total of 25.4 hours a week estimated for one individual practitioner.

Some unexpected results were obtained, making alternative calculations:

	<i>Mean time in minutes</i>	
	<i>Male</i>	<i>Female</i>
A. — per patient on list .. .. .	15.4	14.9
B. — per patient seen .. .. .	21.0	21.6
C. — per patient per episode of sickness ..	12.0	11.5

The figures given in this paper are remarkable, and can only be explained on the basis of timing the precise period in seconds or minutes that one practitioner spent in giving medical attention or advice; e.g. whilst one may spend 10, 15 or 30 minutes over-all in any one consultation, the observer here recorded only the time in seconds or minutes that was taken up in obtaining a history, examining a patient, or giving medical advice.

Davies (1958) carried out a survey of his practice during the period 1 March 1956 to 28 February 1957. Of 11,350 recorded items of service he estimated that some 4,000 were taken up with telephone call requests, for certificates, and for prescriptions. All these did not in his opinion involve a true consultation, and so he excluded them from his calculations, leaving a balance of 7,343 consultations.

In the writer's opinion to remove one-third of the number of items recorded in such an arbitrary manner is to nullify any conclusions that might be reached. Such action is contrary in principle to that adumbrated in the following paper in which it will be shewn that under carefully controlled conditions of experimental recording in general practice by a team of practitioners skilled in the procedure,

not less than 91.4 per cent of all attendance was regarded as necessary for advice and/or treatment. Medical certification for 1.9 per cent and "rep. mist." requests for but 0.8 per cent of the total attendance offer much food for thought.

In 1958 *The Journal of the College of General Practitioners* contained a leading report on the continuing observation and recording of morbidity. This gave detailed results of an enquiry into methods of devising a suitable record card and of using it in a pilot survey in eleven practices. After consideration, the unit of measurement chosen was the "episode of sickness". A limited number of headings for classification was used, because much of the morbidity in general practice presents as symptom complexes, which while they can be adequately treated cannot be classified easily as diseases. The particular cards used were self-coding for analysis by Power-Samas machinery; the method in use was that of placing one stroke or more up to a maximum of five in certain positions in printed columns on the card, during the consultation. In carrying out the trial a study of between-observer error, and of differences of interpretation was also included. The degree of precision in making a diagnosis was estimated by asking each practitioner to indicate one of four quantitative levels:

0. No diagnosis,
1. Tentative diagnosis,
2. Exclusion serious alternative diagnosis,
3. Firm diagnosis.

The results showed that the diagnoses originally made remained unaltered in 91 per cent of all episodes. Thirty per cent of the diagnoses made at the first consultation were tentative; 55 per cent were firm, and in 8 per cent no diagnosis was made. There was a clear difference of opinion on what constituted a firm diagnosis and on the degree of accuracy of clinical observation and pathological investigation, as carried out and interpreted by different doctors. In addition there was the separate problem of accuracy of diagnosis itself. This could be assessed in two ways:

- (a) general accuracy in terms of aetiology and pathology implied by the diagnostic label, and
- (b) specific accuracy with which this label is applied in a given instance.

Accuracy in diagnosis involved both factors, but individual practitioners applied (a) and (b) in varying ratios, and hence differences in interpretation and assessment arose.

Among other observations made during the pilot study the reason

for attendance was recorded: final analysis produced the following:

Advice and/or treatment	.. ..	91.0 per cent of all attendances.
Medical certification	.. ..	1.9 per cent of all attendances.
Non-medical certificate	.. ..	0.4 per cent of all attendances.
"Rep. mist."	.. ..	0.8 per cent of all attendances.
Prophylactic procedures	.. ..	2.2 per cent of all attendances.
Relatives' anxiety	.. ..	2.0 per cent of all attendances.
Unclassified reason	.. ..	1.3 per cent of all attendances.

Watson (1958) described a short survey carried out in his practice for six months in 1957; the subject of interest to him was that of asthma in general practice. He compared the incidence in his practice of 14 active cases per 1,000 population at risk with the pre-war recorded figure of 6 cases per 1,000 in Britain and in the United States, and with the post-war figure of 10 cases per 1,000 given by Fry in his five-year survey (1957). Of more pertinent interest in this context is the ratio of surgery attendance of all patients to home visits to all patients quoted in the paper.

The total practice population was estimated at 2,000 patients. Surgery attendances for 6 months were 919; home visits for 6 months, 1,852 (both totals per 1,000 patients). By calculation this gives an estimated surgery attendance rate of 1.8 patient consultations per annum, and for home visits an estimated rate of 3.7 patient consultations per annum. The surgery attendance/home visit ratio is 1 : 2.

In all three reports concerning general practitioner investigations outside England (Crawford, 1954; McGregor, 1950; and Watson, 1958) the usual surgery attendance/home visit ratio is altered in favour of home visits; many more patients are visited in the home than is usually the case in reports recorded in England.

In 1958, Pacy described the continuous recording of morbidity in his coastal general practice in New South Wales, Australia. Of the 980 potential patients in the area served by the practice, 52 per cent are male. During the period 1954 to 1957 he attended 1,009 patients. Although no details of consultation rates or patient consulting rates are given he observed that of his female patients 60 per cent were married, 8 per cent were widows and 7 per cent single or divorced. One significant fact that emerged was that the number of children seen was 23 per cent of the total attendance.

Pacy has an unopposed practice and he is therefore able to provide almost complete population cover for the area of the practice.

Baldwin (1959) reviewed a year's work in general practice in Scotland. The period covered was mid-October 1955 to mid-October 1956. There were four partners in the practice, each with an estimated average list of 2,200 patients. Consultations at the

surgery in Baldwin's section of the practice numbered 5,773, out of a total of 11,222 items of service (surgery consultations and home visits) given by him during the year under review. The number of surgery consultations per patient per annum was 2.6. The ratio of consultations at the surgery was 51.5 per cent.

From an analysis of his records he concluded that the group demanding relatively more service per patient was that of females aged 59 and over; these patients constituted 8.2 per cent of all the patients for whom he was at risk, and required 11.2 per cent of all services given.

Lastly, Mair and Mair (1959) presented a report of the services afforded a total of 17,896 patients at risk during the five-year period 1954 to 1958, both years inclusive. Consultations at the surgery totalled 30,447 for male patients and 33,234 for female patients; in all 63,681 consultations. The sum of all consultations (including surgery consultations and home visits) recorded in the five years was 98,469. The number of surgery consultations per patient at risk was 3.5 per annum. The ratio of surgery consultations to all consultations was 64.7 per cent.

### Conclusion

During the past ten years, parallel with the increase in studies of general practice, increasing experience has stressed the importance of certain aspects of planning and investigation. Pinsent (1958) has described the value of simple investigations, using simple methods of recording, which together produce accurate and valuable conclusions. Graves (1957) stated that 90 per cent of research into problems in general practice is more or less tedious mathematics, and that facts which cannot be converted into figures for their interpretation, usually cannot prove much. The value of controls in such studies is self-evident: this aspect is discussed fully by Atkins (1954) and Ross (1951). Valid conclusions may be sabotaged by the influence of the observers who gather in the information (Cochrane *et al.* 1951). Fletcher (1958) defines the problem and provides a solution exactly in discussing the difficulties of definition and of observer error in medical surveys; wherever possible instead of subjective enquiries, objective tests that are valid, simple, reproducible and discriminating should be used.

This survey of the literature is intended to provide a summary not otherwise previously available, of reliable information which it is hoped will be of value to others who, like the author, need a baseline from which to start their own investigations.

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### **An Appointment System in a Single-handed General Practice.**

H. N. LEVITT, L.M.S.S.A. *The Practitioner* (August 1960) **185**, 209.

Dr Levitt describes in detail the planning and development of an appointment system in a large urban practice. He stresses the need for careful preparation and education of the patients before commencing such a scheme, and goes on to describe the evident advantages to both doctor and patient. After five years experience of it, he is able to report its success, and would not abandon it.

### **An Appointment System in General Practice.** A. E. DE LA T. MALLETT, D.S.C., M.D., *The Practitioner* (April 1960) **184**, 490.

Dr Mallett describes the details and workings of a successful appointment system for patients seen in a practice of four doctors. The scheme has been working for four years, and the doctors concerned would not now wish to abandon it. The advantages outweigh the disadvantages, both for patient and doctor, though extra work devolves on the ancillary staff.