

*The family index**

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Patients and population

Age-sex registers have proved their worth as essential tools of social and preventive medicine, and screening programmes are difficult to justify unless they can be aimed at well-defined sections of the population at risk. If an age-sex register can be designed to help the doctor know the patient from the few, brief and scattered encounters that are normally made in the first year on the list by that patient, and if the doctor can recognize the entries in the register as useful substitutes for the patients themselves, the kind of family medicine known to William Pickles can be applied to highly mobile immigrant populations, and certainly to the more stable indigenous ones of modern Britain.

Desk-top machinery

Electronic calculators, which can add, subtract, multiply and divide figures of up to eight digits can be bought for £20.00 and are very portable. Desk-top computers with 51 registers and additional facilities on magnetic card for storing the numerical data of up to 7,000 patients cost £2,000.00 and are the size of an electric typewriter. Their half-life is ten years with economic use. They can be rented for £10 a week and reputable firms have well standardized and versatile machines with reliable servicing. The business efficiency and statistical needs of general practice are different, and some trials of different machines in use over many months will be needed to compare them.

The age-sex register

The Family Index is an age-sex register developed from the EC 1 form. A detailed description is available from the author, and previous articles in the *Journal of the Royal College of General Practitioners* have described the conventions and definitions of terms^{1, 2, 3}. The advantage of this double-entry system over the school exercise book, the loose-leaf ledger, or the miniature college age-sex cards is that it is self-cleaning. Any card that happens to be out of place is seen at once because it does not fit. This means that any statistics culled from it at intervals are valid and obtained with minimum effort.

Research is not the prime aim of the Family Index. Its main use is in providing the doctor with an accurate, up-to-date collection of homunculi from which he can get to know the families and households on his list, either when he first takes responsibility for the practice, or at regular intervals when he is digesting the new faces that have arrived during the preceding quarter.

Because of the design of the edge-punched data, he can also gain a continuous impression of the dimensions and characteristics of the population under his charge. He can see at a glance the proportion of his list that are single men or women, and he can focus easily on the different ages and social groups at risk.

As a general principle, the doctor thinks of the wife of the house, or the mother of the family as part of his team, keeping that particular family or household healthy, and he can make better use of his staff when there is no such person to contact first, or when the mother needs support.

Basic facts

The basic facts chosen to identify the patient's Family Index card are simply the initial letter of the surname, the year and month of birth of the patient, and the patient's sex. In order to distinguish between different members of the same household and between families of the same

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name, the relationship between the patient and his or her wife or mother at that address is given. The family is identified by the year and month of birth of the wife or mother as the case may be, who is known as the *key relation*.

The green set of cards is filed in strict alphabetical order and the yellow set is filed in four sets, each in strict age order:

- (1) male relations (husbands or children) of women on the list,
- (2) other males, without a key relation, who are mostly single,
- (3) female relations (key relations included),
- (4) single females.

YEAR	1 2 3 4 5 6 7 8 9	10 11 12	M F	H * O	00 10 20 30 40	0 1 2 3 4	KEY DATE
MONTH							YEAR
SURNAME							B : :
FORENAMES	NEE						
ADDRESS							
SPOUSE (No.)	S/A					B : :	
M : :	NEE					D : :	
:	FLY	FAMILY INDEX : DECIMAL DATE CARD MJJ 1971					
KEY RELATION	S/A					B : :	
M : :	NEE					D : :	
		ARR	:	:	IN :	:	
		KEY	:	HOME	FROM		
		PEP	:	:	OUT :		
		SPAN	:	REF	TO		
			:	:	B : :		
			:	:	B : :		
			:	:	B : :		
			:	:	B : :		
		LIFE	:	:	D : :		
BORN	91 51	61 81	Z Y X W V U T S R Q P O N M L K J I H G F E D C B A	NAME			

Figure 1

As all women known to be married are *defined* as key relations, whether or not they have a relative on the list, category (4) is more truly a reflection of single people than category (2) which includes widowers, and men with a wife not on the list, but the definition works well in practice.

The date of accepting the patient, and the date of removal from the list both fix the patient's place in the continuum of the life of the practice. Old cards are kept in the past-patient index, and provide a maturing source for study long after the medical record envelopes are irretrievable. A procedure for abstracting relevant data from the envelope is followed before the facts are lost.

Decimal dates

Each date in the calendar is given a number equivalent to the number of days between it and the start of the previous leap year (0 to 1,461 days in the four-year period or 'listre'). Taking '1461' as 1,000, any date ('x') may be converted to decimals according to the formula: Decimal date = $4x/1461$. So that 1.1.72 (the first day of the new leap year) becomes $72_0:002.7$, etc. The values from 002.7 up to 999.3 (30 December of that leap year) are straightforward; after that the tables for the next three years are similar but with '73₁:004.7' being the value for 1.1.73, and '74₂:004.1' for 1.1.74 and '75₃:003.4' for 1.1.75; the next year is a leap year '76₀' and therefore the value (table used) is '76₀:002.7'. Full tables are available from the author.

Decimal dates can be subtracted from each other in a number of ways to give instant

and useful facts, which cannot be gained so easily in any other way. The fully working index can then give the first impression to the doctor, as soon as he looks at the face of the card, which is comparable in usefulness to the first impression when he met the patient, however briefly.

The Family Index uses the same mental process (of repeatedly superimposing the same kind of information in the same kind of configuration) as the doctor uses already in getting to know the individual from face-to-face encounter. Once the doctor crosses the energy barrier of linking the patient's whole being with the basic facts displayed on the card, much more information of a visual or auditory nature that is unconsciously retained by his memory can be recalled without effort and in a way that can never be annotated on medical written records, nor should be.

Also, because of the particular layout used, the face of the card may give a visual impression recognisable from the length of names or presence of gaps of *blank* data long before the facts are read.

Confidentiality

The facts necessary for recognising a person are infinitely variable and always partially complete. They mature as the relationship matures between the person and the contact, in this case patient and doctor. They can be added to as the person becomes better known, and in some cases information gained on first encounter impersonally may not be so easily gained again, such as details of maiden name or previous surnames, because the context of asking the question becomes part of the advisory setting. The confidentiality of simple facts may alter, the longer they are known to be accessible to the confidant. There is nothing technically medical in the information. It consists of simple names, and dates, and addresses, and meetings between different people at different times, cohabitations before marriage, during marriage and other varieties of social contact between individuals, within and without the normal family unit.

It is therefore all the more important that the inevitable errors of the main files of medical record envelopes⁴ should be supplemented by a clean and effective method of identifying the relationship between patients and other members of their own immediate family.

For this reason, the Family Index cards are seldom shown and used in evidence at the time of consultation, and the medical record envelope is also kept discreetly at bay at this time. The value of the index is felt 'at the fingertips' as soon as the patient relaxes, in response to concerned and intelligent inquiry about immediate relations. Incidentally, a very large number of patients that need not therefore waste time in surgery may be scanned usefully in this way, and so help to pay for the overheads of running the index by the reduced mental strain of caring for them.

The Family Index is light to handle; a personal private secretary can instal it, and run it easily without special training, and without the need to use international classifications of disease. Both she and the doctor can get to know new patients in the context of the existing population, as well as if they had come face to face with them often, as was the case in the old days, with small static lists. More than this, both the doctor and secretary can tackle the problem of preventive and social medicine applied to the whole population of all social groups and national origins, whether or not the patients themselves are prepared to get to know them.

Lastly, the practice can collect basic facts about itself so that a potential partner may be aware of the life he will have on joining.

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