

tion of highly infectious diseases such as scarlet fever and measles and a low level of notification in the case of pneumonia.

Finally a comparison of weekly notification rates (calculated on the same population) and weekly return rates for measles are shown diagrammatically in figures 1 and 2. The weekly return rates are subject to a greater weekly variation but the trends in the two series are the same.

It is realized that our analyses, based upon reports from a limited number of observers, cannot be expanded indefinitely. For rarer diseases, material derived from existing sources, such as that published in the *British Medical Journal*, will remain our chief source of accurate information.

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## IV

### CONTINUED MORBIDITY RECORDING IN PRACTICE

The many practical difficulties facing an observer who wishes to study the illnesses which he encounters in practice have had a deterrent effect on general-practitioner research of many kinds. In the past consultations and visits to sick people were not generally recognized as potential units for the measurement of illness, and the item of service was not used as the denominator in epidemiological

studies until after 1945.

The demonstration by Logan in ten practices, and the joint conduct of the National Morbidity Survey by the College and the Registrar General, showed that items of service could be used as units of measurement and that prevalence and consultation rates for different diseases could be calculated with their help. In the early years of the College's research organization much attention was paid to minimizing the time and effort required in recording items of service. Numerous methods, mainly day sheets, ledgers, and specially designed cards for use with Cope-Chatterton and Powers Samas methods of analysis were used successfully, and now a method of recording can be found which will be appropriate to most of the studies which might be undertaken by general practitioners.

The qualities which commend a method of recording are those of accuracy, ease of completion, and the ease with which the recorded data can be analysed. Much can be learned from the summation of easily made item-records and the subsequent analysis may be tedious or simple according to the attention paid to planning of method. Both in their maintenance and use records should impose minimal effort on the doctor, and indeed the actual recording may sometimes be delegated to an intelligent secretary.

An account will be given of one method of recording which has numerous virtues. Though it may not be applicable to all investigations nor to all circumstances of practice, it provides the practitioner who wishes to take a rational look at the morbidity in his practice with an efficient working tool. The method based on the work of Eimerl<sup>1</sup> is one of a number which have been studied by the Records and Statistical Unit of the College, and it has been adopted by the Unit for the continuing studies of morbidity.

Recording is based on a loose-leaf ledger, an "E. Book" (plate I) in which sheets measuring  $5\frac{3}{4}$  in. by  $3\frac{1}{8}$  in. are held in place by metal rings in such a way that the lowermost sheets are displayed at once, overlapping from below upwards like slates on a roof. These record sheets are printed in columns on front and back. The lay-out of the columns is based on the information to be recorded; there are ten lines for entries on both sides of each sheet. By convention entries on the front of the sheet refer to male patients, and on the back to females; significance being placed on the position of the entry as well as on the information it contains.

Each bank of overlapping record sheets is held in place by an





interleaf sheet of stout card. Sixteen interleaf sheets can be inserted in the Twinlock H.R.1. binder, accommodating over four hundred record sheets, displayed so that lower edges only are visible. On the exposed lower edges of the record sheets are written the objects of the observations to be made, most commonly for our purposes a diagnostic term or its code number.

The diagnostic headings used in the E. Book are those of the classification designed by the Records and Statistical Unit, based on, and relatable to, the International Classification of Diseases. The classification was described in the *College Journal* in 1959<sup>2</sup> and has since been under trial in this country and in the Commonwealth. The section relating to mental illness was revised with the help of the Medical Research Council's Committee on the Epidemiology of Mental Disorders, and the experience gained by all who have used the classification has now been distilled in a further revision. This new classification will, it is hoped, provide a term which can be accurately applied to any clinical situation met with in practice. These descriptive terms can also be related for statistical purposes to the International Classification of Diseases. The decision to enter a diagnostic term is made not necessarily on the first or every occasion a patient is seen but only when the observer has decided on his diagnosis.

The headings of the classification of morbidity used, together with the code number allotted to the diagnostic heading in the classification are printed on the interleaf sheets of the Twinlock Ledgers. The headings are so arranged that each is opposite the exposed lower edge of the record sheet to which it relates. The code number, furthermore, is repeated on the record sheet itself. Thus on opening the ledger a column of headings is seen on the left of the retaining rings with the record sheets, numbered and easily visible, on the right. In one model used by the Records and Statistical Unit these interleaf sheets are coloured and bear index tabs for direct lead to the required classification group.

The ledger is made up with a record sheet appropriately numbered for each diagnostic heading, and where central analysis of material is undertaken by the Records Unit with a code number identifying the doctor also. Information is then recorded on the record sheets either by the doctor who keeps the ledger on his desk or by his secretary who keeps it on hers, after abstracting the necessary information from the N.H.S. record card duly completed by the doctor.

A surprisingly large amount of information can be set down on

one line of the record sheet in a surprisingly short time. Doctors doing the recording themselves find that a habit is soon established which is kept up almost effortlessly and constantly reminded by the layout of the record sheet of the information to be recorded. The record sheets in use in the Unit carry the following information column by column:

1. Date—inserted with a small date stamp.
2. Name of patient—giving initials.
3. Year of birth—last two figures suffice.
4. N.H.S. number—This identification of the patient is used because it can be more easily coded for mechanical analysis than the patient's address. Experience shows that the N.H.S. number can be used nineteen times out of twenty.
5. The next column is spare, used in different ways by observers following particular interests.
6. The right hand column can be used for recording of individual attendances which accumulate to form an episode of illness.

The lower left corner of the record sheet carries the code number of the diagnostic heading, while the bottom right-hand corner bears the code number of the doctor.

This layout is designed for ease of transfer of the recorded information to punch cards at the Records Unit where the records made by a number of dispersed observers are consolidated. At given intervals, usually yearly, the record sheets are removed from the ledgers and replaced by new ones. The extracted record sheets are placed in small "transfer ledgers" (plates II & III) and sent to the Unit in Birmingham. The information is transferred to Powers Samas punch cards and the "transfer ledger" is then sent back to the doctor for his own records. One "transfer ledger" may contain all the completed record sheets for one year, and provides a convenient method of storage.

It will be seen that, besides serving a valuable purpose in providing material for central statistical analysis each E. Book is an index to the doctor's own medical records. The value of this is further increased if the N.H.S. medical record card or continuation sheet is marked with the diagnosis code number on each attendance. If the doctor records the diagnostic code number or the N.H.S. continuation sheet the receptionist can complete the record sheet. Even where the code number is not entered, the receptionist can soon translate diagnoses into the appropriate classification number. When she is in doubt the second volume of the I.C.D. will indicate the appropriate section of the code if the diagnosis is not specified as such in the College Classification.

One simple, practical and effective method of indicating to the

secretary that a fresh diagnostic term has been entered on the N.H.S. record continuation sheet after a particular consultation or visit is for the doctor to have handy a supply of coloured stiff cardboard strips 10 in. by 1 in. wide, inserting one into the medical record envelope so that the upper 3 or 4 inches are clearly visible. When the secretary sees this signal she proceeds to enter the recorded information in the "E. Book". The cardboard slip is removed for use again. Using different coloured strips enables a variety of signals to be made with ease and speed, and saving unnecessary scrutiny of every N.H.S. record every time it is brought out.

The size of the E. Book makes it unsuitable for use on visiting rounds. Where medical record envelopes are carried the code number is entered on the correct continuation sheet and transcribed later by the secretary. Alternatively a note can be written on the visit list itself. One user carries a tape recorder in his car into which both clinical notes and code number are dictated while driving between visits. The tape is later transcribed by the secretary.

The ledger can be used as an index in a number of ways; supposing the doctor wishes to review all the patients with diabetes whom he has seen in the past year. He can turn to his ledger, or his "transfer ledger" and turn up the code entry for diabetes. He may wish to recall the date on which an epidemic of measles or of influenza began. All his cases will be in date order and he will see clearly the start of the epidemic. He can tell at a glance the age-groups most affected by the epidemic, and if he has recorded each attendance he has a measure of the disability occasioned by the condition. The doctor can use the spare column to record added information, for example race or social class. If he contributes to the Records Unit Continuing Morbidity Studies, this additional information can be analysed and tabulated for him.

It is emphasized that this method of keeping day-to-day records of observations made in practice is only one of many. Some of the most valuable research ever done in general practice has made use of day-book and day-sheets each carrying a set of pre-determined headings. Cope-Chat Cards are used by some with conspicuous success, while others use the "Findex" method of hand-sorting of cards by means of slots, wires and a reversible frame. Mechanical counters such as those used in blood-count work in laboratories are an aid to addition, and graph paper is invaluable at the stage of evaluation of material at home.

The Records Unit draws information from members of its

observer network in a number of ways, for in addition to the annual submission of record sheets for punching, periodic returns of specified diagnoses are asked for where these are likely to be of epidemiological value. At present weekly returns are made of infectious diseases and diseases of the respiratory tract. Accidents in the home are also notified to the Unit regularly. The value of the records of one doctor is increased by combining them with those of others, for there are many conditions whose rarity demands collection of information from many practices so that material of statistical significance is obtained.

There is nothing sacred about the classification on which the Records Unit is at work. It has been designed to meet the particular need of consistency in the use of diagnostic terms by doctors in general practice whose material will be pooled. Other groupings have been suggested as being more suitable where the ledgers are used solely as indexes to full clinical notes kept in Medical Record envelopes. The suggested classification takes into account the frequency with which different phenomena occur in practice, and the accuracy with which the general practitioner can define them. Furthermore, the diagnostic headings are chosen so that they may be related to the diagnostic group headings of the International Classification of Disease. This classification is the one used by epidemiologists all over the world; hence material from general practice in this country will be of greater value when presented in internationally acceptable terms.

Good progress has been made in the last few years; no doctor need now be deterred by practical difficulties from continued study of the natural history of disease in his own practice. New work in plenty remains to be done and new methods of recording of information will be devised. As the Records and Statistical Unit gains in experience the help which it can offer, both through its advisory service and its analytical capacity, will increase. As the present interest in research gains in impetus it will not lack opportunity to help members of the College and indeed all who wish to undertake research in the field of general practice.

#### REFERENCES

1. Eimerl, T. S., *Organized Curiosity, J. Coll. gen. Practit.* (1960), 3, p. 246.
2. *J. Coll. gen. Practit.* (1959). Vol. II. No. 2, pp. 140-159.

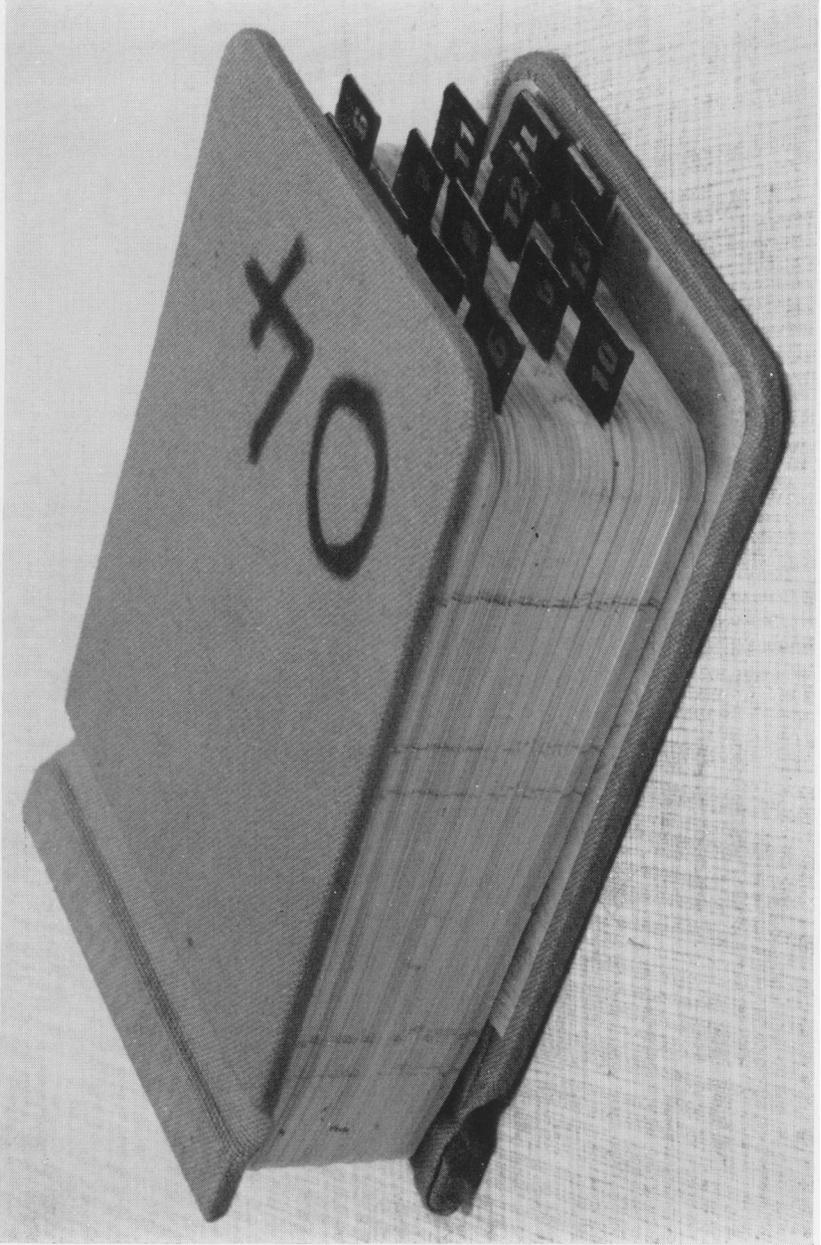


Plate III

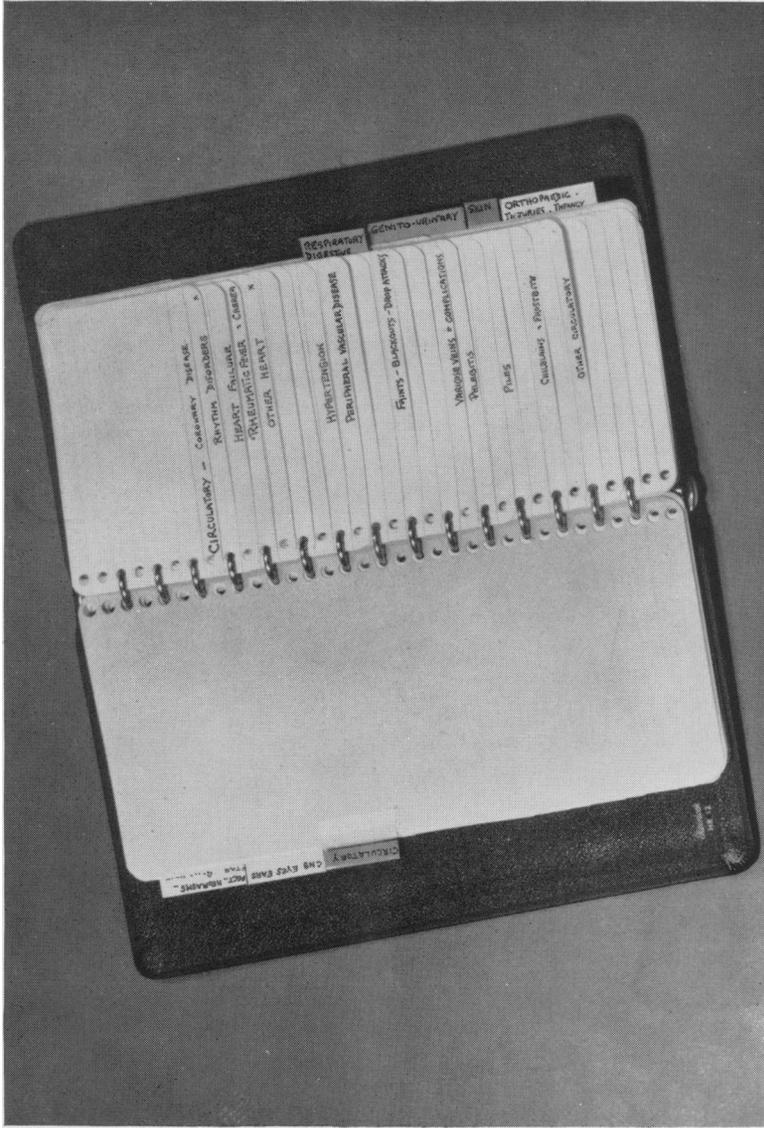


Plate IV  
The Twinlock visible index loose-leaf note book used to compile a disease register