

A DIAGNOSTIC WORK-STUDY INDEX

A Use of the E-Book to Measure Work Load in Relation to Morbidity

J. T. SPENSER, M.B., Ch.B., D.R.C.O.G.*

Herzliah, Israel

Background and introduction

SINCE the publication of the results of the National Morbidity Survey (Logan and Cushion 1958), the science of recording morbidity in general practice has developed well beyond its first teething troubles. The E-, W-, and F-Book, each have outstanding qualities suitable for different purposes and for workers of different temperaments (Eimerl 1960, Records and Statistics Unit 1963, Walford 1963, Kuenssberg 1964). The Records and Statistical Advisory Unit, set up by the College in 1961, has been invaluable in co-ordinating both the results of studies made by different individuals and the development of methods of collecting such information.

It is partly because morbidity recording has made progress, that the gaps in our knowledge of the other aspects of general practice have become so obvious during the past two years, and that the need for a standard method of recording work load data has become acute. This need is implied by Lees and Cooper (1963) who end their analysis of general practitioner studies with a plea to workers in this field to publish future findings in a form which lends itself readily to general comparison. They go on to say, however, that little but confusion can come from attempting to study both work and morbidity at the same time. This conclusion seems to me to show *not* that it would be undesirable to study both together, but that we lack a satisfactory method of doing so. On the contrary, I believe that work studies are only fully valid if they can be related to morbidity. A study of the doctor's work becomes meaningless if divorced from diagnostic considerations (which include illness and social needs).

The chief purpose of the present project was to devise and try out such a method of recording, with the subsidiary object of studying the work done in a branch surgery on a housing estate. As this

*Late of Leigh, Lancashire.

article is concerned only with the description and discussion of a method and not with the significance of findings, detailed results are not included; it is intended to publish these later. Some preliminary results are, however, scattered throughout the text to illustrate the potentialities of the recording method.

In the National Morbidity Survey (in which some aspects of work load were successfully studied) every consultation was recorded. But, in the interest of brevity, the recording was purposely kept to essentials, with frills, however attractive, excluded (Logan and Cushion 1958; Crombie, writing in vol. III of *Morbidity Statistics from General Practice* 1962). It is encouraging and indicative of the rise in expected standards in the past seven years, that the authors of *Present State and Future Needs* 1965, (p. 1) "must state that often . . . research has been simple and fragmentary". This underlines the threat to accuracy of oversimplification, and implies the need of more sophisticated methods of recording.

The problem

The problem is to devise a method of recording each consultation* complete with frills (morbidity and operational details), and at the same time adhere to "the qualities which commend a method of recording: . . . accuracy, ease of completion and the ease with which the recorded data can be analysed" (Records and Statistics Unit 1963). In other words: How can we have our cake and eat it?

There are two feasible techniques of collecting data. One can either record a few things about many people, or a lot of things about fewer. Both techniques have points in their favour, but the latter has one prime advantage over the former; it produces data which are more versatile for retrospective analysis. It is a common source of frustration to find that when the analysis of data from a given study suggests a further line of investigation, this cannot be followed up because the necessary information had not been recorded. For example, it was possible to compare the frequency of prescribing before and after the prescription charges were abolished in February 1965, although this analysis was not anticipated when we started to record.

There was a rise of 6 per cent in the number of occasions (per person at risk) on which prescriptions were issued during the 18,

*For purposes of recording, a consultation is defined as being related to one distinct diagnosis. Thus, if two separate diagnoses are made during a single doctor-patient contact (also known as item of service or, simply, interview) two consultations are recorded simultaneously. The number of interviews involved in such double consultations is calculated by halving the number of consultations in column A as code 3-9. In our study 628 (16 per cent of all interviews) were double consultations. For most other purposes all these terms are used synonymously.

week period following 1 February 1965, compared with the 18 weeks preceding. During the same period there was, however, a 1 per cent drop in the consultation rate per person at risk. These figures are not in agreement with reported national figures.

But it is the advantages of retrospective† studies *per se* listed by Hodgkin (1962) which reflect the qualities of those methods of recording which lend themselves to be analysed retrospectively. "1. Patients need not be . . . asked to do things. 2. There is little observer bias because the exact nature of the survey is not known at the time of recording. 3. Once the initial work of organizing and indexing has been done, productive results can be obtained quickly." Of these advantages, the most important is the second, observer bias being an insidious source of error. It is well known in the context of drug trials that an observer's awareness of the purpose of a study will, by introducing experimental conditions, distort the content of the work itself as well as the observation. This is especially liable to occur if the observer is observing his own method of working, but can also be caused by the presence of an outside observer. It is therefore the method of recording which has to provide, as far as possible, the conditions of a double-blind trial. I suspect that this can be partly achieved by recording many different data at the same time; any biases then tend to cancel each other out. In the interest of both accuracy and ease, information must be recorded at the time of, or as soon as possible after, the observed event. In the interest of both ease of completion and of analysis, all work-study data must be coded, just as morbidity data are coded.

In principle, then, the problem can be solved:

1. By borrowing the framework of a method of morbidity recording, which has proved itself to have all the requisite qualities (and has therefore been standardized) and building on to it;
2. By devising a code for work-study data;
3. By reducing the sample to be studied to manageable proportions.

Method

The E-Book Diagnostic Index was chosen as the most suitable method of morbidity recording; indeed, with its spare columns intended for just such a purpose it almost chose itself. Each consultation is entered on a separate line. The characteristics of each are described in code in three columns, with two columns reserved for describing the type of referral, if any. Table I shows the coding used.

Comments on table I

Column A—Relation to episode. This proved to be the most

†Retrospective is used here as meaning subsequent, not in its other meaning of the opposite of prospective.

TABLE I
CODING OF WORK LOAD INFORMATION

<i>Column A</i> Relation to episode (consultations per diagnosis)	<i>Column B</i> Whose initiative? Prescription or not? Paper only?	<i>Column C</i> Where and when and how?	<i>Column D</i> O.P. referral	<i>Column E</i> Hospital admission
1 First consultation (single complaint)	1 Patient's initiative (prescription)	1 Surgery attendance morning	1 Domiciliary consultation O.P. referral	1 Admission planned medical
2 Repeat consultation (single complaint)	2 Patient's initiative (no prescription)	2 afternoon	2 for consultation	2 planned social
3 First consultation (two complaints related)	3 Responsible adult's initiative (prescription)	3 evening	3 for investigation	3 urgent medical
4 First consultation (two complaints unrelated)	4 Responsible adult's initiative (no prescription)	4 Home visit No call	4 for treatment	4 urgent social
5 Repeat consultation (two complaints related)	5 Doctor's initiative (prescription)	5 Weekday call 8 a.m.—11.30 a.m.	5 for consultation and treatment	
6 Repeat consultation (two complaints unrelated)	6 Doctor's initiative (no prescription)	6 11.30 a.m.—6.30 p.m.	6 for investigation and treatment	
7 First for one and repeat for another (related)	7 Another's initiative (prescription)	7 Weekend call Saturday	7 for all three	
8 First for one and repeat for another (unrelated)	8 Another's initiative (no prescription)	8 11.30 a.m.—6.30 p.m. or Sunday	8 Direct referral for investigation	
9 Multiple complaints	9 Prescription ONLY	9 8.00 a.m.—6.30 p.m.	9 Referral elsewhere (e.g. 10 dentist, social worker)	
	10 Certificate ONLY	10 6.30 p.m.—8.00 a.m.	10 Referred direct to hospital (mainly casualty) by someone else, including patient	
	11 Prescription AND certificate ONLY	11 Other place Indirect consultation by telephone through third person	0	

difficult from the point of view of analysis but will be considerably clarified by the use of column 18 in the Mark 4 E-Book sheet, which describes the *kind* of episode (*see* below). Code numbers 7 and 8 were necessary to complete the picture but do not specify which of the diagnoses referred to a first and which to a repeat consultation. The coding of this column will probably have to be simplified or modified for further studies.

Code 9 (interviews during which more than two different conditions are diagnosed) provides information about a certain group of 'difficult' patients. There were 79 such interviews in our study.

Column B—Whose initiative? Prescription or not? Paper only? This is mainly to distinguish consultations initiated by patients from those initiated by the doctor*. Responsible adults are further distinguished in the case of children, some old persons and in certain psychiatric conditions. In practice, the majority of code 3 and 4 interviews describes those for children under school leaving age, which could be picked out from the date of birth, and so this group

TABLE II
'PAPER ONLY' CONSULTATIONS IN THE FIVE DIAGNOSTIC GROUPS WITH THE HIGHEST TOTAL CONSULTATION RATES

<i>College code</i>	<i>Diagnostic group</i>	<i>Percentage of total (all diagnoses)</i>	<i>Total No. of consultations</i>	<i>'Paper only' consultations</i>	<i>Per cent of 'paper only' consultation of total in same diagnostic group</i>
8	Respiratory (excluding otitis media and asthma)	20.8	937	154	16.8
5	Mental	12.6	573	151	26.4
9	Digestive	8.4	372	98	26.2
6	Nervous system and sense organs (incl. otitis media) ..	8.1	366	44	12
17	Accidents	7.7	349	125	35.8

*730 (19 per cent of all interviews) fell into this category and 112 of these were indirect 'consultations' for the issue of repeat prescriptions. Table II shows such 'paper only' consultations as a percentage of all consultations in the 'top five' diagnostic groups.

probably could be dispensed with in routine recording. Code 7 and 8 is intended to measure co-operation with other workers, e.g. dentist, health visitor, mental welfare officer, and is the corollary of column D, 10.

Codes 9, 10 and 11 are recorded only if the 'consultation' took place for *no other reason* than the issue of a repeat prescription or certificate (such a contact being really neither at the patient's nor the doctor's request, but at the state's or employer's). The information obtained from these data might be helpful in guiding future legislation concerning the issue of repeat prescriptions and certificates by health visitors or other professional staff.

The recording of the frequency of prescribing was superimposed over this column, although it is unconnected with the rest of the information. When a patient was given a pharmaceutical sample this was recorded as a prescription. A separate column will be available on Mark 4 sheets to record details of prescribing.

Column C—Where and when and how? The definition of a late call is probably the one aspect of work on which there is least agreement in previous studies. Before a doctor is called 'out of hours', most patients weigh up their need against the disturbance the late call will cause the doctor. The degree of inconvenience to the doctor can only be anticipated by patients in relation to surgery hours. Weekday calls have therefore been coded in three groups:

Code 5: Request received before end of morning surgery

Code 6: Request received between end of morning surgery and end of evening surgery

Code 7: Request received between end of evening surgery and one hour before morning surgery

Weekend calls (8 and 9) were coded along similar lines.

It is felt that by using rational instead of arbitrary time limits, although these vary slightly in different practices, more comparable data will be produced. For instance, a call received at 10.30 p.m. will be of maximum inconvenience if the doctor happened to have gone to bed at 10 p.m. after, possibly, attending a confinement the night before.

Code 10 covers, mainly, consultations of patients in hospital beds

Code 11 and 0 measures an aspect of work often taken for granted.

207 of the interviews were indirect (5 per cent of total). Of these 112 consisted in issuing repeat prescriptions to third persons who came on patients' behalf.

Column D—Outpatient referral. Codes 2 to 8 are intended to define why patients are referred to specialists as outpatients, and may throw some light on the changing function of consultant specialists in an integrated health service.

Just over half of all referrals to specialists at outpatient clinics were connected with the need for an expert opinion (consultation); just under half were uncon-

nected with a need, being for investigation and/or treatment only.

Column E—Hospital admission. ‘Medical’ is used as including surgical and obstetric, and distinct only from social.

In our series hospital admissions were as follows:

Code 1 planned medical	23
Code 2 planned social	3 (2 confinements, 1 epileptic)
Code 3 acute medical	24
Code 4 acute social	2 (2 old people living alone)

An integral part of recording is an age-sex register, without which it is impossible to compare findings with those of other workers. A simple form of age-sex register is described in the *Journal of the College of General Practitioners*, 1963, 6, 195. The F-Book has its own built-in register. Other workers use modified E-Book sheets, each sheet containing the names of persons with the same birth year, and this is the form we adopted; not only because it can then be housed in the same ledger but, more important, because in this form its information can be analysed in itself and linked to that of the E-Book proper. Such co-ordination of data is necessary particularly for all the sociological studies of which the method is capable, for example a study of those people who have not consulted during a given study period. The sociological aspects are referred to later.

I shall not describe in detail how E-Book sheets are modified for use as an age-sex register beyond listing the items of information which were included: day and month of birth (the year is given on each loose-leaf sheet), name, marital state, social class coding (Registrar General’s Classification I–V, based on occupation of male head of household), social class according to occupation of married woman if she is working, address, identification number of household, number of occupants in household, reason for deletion, date of deletion.

Plastic card markers, 2½ in. by 7½ in. are used as illustrated in figure 1. The receptionist inserts a marker into the record envelope (EC.5 or EC.6) before each interview (attendance or visit) or as soon afterwards as possible. At the end of the interview the doctor enters the code numbers in pencil into the appropriate spaces on the marker, a minimum of four numbers (one diagnostic and three operational) and a maximum of seven (two diagnostic and five operational) being entered each time. Once the doctor is familiar with the coding, he can make his entries on the marker in the time it takes one patient to leave the consulting room and the next to come in. The entries to cover the previous day’s visits can be made in about ten minutes after the morning surgery, during that coffee break which many doctors use for communication and administration.

The secretary-receptionist then copies the entry from the marker into the index ledger and immediately removes the marker from the envelope, signifying that the entry has been completed. The pencil numbers are then rubbed out and the marker is ready for re-use. The time spent by the secretary-receptionist on this work adds up to four to five hours a week, when a sample of about 500 is studied.

The Diagnostic Work-Study Index (Index for short), was used

for one year (June 1964—June 1965), the sample consisting of 524 inhabitants of a local authority housing estate, served by a new branch of surgery. These patients belonged to a total of 203 households, of which, however, 72 (36 per cent) contained 130 patients not registered with us. There were 330 patients registered at the beginning of the year, 500 at the end, the mean average over the year being taken as 415 for purposes of calculating annual rates. Twenty-four patients left the list during the year. The sample represented about one-twelfth of the total practice population of a partnership of three, and one-eighth of the housing estate population.

Diagnostic	code(s)	A	B	C	D	E
<p>N.H.S. Record Envelope (EC.5 or EC.6)</p>						

Figure 1.

Allowing for errors (both of commission and omission) in recording, in transferring code numbers into the ledger, at all stages of analysis and in calculating rates, experience so far suggests that the method is capable of 80–90 per cent accuracy.

Discussion

How does the diagnostic work-study index measure work load?

A number of different factors of work load have been measured and described in the past. Many are discussed in *Present state and future needs*, chapter III: consultation rate, including its annual variation; surgery consultation/home visit ratio; new call rate; new call/revisit ratio; average daily consultations and weekday variation; average weekly and monthly consultations and seasonal variation; night calls and weekend calls, and various aspects of the time factor.

The Index can supply the data for all these factors and several others as well. Each aspect studied can be further subdivided into age, sex and social class groups.

Present state and future needs, (p. 16) suggests an equation for calculating work load:

“Work load = work unit \times number of patients \times time spent” where work unit is defined as consultation rate per patient per year, the number of patients is the number on the doctor’s list (population at risk) and the time is that spent on some agreed norm (e.g. per interview). No studies were known to the authors in which these three factors were used.

The Index may prove to be capable of providing the data for such studies, at the same time overcoming a serious potential source of observer bias: the timing of consultations.

Table III gives a way of calculating time spent on each of the various types of consultation coded in table I. The scheme will be different for each doctor, who will have to calibrate it for himself, according to his speed of working and practice circumstances, from sample stop-watch measurements, and from appointment books. If additional information is to be recorded as a further refinement, e.g. procedures carried out during consultation (a simple matter of coding for an additional column of the Mark 4 E-Book sheet)—the time-scheme can be modified accordingly. But the time spent is calculated in the analysis and not at the time of the consultation. Admittedly, this method will provide estimates rather than measurements and ideally one should measure the duration of each interview with a stop watch (Crombie and Cross 1956). I, for one, could not do this without fear of bias, and even if I could, it would be a most tedious performance. Meanwhile, an estimate calculated as

suggested, may be more accurate than a biased measurement. Further study is required to put this to the test.

Recording the maximum information does not necessarily imply that the data have to be subjected to all the analyses of which they are capable. As already mentioned the sheets can be stored and used for retrospective studies later. Nor is it necessary to record everything the method is capable of. For example, if a doctor is interested only in the question of who initiates each consultation, he can record only code nos. 1, 3, 5, 7, 9, 10 or 11 in column B (ignoring the question of prescriptions (2, 4, 6 and 8) and leave columns A, C, D and E blank. This will reduce the range of the information, but not its capability of analysis and being pooled with (or compared to) data of other workers. The less information recorded, the larger is the possible sample. It is then, however, more difficult to eliminate observer bias and selective work load studies would have to be more carefully controlled.

TABLE III

SCHEME FOR CALCULATING TIME SPENT

Basically, the time spent on a consultation is determined by the characteristics coded in column A. For example:

<i>Relation to episode</i>	<i>Code</i>	<i>Suggested duration</i>
First consultation (single complaint)	1	10 minutes
Repeat consultation (single complaint)	2	5 "
First consultation (two complaints related)	3	15 "
First consultation (two complaints unrelated)	4	15 "
Repeat consultation (two complaints related)	5	5 "
Repeat consultation (two complaints unrelated)	6	5 "
First for one and repeat for another (related)	7	10 "
First for one and repeat for another (unrelated)	8	10 "
Multiple complaints	9	15 "

Other factors which modify the timing:

(a) when the diagnosis is in the psychiatric (College Classification 125-150, International Classification 300-326) or obstetric (345-366 or 640-688 respectively) groups, add five minutes.

(b) when the consultation is a visit (column C, 4 and 5) add five minutes; when it is a late visit (column C, 6-9) add 20 minutes.

(c) when the consultation is accompanied by a referral (entry in column D), add five minutes except for domiciliary visit (1), for which add 15 minutes.

(d) when the consultation is followed by an urgent admission (column E, 3 and 4) add 15 minutes.

(e) where a paper only is issued (column B, 9, 10 or 11) the item takes two minutes, irrespective of column A or diagnosis, but if it is a visit, five minutes are added.

Work-study questions to be answered

Some questions have already been touched on in commenting on table I. There are many more. For example, why does work load vary so widely from country to country, area to area, practice to practice and doctor to doctor? This is the question uppermost in the minds of many authors, including Lees and Cooper (1963) Stevenson (1964) and those of *Present state and future needs* (1965) who write that "the factors which influence such variations are not yet clear". The Index is intended as a tool to help find the answers to just such questions. Going back to the equation quoted from *Present state and future needs*, two questions arise: What determines the consultation rate and how does a high consultation rate show itself?

1. *What factors determine the consultation rate?*

The factors can be either described or measured and there is considerable interaction between them.

(a) *Characteristics of doctor*—special interests and attitudes, e.g. to therapeutic listening or preventive medicine (possibly connected with age, medical school, postgraduate study) economic considerations: attempts to increase or reduce list.

(b) *Characteristics of practice*—number of doctors working together, timetable of consulting sessions, appointment system, geographical features of practice; area covered, density of population within walking distance, ease of access by bus.

(c) *Characteristics of population at risk*—age-sex structure; social class structure, including the proportion of working women; cultural and racial features, family structure, including proportion of families split between more than one practice; practice turnover—rate of growth or decline.

(d) *Morbidity prevalence.*

2. *How does a high consultation rate show itself?*

A high consultation rate appears in one or more of three ways:

(a) more patients on the list consulting,

(b) more episodes of illness per patient consulting,

(c) more consultations per episode: this can be broken down further into the type of consultation (surgery or home visits, patient's or doctor's initiative, night calls, etc.).

Each of these ways must (and can, by means of the Index) not only be measured, but also related to all the measurable determining factors, particularly morbidity. But the question which immediately arises is: More than what? Lees and Cooper (1963) point out that "mean figures . . . will serve little useful purpose." But what means and other averages can provide are provisional baselines, without which it is impossible to make any meaningful comparisons. It is only in this way that problems can be shown up, their reasons

found, and with luck, remedied.

Why relate work load to morbidity?

I have already stated my belief that to consider medical work divorced from morbidity in its widest sense, is meaningless. But there are specific advantages in studying work load and morbidity simultaneously.

One is to determine the frequency with which a diagnosis is changed during the course of a single episode, in general, and in particular illnesses. This may prove instructive in the study of differential diagnosis. It may also be of interest to know what proportion of consultations in general practice are purely symptomatic and what proportion leads to a firm diagnosis during the same episode. The same data can also be used for studies of multiple pathology. Another is the frequency of prescribing in relation to morbidity factors, as well as to one's own prescribing techniques.

But one of the main advantages of the Index is a record of who initiated each consultation; this information has several important bearings on both work load and morbidity, and may help to answer questions such as the following:

1. Has a low proportion of doctor-initiated consultations a measurably unfavourable effect on the call rate—especially the late call rate? (Call is used here to mean *request* for a visit, not synonymously with visit).

With a total home-visiting rate of 1.3 visits per person at risk per year, there were 67 late calls (column C, code 6-9). These were divided as follows:

Obstetric	8	Code 6 (11.30 am—6.30 am)	26	First interviews	31
Psychiatric	4	Code 7 (6.30 pm—8.00 am)	13	Repeat	36
Other	55	Codes 8 + 9 (weekend)	28		
Total	67	Total	67	Total	67

It is the 36 late calls for repeat interviews (54 per cent of all late calls) which can be regarded as potentially preventable. It is intended to study these in detail later. They will be compared for diagnosis with the 31 late calls for first interviews. They will also be compared for the extent of doctor-initiated follow-up with a control group of patients matched for diagnosis and social characteristics who did not request late calls.

2. Has a high proportion of doctor-initiated consultations including prophylactic visiting by a health visitor—a measurably beneficial effect on morbidity? And at what cost, as far as work load is concerned? And in which illnesses?

It would be interesting to study the effect on morbidity of the extent of following up various illnesses. In the psychiatric and psychosomatic fields the Index represents a tool with which to conduct controlled trials in dosage of what Balint has called the drug: 'doctor' (Balint 1964).

3. Is the follow-up rate too high? If so, we may, as Stevenson (1964) did

consciously cut down on our review consultations. But we may find, if we analyse for morbidity, that we are only overconsulting for certain illnesses—possibly in areas of diagnostic weakness. The action we take will therefore be guided by more detailed information and the effect of any planned change in practice technique and organization can be studied in a controlled way.

As the extent to which the family doctor can plan his daily work depends largely on the proportion of consultations he himself initiates, it is this proportion which will give justification to appointment systems and reduction of evening surgeries, if such justification is still needed in the light of the strong evidence already available—in our case 60 per cent of surgery attendances were pre-arranged.

Lastly, there are questions like: What proportion of people occupy what proportion of the family doctor's time? The answer to this question is shown in figure 2 in relation to one aspect of time, namely the number of interviews. What do they suffer from? Table IV shows the 21 most commonly diagnosed conditions in our study, expressed in consultations, and 'patients consulting' (i.e. number of first consultations during the survey period for each diagnosis for each patient). Table IVa gives the same information arranged in broad diagnostic groups. Tables IV and IVa show that the 21 most frequently diagnosed conditions accounted for 2,250 consultations (49 per cent of all consultations) and 811 'patients consulting' (45 per cent of all 'patients consulting').

The Index as a sociological tool

In a survey of cervical smear screening, carried out concurrently with the present recording project, the Index proved itself invaluable (Spenser, to be published).

Other examples of sociological research for which the Index would be suitable include comparative studies of the characteristics of special groups of patients, e.g. those who do not consult and those who are thought of as exceedingly demanding—as individuals and in families, a study of the demands of lonely old people, or the medico-social aspects of illegitimate births (*Present state and future needs*, p. 30); and family studies, including the significance of the phenomenon of the family split between more than one practice.

Recent developments

Since the present study was embarked on, the E-Book sheets have been further improved and the S-Card introduced, representing another advance in the science of recording and analysing data. (Records and Statistics Unit: *The Continuity Record*, No. III and *The Analysis of Routine Medical Records*.) The new Mark 4 E-Book sheet is even more suitable for work studies. It facilitates cross reference between E-Book and age-sex register, has ten instead of five columns for additional data, and allows the definition of various types of episode to be clarified.

A difficulty in the interpretation of morbidity records is the question of change of diagnosis. A change of diagnosis can mean either that the original diagnosis was proved wrong (observer error), (e.g. an episode originally recorded as a coronary thrombosis which turns out to be a hiatus hernia) or that the character of the illness

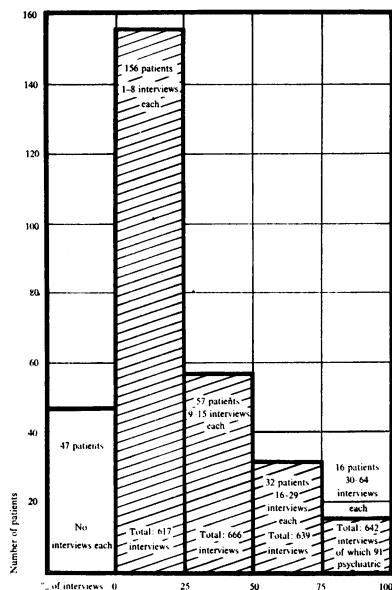


Figure 2

Distribution of 2564 interviews of the 308 patients who were on the list for the whole year

has changed during the course of a single episode (e.g. a febrile common cold which develops into pneumonia). The former is probably more common and is bound to inflate the number of episodes recorded (in the example given, of coronary thrombosis). It will be possible, by using the coding of column A (table I) together with an extended coding of column 18 of the Mark 4 E-Book sheet, to eliminate this source of error.

Summary

A method of recording work load data simultaneously with morbidity data is described after being tried out on a section of a practice for one year. This experience has shown that the method is not only feasible, but capable of providing much information, some of which not hitherto available, in a form which lends itself to retrospective analysis. The method is sufficiently flexible to be adapted according to individual interests and needs.

Acknowledgements

I wish to express my gratitude to the following for their help: The Records and Statistics Unit, College of General Practitioners, notably Dr K. W. Cross and Mrs P. J. Jones, for all the statistical aspects of the work; to Dr T. S. Eimerl, members of the Department of Social and Preventive Medicine, University of

TABLE IV
THE 21 CONDITIONS MOST OFTEN DIAGNOSED DURING ONE YEAR

<i>Inter-national classification</i>	<i>College classification</i>		<i>No. of consultations</i>	<i>No. of 'patients consulting'</i>	<i>Consultations 'patient consulting'</i>
470	240	Non-febrile common cold	240	154	1.5
315-317	135	Anxiety states with associated somatic symptoms ..	178	59	3
Y.06	352	Normal pregnancy ..	169	24	7
N870-N929	483	Lacerations, amputations, superficial injuries, contusions, abrasions and crushing	160	70	2.3
472	242	Febrile sore throat, including tonsillitis	160	73	2.2
473					
O51					
N840-N848	480	Sprains and strains ..	146	40	3.7
502	248	Chronic bronchitis ..	110	22	5
301-302	126	Manic-depressive psychosis, including endogenous types of depression, involuntional melancholia, mania, cyclothymia and depressive stupor ..	98	11	8.9
Y.09	505	Other prophylactic procedures excluding antenatal examination (but including cervical smears and prescription of contraceptive pills)	98	65	1.5
391.0	183	Otitis media, acute ..	92	31	3
392.0					
318.3	136	Neurasthenic states ..	92	20	4.6
287	101	Obesity	89	30	3
241	86	Asthma	87	10	8.7
440-444	218	Benign hypertension with or without heart disease	86	17	5.1
291	111	Hypochromic anaemia ..	78	32	2.4
783.3	267	Cough	76	56	1.4
260	91	Diabetes	63	5	12.6
310	130	Anxiety states without mention of somatic symptoms	59	30	2
660	351	Delivery without complications	57	14	4.1
490-495	246	Pneumonia and pneumonitis	56	17	3.3
470	241	Febrile common cold and influenza-like illness ..	56	31	1.8
		Total	2250	811	2.8

TABLE IVa

THE 21 CONDITIONS MOST OFTEN DIAGNOSED ARRANGED IN BROAD DIAGNOSTIC GROUPS

(Cf. table III which shows the order when *all* consultations are considered)

College code	Group	No. of consultations	No. of 'patients consulting'	Consultations 'patients consulting'
8	Diseases of respiratory system including otitis media and asthma	877	394	2.2
5	Mental, psychoneurotic and personality disorders ..	427	120	3.6
17	Accidents, poisoning and violence	306	110	2.8
11	Deliveries and complications of pregnancy, childbirth and puerperium	226	38	6
3	Allergic, endocrine system, metabolic and nutritional diseases (but excluding asthma)	152	35	4.3
18	Prophylactic procedures ..	98	65	1.5
7	Diseases of circulatory system	86	17	5.1
4	Diseases of blood and blood-forming organs	78	32	2.4
	Total	2250	811	2.8

Manchester, and members of Research Committee, College of General Practitioners, for much advice; to my partners for participating in the recording; to the Research Foundation, College of General Practitioners, for a grant to cover expenses; and last, but not least, to Mrs Doreen Pearson, secretary-receptionist, for keeping the ball rolling smoothly, which was not always easy.

REFERENCES

- Balint, M. (1964). *The doctor, his patient and the illness*. 2nd Edition, Pitman Medical.
- Crombie, D. L., and Cross, K. W. (1956). *Brit. J. Prev. soc. Med.*, **10**, 141.
- Eimerl, T. S. (1960). *J. Coll. gen. Practit.*, **3**, 246.
- Hodgkin, K. (1962). *Practitioner*, **188**, 260.
- Kuenssberg, E. V. (1964). *J. Coll. gen. Practit.*, **7**, 410.
- Lees, D. S., and Cooper, M. H. (1963). *J. Coll. gen. Practit.*, **6**, 408.
- Logan, W. P. D. and Cushion, A. A. (1958). *Morbidity Statistics from General Practice*, Vol. I (General Register Office, Studies on Medical and Population Subjects, No. 14), Her Majesty's Stationery Office, London.
- Morbidity Statistics from General Practice* (1962) *ibid*, Vol. III.
- Present State and Future Needs* (1965) College of Gen. Practit., Reports from General Practice, No. II.
- Records and Statistics Unit (1963). *J. Coll. gen. Practit.*, **6**, 219.
- Records and Statistics Unit (1966). *J. Coll. gen. Practit.*, **11**, 34.
- Stevenson, J. S. K. (1964). *Brit. med. J.*, **1**, 1370.
- Walford, P. A. (1963). *J. Coll. gen. Practit.*, **6**, 225.