RECORDING OF MORBIDITY OF FAMILIES

'F. BOOK'

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HOW can a general practitioner make record keeping a success and at the same time achieve three purposes with the one process of recording?

1. To keep records in order to get the necessary help from the records for the clinical management of the individual patient.

2. To record at the same time, clinical data which might be useful for morbidity studies or reviews of daily work in general practice.

3. To record and index patients on some system which would enable the general practitioner to retain the collected data on his patients, preferably not linked with the National Health Service records which come and go at the dictate of the administrative requirements.

Acounts of the excellent methods perfected by Dr Eimerl and Dr Walford, the 'E. Book' and the 'W. Book' respectively, have been published in the college *Journal*, vol. vi, No. 39, 1963. The scope of the 'E. Book' for extracting and abstracting morbidity is proving itself, while the 'W. Book' is excellent for the straight collection of morbidity statistics and for study by the doctor who wishes to know the content of his work. Both systems are limited, however, in that individual entries are not easily linked with those of relatives or families.

For a record system to incorporate all these points and yet remain simple in operation, an entirely new method was required. Furthermore, in the National Health Service I have always felt that being a family doctor rather than a general practitioner gave me a greater clue to the real reason for my work. Thus I was faced not only with the problem of devising a recording method, but also with ensuring that such a method would be capable of giving family histories. This paper, therefore, draws attention to another method of indexing National Health Service records, built around the household or family. This system of 'F. Books'—or 'Family Books' is

described as a continuous system for recording morbidity. In contrast to the ' W.' and ' E.' Books, no consolidating of annual books is necessary, but of course, the aim of the ' F. Book ' is not so much primarily concerned with individual moribidity but with the family morbidity as a whole.

An illustration of the problem

It soon became obvious that the problem of putting down family histories on each patient's record in daily practice would be a tremendous undertaking. If, for instance, I saw Rosemary, a child of seven with asthma, I would have to make an entry of this clinical fact in the records of her parents and in those of her seven brothers and sisters. To succeed during the general press of events in general practice, record keeping must depend on simple entries preferably made in one place only. It is logical therefore to note the family history on a record where all the members of the family are listed, or where there is a reference to the record of these sibs, or other relatives. Furthermore, a continuous system in general practice must be flexible and expansible, because it requires to grow as morbidity occurs and new relationships are established as life proceeds.

When discussing morbidity statistics, it is often overlooked that such figures are only from *one* point in time when the data were collected, but morbidity and relationships, and with these family histories, continue to develop all the time. They are not to be noted as a ' book entry ' or a 'counted incidence ' but rather as a picture which is having new details drawn in it perpetually.

To return to the example of Rosemary, if one could record her asthma on a ' family record sheet,' this would at once give the fact that her brother Angus, aged 17, had Besnier's prurigo and later, asthma; that her sister Janet, aged 12, had hay fever; that Benje the youngest aged two has flexural dermatitis and infantile eczema; that her father was diagnosed as suffering from a psychoneurosis when 32 years old; that his family and his wife's family are also patients of the practice and their family sheets can be turned up. It would also show that a sister of Rosemary died of tuberculous meningitis; that her mother had at least one miscarriage and her brother Jack, aged 15, was in an approved school. It seemed improbable that a succinct and yet comprehensive record system could be provided on one short piece of paper from which all this could be read, yet this is exactly what my partners and I have developed with the help of Mr S. A. Sklaroff, lecturer in demography at the

University of Edinburgh department of public health and social medicine.

Scope of records

We would have liked to make the basic record sheet that of the family but here the realities of life soon convinced us that it was probably wiser to base our system on the 'household'. Families may not live together, households do; households may be related to each other and their morbidity has some bearing on each other.

Record keeping advantages

By using households as a basis, alphabetically indexed, we assisted the administrative running of the partnership, as it was found very helpful to be able to look up an address or to have the family disease pattern revealed at a glance, on receiving a call to an unfamiliar household when doing duty for a partner on holiday. It is also a paying proposition to keep households recorded like this. Take for instance, Rosemary's brother Jack. If when he returns from the approved school and is in need of general practitioner services, he assumes that he is automatically reinstated on the list of the family doctor, unless one has a very small list, or an exceptional memory, one will not realize that he has been away and requires to be signed back on one's list. Then there are the children who never seem to be registered, and those who go off the list because they are in a residential nursery whilst mother has her operation; who go to boarding school, college or university; who go elsewhere to seek employment, to quote only a few of the disappearing tricks which are practised in the National Health Service. By noting their 'removed from list' state on the 'household record', all these patients can be rightfully reinstated when they come for consultation. By thus finding the patients who regularly receive treatment but for whom no payment has been received, we are confident that in our partnership of seven principals the additional money so found is a substantial contribution towards the salary of the secretary.

Where most patients are concerned, household sheets correspond to the biological family, at any rate in our practice. We also find that in spite of a considerable movement of population owing to rehousing and rebuilding in the area, the number of households which we lose track of is very small indeed. In 1960, when we last checked on this, we had an 11 per cent turnover of patients for the whole partnership, yet it was only for every fourth of these patients that one household was taken off the list. (Average size of household on the list is 2.5 persons.) It was further shown that in two-thirds

of the parent-child households, both parents were registered with the partnership, and in 96 per cent of households where the children were on the National Health Service list, the mother was also registered.

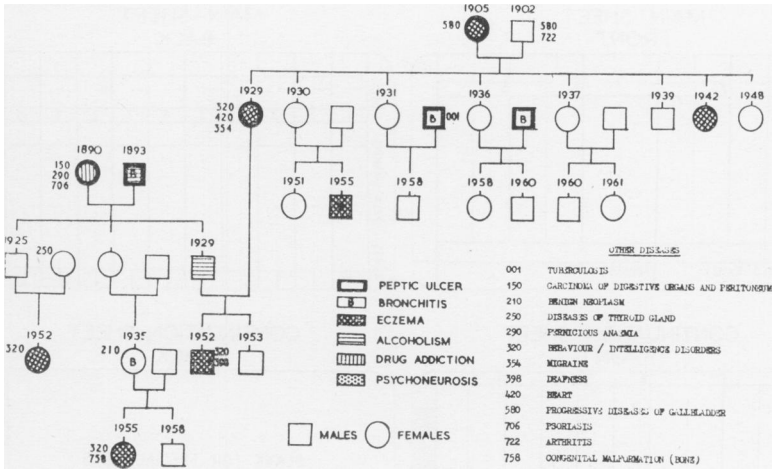

Figure 1. Chronic illness in two families

Figure 1 illustrates an example of what information can readily be obtained through the ' F. Book ' recording system.

A description of the practice and its organization is regarded as irrelevant to this paper, as our system can be adapted to suit any type of National Health Service or family practice, provided a secretary is employed. For completeness sake it is stated that we work in a group partnership of seven principals (from three separate surgery premises) in a semi-industrial area of Edinburgh, mainly consisting of housing schemes of different vintage with a few owner-occupiers. The population is mainly of the skilled, semi-skilled and unskilled classes.

Method of ' F. Book '

After several trial systems and following the encouraging experience of Dr Walford and Dr Keith Hodgkin, we adopted in 1958, a visible edge indexing system. Special coding sheets were designed and printed to fit loose leaved stiff covered binders. Each binder holds approximately 350—3⅛in. x 5¼in. sheets. These sheets were designed to serve the following needs:

1. To record entire households on one sheet so as to allow rapid identification of individuals and their family composition.

2. To record selected morbidity in individual households.
3. To provide continuous and up to date records of age and sex of each patient.
4. To allow reference to related households.
5. To permit rapid statistical summaries of population and morbidity of practice (Age-sex Register).

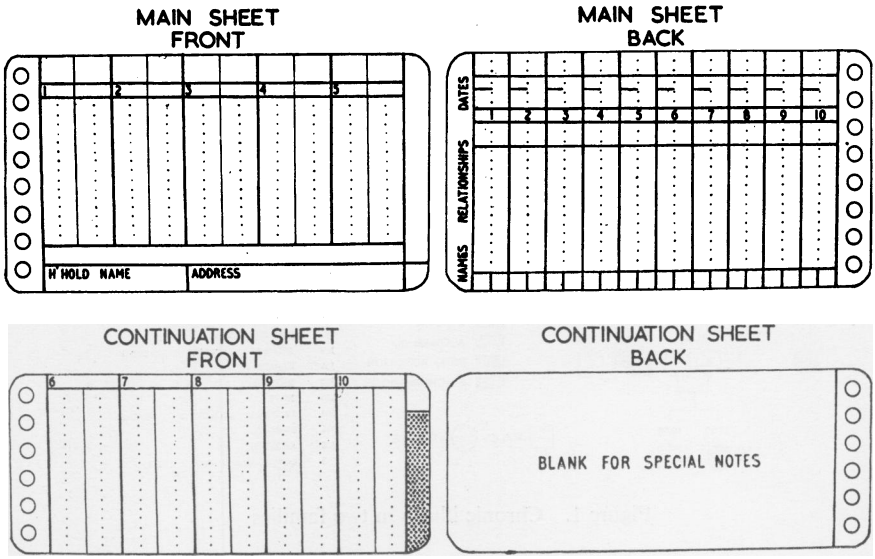

Figure 2. Record sheets of the F. Book

These sheets are held in place by metal rings, so that half an inch of the lower edge is visible throughout the whole page. The back and front of these sheets have been printed with certain columns representing members of households and providing special continuation sheets f or families consisting of six members or more. The lay-out of these columns is based on the requirements of the recording system, some of which are purely administrative: date of leaving practice, date of death, relationship within the household, with which of the seven principals they are registered, address, any previous addresses, change of name. Other recorded information is clinical, such as blood group, morbidity by international code numbers, 'twins', a 'three generation family' within the partnership, illegitimacy, adoption, and others. Each bank of overlapping record sheets is held in place by an interleaf sheet of stout cardboard. The Twinlock H.R.12 is a suitable type of binder, holding about seven banks of sheets with eight interleaf cards which are used for visible indexing. These headings, containing the appropriate house-

hold names, are so spaced that each protruding index name is clearly visible on opening the Twinlock book. It is wise not to pack these binders too tightly because opening the ring locks for removal of a single sheet may cause the whole bank of sheets to jump out of their ring holes unless great care is taken.

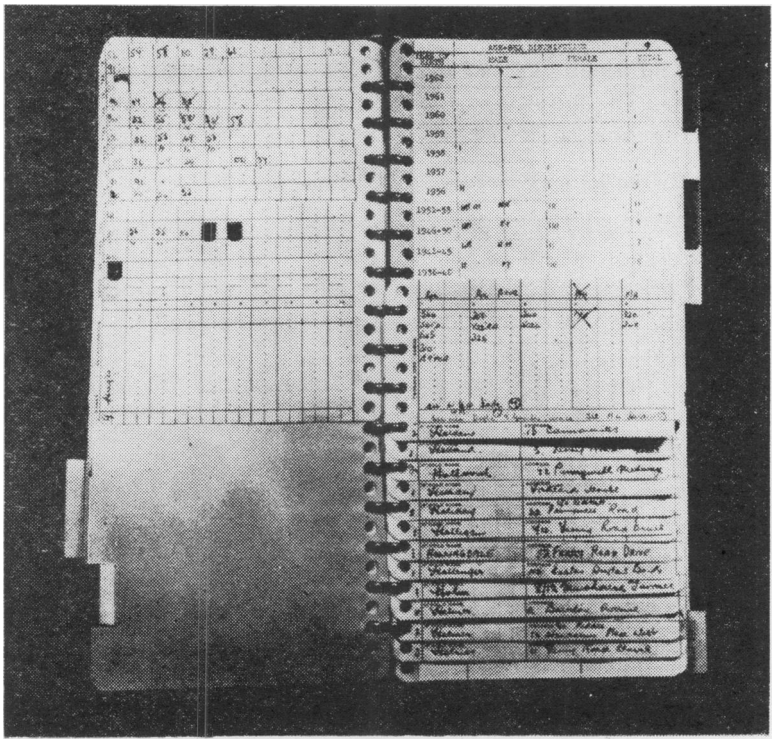

Figure 3. 'F. Book' showing visible edge indexing. (Left side: age/sex; right side: Household identifications)

The front lower visible edge of these cards shows the family name and address. The reverse upper visible edge shows the date of birth for each member of the family with a space to insert Christian name and relationships along with date of removal from list. There is also a space for symbols of death, enlistment, removal, emigration, or change of doctor. The front of the card is divided into ten corresponding spaces and is identically numbered for entering coded clinical facts on each member of the family.

Administration of system

The routine clerical work of keeping the already established and

completed part of our family recording system up to date was carried out simultaneously with the progressive building up of the new family index. We devised a system whereby the normal secretarial staff of the practice have kept up to date in the family record books, all the changes of address, the date of entry and of leaving the practice. *Pari passu* any new diagnosis on the agreed list of codable illnesses was entered. A system was introduced, described below, by which all such information was automatically brought to the attention of the secretariat, and it is surprising how quickly records build up on these household sheets.

How to maintain and operate the 'F. Book'

The National Health Service records are, of course, the record for the doctor, which he has in front of him each time a patient is seen. There he records his clinical information. In operating the 'F. Book' only two steps are required from the doctor:

1. Each time a diagnosis is made when seeing a patient, a rubber band is slipped over the record envelope indicating to the secretary that the last underlined diagnosis requires to be coded and entered in the appropriate household slip of the particular patients, but of course another convention could be developed here.

2. Similarly coded relationships, etc., etc. are also indicated.

Everything else depends on the secretary.

Disease classification and coding

We do not code total morbidity for one very strong reason. To achieve uniform recording in a partnership like ours the criteria of definitions would have to be continuously watched and brought up to date. It seemed more realistic to attempt the recording of a limited list of morbidity only. We chose a list of conditions which produce permanent pathological changes, mainly because these clinical entities would sooner or later have confirmatory laboratory findings or other confirmatory investigations or opinions or tests. Thus corroborative information would be within the daily routine of the practice. The x-ray report of a duodenal ulcer or bronchiectasis, the neurological consultant's confirmation of disseminated sclerosis, the blood picture of pernicious anaemia, would all appear eventually to support the tentative diagnosis. When opening the practice letters first thing in the morning, the secretary reads all letters and reports and codes them straight away. The coding of this selected clinical material (about 90 codes) is based on the *International Classification of Disease*. My only apology for not using the College classification is that the index volume of the *International Classification of*

Disease proved excellent and readily understandable by our non-medical secretariat. Over the years we have not regretted this choice, particularly when there is the inevitable change of staff and some new person has to learn the coding method.

Figure 2 (page 414) shows the coded sheet of which the 'F. Book' is made up. Figure 3 on page 415, shows the 'F. Book' as it is in use. Fifty-one books are required for the seven principals' patients (approx. 20,000). For each single practitioner, 6–7 books would be the appropriate number, at a cost of £3. 3s. 0d. each.

Age–sex analysis

It can be seen clearly that to complete the age-sex picture for the total practice is simply an accounting manoeuvre on a full page of the 'F. Book' which consists of the upper visible edges of the household sheet showing the year of birth of each member in the appropriate colour (blue=male: red=female). Patients who have left the list, or died, are crossed through in pencil at the time of leaving and are not counted. Likewise, when a patient who is still with the practice sets up his own household, he (or she) is transferred to a separate household sheet, and crossed off the original slip, so that he (or she) is not counted twice. Needless to say, the coded morbidity and other information of patients removed from the National Health Service list remains as long as the household sheet remains in the 'F. Book.' If eventually all the members of a household are 'off the list' the slip is removed from the book and stored in a separate index box, filed alphabetically in households for easy reference. It is surprising how often members of a former household turn up again as patients and the clinical facts are therefore available on their return, or for review or for any survey work in which one might be interested, quite regardless of the fate of the National Health Service record.

Extracting totals for disease groups

To obtain the prevalence of any of the coded clinical entities is simply a matter of leafing through the 'F. Book' and entering each case on a prepared sheet in the appropriate space for age and sex. Even with the 51 books for our partnership, this is not such a daunting procedure as it may sound. Three hours is quite adequate to extract the incidence of diabetes, epilepsy and hypertension. The yearly morbidity is distinguished in the household slips by drawing a line under the last entry for each patient as soon as possible after the 31st of December each year. This again is not too lengthy a

procedure, being done by the secretary in her quieter moments.

A system whereby morbidity is recorded continuously for each patient by families or households has a further exciting possibility in that, by simply looking at the front of the 'F. Book' sheet, it can be noted at once that not only do certain diseases appear in certain families, but also that there are other diseases associated with them.

I have often wondered why patients who committed suicide had certain other illnesses associated with their depressions. This is simple clinical history and should be in their case notes, but the fact that various members of their family have had behaviour disorders, neurosis, or other stress diseases is at once apparent from the 'F. Book' sheet along with cross reference to related households under other names.

All other College sponsored recording systems can reveal the same information but only by reference to the clinical notes of all the members of families, or households (if they are known and still with the practice) and it is often difficult to get family information about a dead person even if one remembers to whom they were related. As families grow up and each member starts a new household, they become fragmented as regards their geographical and record distribution, but their clinical and relationship information remains in the 'F. Books' whether the individual continues to be registered with the practice or not.

Application of the 'F. Book' records

These records can yield information for many purposes. If a practitioner wishes to know about his diabetics, a run through his household sheets looking for the code number '260' will give the answer but at the same time he could obtain a list of all his high-risk patients for diabetes, those sibs of sufficient age more likely to develop diabetes than the not so related, and he could thus institute a more worth-while screening for this disease in a potentially high-yield population group. But the most exciting results of this indexing system lie in the fact that it can answer the question of a family history based on clinical records, rather than on hearsay of an aunt or any other loquacious member of the family.

Family trees with the recorded clinical information for each individual patient as far as the family is within the partnership practice can be extracted (see table I) and are astonishingly helpful in assessing everyday problems, let alone such special problems as the risk of an epileptic marrying and having epileptic children.

TABLE I

RECORDED PREVALENCE OF DUODENAL ULCER IN THE OFFSPRING OF PARENTS WITH A RECORD OF DUODENAL ULCER COMPARED WITH THE PREVALENCE EXPECTED ON THE AGE-SEX-SPECIFIC RATES FOR THE PRACTICE AS A WHOLE EDINBURGH GROUP PRACTICE, DECEMBER, 1960

OFFSPRING (including those off list) AGED 15–39 YEARS OF: " MOTHER AND/OR FATHER AGED 40 YEARS OR MORE WITH DUODENAL ULCER RECORD "

	Male	*Female*	*Both sexes*
Total number of offspring 15–39 years	292	275	567
Number of offspring with duodenal ulcer record	23	14	37
Expected number with duodenal ulcer record (on age-sex specific prevalence rates for all patients aged 15–39 years in practice as a whole)	6.9	1.9	8.8
Ratio: observed/expected	3.3:1	7.2:1	4.2:1

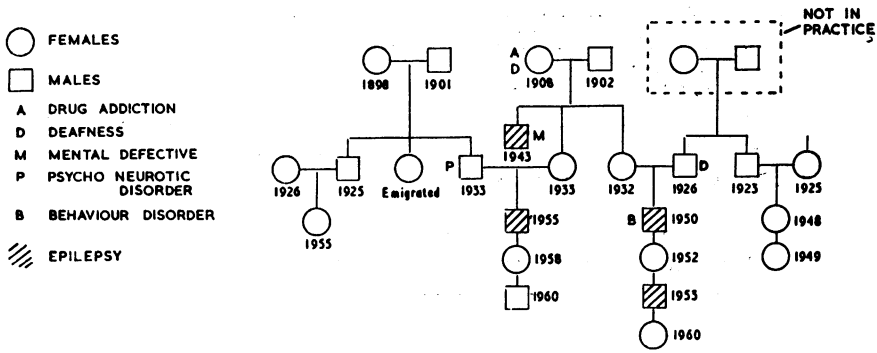

Figure 4. A family with epilepsy

The only other way of extracting such family trees and clinical information would be by review of each patient in order to obtain family histories.

One of the aims of record keeping in general practice is that it should make figures or results available on a continuous basis allowing both for an analysis of incidence and prevalence. This the ' F. Book ' fulfils without difficulty and similarly it also allows for the same analysis of families.

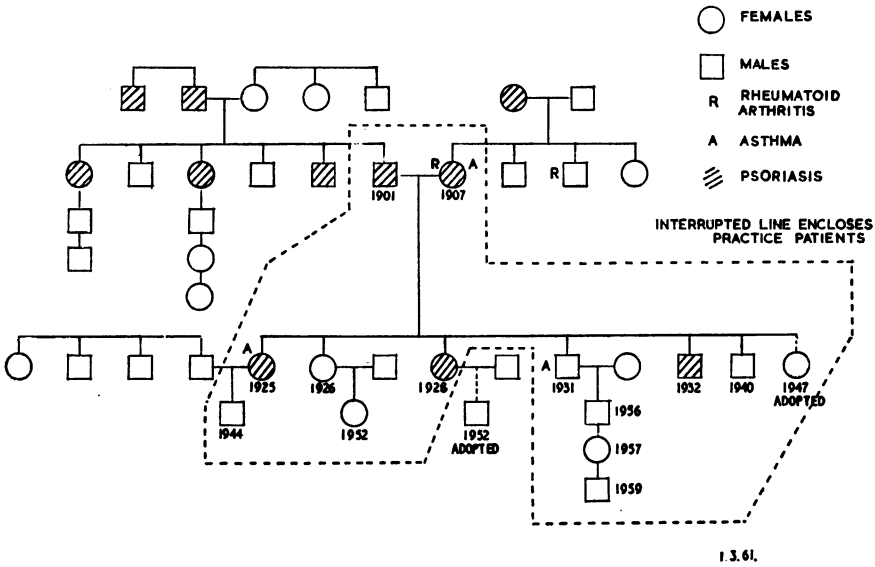

Figure 5. A family with psoriasis

Table II is an example of the type of analysis available from the 'F. Books' and shows that in our practice at any rate a child of a 'rheumatic' parent is almost seven times more likely to develop rheumatic fever than a child not so affected.

As family doctors we might be struck by the similarity of illness in husbands and wives, but can it really be substantiated that morbidity in a married couple is assuming a similar pattern? The 'F. Book' can give some answers to this problem reasonably quickly.

TABLE II

CHILDREN OF PARENTS WITH A CLINICAL HISTORY OF RHEUMATIC FEVER

	Total number in practice	*Actual number of offspring with rheumatic fever*	*Expected number based on age/sex specific rates in practice*
Sons aged 5–39 years	136	3 (2*)	0.50
Daughters aged 5–39 years	136	7 (4*)	0.75
Total	272	10 (6*)	1.25

(*) Rheumatic heart involvement

By calculating the expected number of cases from the total prevalence of the particular disease in the total partnership practice, we found for instance, that only in cases of psychoneurosis can we demonstrate an actual excess of husbands and wives developing this condition whilst married to a spouse with psychoneurosis. Not really surprising, but, of course, many results are not surprising except that in the vast majority of cases we have only impression to prove this matter and no actual statistically valid figures. In the other three conditions which were chosen for this investigation, chronic bronchitis, duodenal ulcer, and arthritis, no such relationship exists, the difference between the actual cases found and the expected number being too close.

TABLE III

DUODENAL ULCER, CHRONIC BRONCHITIS, ARTHRITIS AND PSYCHONEUROSIS IN THE SPOUSES OF PATIENTS WITH A RECORD OF HOSPITAL REFERRED PSYCHONEUROSIS
(as recorded in a N.H.S. Group General Practice, 1960)

	With record of duodenal ulcer		*With record of chronic bronchitis*		*With record of psychoneurosis*		*With record of arthritis*	
	Actual	*Expected*	*Actual*	*Expected*	*Actual*	*Expected*	*Actual*	*Expected*
206 husbands aged 25–69 years of psychoneurosis recorded wives	16	18.1	13	9.8	14	9.9	10	9.2
156 wives aged 20–64 years of psychoneurosis recorded husbands	6	4.9	5	4.9	14	9.9	5	7.0

In 1922, James Mackenzie tried to interest the Medical Research Council in general-practice continuous recording. Although for 15 years the National Health Service has given us the opportunity to build up continuous records of disease, in 1964 we are still only experimenting with it. By developing these special recording techniques we will be able to retain these records in the hands of the clinician, the family doctor, thus the clinical information escapes the

long arm of the administrator and makes a contribution to the continuing recording of family morbidity.

Summary

The 'F. Book', a looseleaf (Twinlock) type of ledger is the basis of household recording allowing identification of families. This indexing system:

1. Is restricted to 90 selected conditions in which definite diagnostic criteria are available and thus limits the error between observers (several partners). It can be extended to suit any particular practitioner's wish or problems.

2. Identifies all patients with the same name and address on the front of a visible edge loose leaf book or ledger.

3. Contains on the back of the indexing sheet, age, sex, and relationship within the household (the wife of the householder being taken as the basic person), also shows dates of leaving practice, marriage, death, etc.

4. Shows year of birth at top reverse of index sheets and thus provides an easily obtainable age-sex distribution of the total practice.

5. Carries on the front of the index sheet the address of household, previous address and names, other relatives at different addresses within the practice including coded degree of relationship.

6. Has numbered spaces for clinical information using the *International Morbidity Classification.*

7. Makes additional provision for larger families. The system is compact and is easily kept going by normally required secretarial staff.

The unrivalled opportunity the National Health Service gives to study family morbidity should be exploited, but results of such studies can only become available over a period of time when a systematic collection of data through such a system as the 'F. Book' has been carried out by several groups of practitioners.

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