

THE EVOLVING AGE-SEX REGISTER

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FOR RESEARCH studies in which the prevalence of a phenomenon is to be measured accurate knowledge of the population at risk is essential. It is sometimes necessary to know about the social, racial or occupational characteristics of a community but knowledge of its age-sex structure is fundamental. A practice community is not always easy to define. In the United Kingdom it is usually synonymous with a National Health Service medical list whilst in other countries subscribers to a health care scheme or district hospital service may be similarly listed. In some places, as in the Australian outback, geographical considerations define the population to which the medical services are at risk.

In cities in countries where private practice is the rule a practice list is less easily defined. It may be possible for a private practitioner, by enquiry of those whom he treats, to estimate the size of his practice and identify those who look to him for medical care. This may, however, be impossible and interpretation of his data in terms of population prevalence may well be impossible. An approximation may be achieved if the doctor records the ages and sex of all patients whom he sees and compares their distribution with national or local census figures. More likely he will have to examine his data in other terms, say per 1,000 consultations or per 1,000 female patients seen. Either of these rates may form a useful substitute for comparison purposes.

The first age-sex registers introduced in Britain followed a pattern suggested by Dr C. A. H. Watts¹. A ledger was used the pages of which were divided vertically into columns for males and females. One page corresponded to one birth year. Some users added addresses to the names listed in the register but the method allowed little flexibility and scope for the inclusion of additional data. Furthermore, changes in the practice population led to erasures and additions out of strict alphabetical order. These soon made the ledger sheets untidy and awkward to use.

Burdon² described a visual method for presentation of diagnoses using a card-index and an age-sex register adapted for use as a

practice index was suggested by Morgan³. A card-index, age-sex register was operated in a large partnership practice in Belfast and in this practice it was shown that the register could be kept accurate and up to date very simply by construction of new cards for new entrants and the removal of those of the departed. A more sophisticated register was, however, devised in Bristol by the public health department in association with the practitioners who staffed the new health centres in that city. These cards formed the basis of the system described below.

It was intended that the age-sex register in card index form should be capable of serving a number of different purposes. In addition to its primary function it could be made to contain basic data concerning the individual, the practice to which he belonged, and on events of medical relevance and importance. The index could be used in conjunction with the colour-tagging system introduced by the College⁴ to form an at-risk or 'vulnerables' register. Capacity was also provided to permit the doctor to record items of particular interest to him, perhaps family relationships or ethnic groups.

During the development of the S card⁵ a computer programme was prepared which enabled a stack of S cards to be converted to the equivalent of a diagnostic index (E book). An age-sex register was easily prepared as an incidental stage in this programme. This led to the inclusion on the A.S.R. series of cards, to be described below, of data in a similar form to that recorded by other methods. It had now become clear that interchangeability of recording methods could be achieved and accurate comparisons made between data recorded in different ways.

The method described below has been tested in a number of practices and is introduced as a further research tool for use in general practice.

Compiling an age-sex register

1. Small index cards are prepared from:

- (a) N.H.S. envelopes in files or
- (b) index cards held by the executive council

2. *Preparation from envelopes*

The writing of cards may be spread over a period of two or three weeks depending upon the amount of staff time available. In order to avoid duplication, as soon as the card has been written out, a tick should be put in the top right hand corner of the medical envelope. After each period of work a notice should be placed on the files showing the point up to which index cards have been made out and no new envelopes should be put in this section without making out a corresponding index card. When all the cards have been completed

and all the medical envelopes have ticks in the corner it might be desirable to compare the index cards with the executive council records.

3. *Preparation of cards from executive council records*

When the cards have been made out from the executive council records it is advisable, while they are still in alphabetical sequence, to check them against the medical envelopes held by the general practitioner. This is best done by ticking the envelopes as previously indicated and putting a tick on the index card in the square 'EC' to show it has been verified with the executive council. There will remain two sets of records to be dealt with:

(a) index cards for which no medical records are held and

(b) medical record cards for which no index card is held by the executive council.

With the help of the executive council these problems should be resolved.

4. *New cases coming in*

As soon as a patient registers with a doctor an index card should be made out and put in a section marked 'New patients'. When the medical records are received from the executive council the envelope should be ticked and the square marked 'EC' on the index card should be noted with a tick, or the date.

5. *Records without dates of birth*

A number of older records inevitably will not have a date of birth recorded. It is probably worth while putting a red cross on the front of the medical envelope by the section which should include the date of birth, and when a patient visits or is seen by the general practitioner this information should be obtained and transferred to the index card. After a period of three or four months it might be desirable to write to the patients whose age is not known and so complete the records.

6. *Arranging into age and sex order*

A small division card should be made out for each year of birth for the past 80 or 90 years, adding a new section for the current year on 1 January. Two such sets will be required—one for males and one for females—and it is an advantage to have distinguishing colours on division cards. One section will probably be required in each group showing 'Age not stated'.

7. *Count of cases*

On the front of each division card should be recorded the number of cards behind it as at a given date. This will give the age-sex grouping.

8. *Additions and removals*

When a new card is inserted or an old card removed, as patients join and leave the practice, the number of the division card should be amended.

9. *Disease index*

Where certain groups of patients are required to be identified, for example diabetics or bronchitics, the index card is noted accordingly by putting a cross in the appropriate square on A.S.R.2. (figure 1) (A-F), on A.S.R.2a (figure 2) (A-L). At the same time a second index card, similarly marked and usually of a different colour,

Card		Surname of Patient				Forename	
1	2	3	4			5	
Date of Birth		Sex	MS	SS	Occupation		
6-7	8-9	10-11	12	13	14		
						N.H.S. No.	
Addresses							
1.							
2.							
3.						E.C.	
4.						Dr. Code	
		15	16	17	18	19	20 21
C.G.P. A.S.R.2							

A		B		C		D		E		F		
SPECIAL INFORMATION												
A	B	C	D	E	F	G	H	I	J	K	L	M
22	23	24	25	26	27	28	29	30	31	32	33	34
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
35	36	37	38	39	40	41	42	43	44	45	46	47
Date (Entry)									48-49	50-51	52-53	
Date (Removal)									54-55	56-57	58-59	
Reason											60	61
Card to E.C.									/	/	19	

Front

Back

Figure 1
The recommended age-sex register card (A.S.R.2)

is initiated and this is placed on a special section of the file reserved for various clinical conditions. It is thus possible to take out all the diabetics, which have been so identified, for any group therapy etc. When patients leave the practice and the main index is withdrawn it will be shown on the back of this card whether this patient had a similarly marked card in one of the special groups and this secondary card should be withdrawn at the same time.

As an alternative the cards may be tagged according to the colour code for diseases and conditions which are listed in the Report on colour tagging, by the Research Committee of Council (*J. Coll. gen. Practit.* (1964) 8, 94). A strip of adhesive tape of the appropriate

A.S.R.2a COLLEGE OF GENERAL PRACTITIONERS RECORDS and STATISTICS UNIT																									
Card		Dr. Code						Surname of Patient					Forename		Date of Birth			Sex	MS	SS					
1	2	3	4	5	6	7	8	9	10	11	12		13-14	15-16	17-18	19	20	21							
Addresses 1.												N.H.S. No.				E.C.									
2.												Date (Entry)				22-23	24-25	26-27							
3.												Date (Removal)				28-29	30-31	32-33							
Occupation												Reason				34	35								
												Card to E.C. / /19													
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61

Front

A	B	C	D	E	F	G	H	I	J	K	L
<p><u>SPECIAL INFORMATION</u></p> 											

Back

Figure 2

The recommended alternative age-sex register card (A.S.R.2a)

colour may be partially folded on itself and affixed to one of the alphabetically identified squares on the reverse of the card. It should be applied so that the folded portion projects one-eighth of

an inch above the edge of the card rendering it visible when the card is filed.

Patients falling into other groups which the doctor may wish to identify may have their cards tagged in the same way using single colours and colour-combinations not already used in the official college code.

All withdrawn cards are normally put in alphabetical order in a section of the file marked 'Left practice'. A record is, therefore, available if the date cards were transferred or sent back to the executive council. This is helpful in dealing with enquiries.

10. If the age-sex register cards are to serve the additional purpose of data storage for later mechanical retrieval by a computer or other means, the information must be recorded in numbered columns according to a pre-arranged system. The numbering system on these cards corresponds with that used in 'E' book diagnostic indexes on cards of the 'S' series and other methods introduced by the College. The intention is that data collected in one way may be precisely comparable with that collected in others.

There are two sizes of card, designed for standard drawers or for 5 in. x 3 in. cards. Each drawer can carry two sets of the smaller A.S.R.2, carrying no more than the basic coded material. Full size cards A.S.R.2a may be used where there is less need for economy of space or where room is required for additional notes on the reverse.

The numbered columns on the cards are used as follows:

INSTRUCTIONS

A.S.R.2a		A.S.R.2
1. Box 1	Indicate here whether this is the first or subsequent card prepared for this patient when circumstances such as frequent change of address or change of civil state necessitate the construction of a new card.	Box 1
2. Boxes 2-8	<i>Doctor's code.</i> In N.H.S. practice this will be the six or seven digit number stamped on the doctor's prescription pads by the executive council. Where the number is of six figures only the prefix '0' will be added. For use outside the N.H.S. a constructed number will be issued by the Records and Statistics Unit. For certain short-term surveys a special number may be issued by the unit.	Boxes 15-21
3. Boxes 9-18	<i>Patient's code.</i> This is constructed from the first three letters of the surname of the patient plus the first initial of the first name. This is a variation from previous usage likely to be more acceptable overseas. The remaining component of the patient's code is the full date of birth in order, day-month-year. In Canada and U.S. month-day-year would be used.	Boxes 2-11
4. Box 19	<i>Sex.</i> Indicated by—M=Male; F=Female.	Box 12

5. **Box 20** *Matrimonial status.* Indicate matrimonial status by the following code: **Box 13**
 - S—Single W—Widowed
 - M—Married O—Other
 - D—Divorced

Where an entry is made indicating change of name by marriage a new summary card is made up based on the new name.

6. **Box 21** *Social status.* Insert numeral 1–5 according to the Registrar General’s classification of social groups (listed below) by reference to the occupation which should be inserted in full: **Box 14**
 - Class 1. Professional occupations
 - Class 2. Intermediate occupations
 - Class 3. Skilled occupations, including mine-workers, transport workers, clerical workers, armed forces.
 - Class 4. Partly skilled occupations, including agricultural workers.
 - Class 5. Unskilled occupations, including building and dock labourers.

In the case of wives, children and students receiving full-time education, the social class of the husband/father should be entered.

7. The N.H.S. number is not used in college linkage studies and need not be coded.

8. Space is provided for changes of address and record of occupation, uncoded unless a code is required for special purposes.

9. **Boxes 22–27** Here insert date of entry to the practice list in the same way as for boxes 13–11 (A.S.R.2a) and 6–11 (A.S.R.2). **Boxes 48–53**

10. **Boxes 28–33** Are completed when the patient leaves the practice. **Boxes 54–59**

11. **Boxes 34–35** May be used to indicate the reasons for removal from the doctor’s list, using the code employed by the executive councils on Form EC.22A. **Boxes 60–61**
 - X= On removal, transfer to another doctor within EC area.
 - R= Removal to another EC area.
 - N= Transfer to another doctor within EC area after giving notice.
 - C= Transfer to another doctor within EC area with previous doctor’s consent.
 - D= Death
 - E= Embarkation.
 - S= Enlistment.

12. The date on which the record envelope is returned to the executive council need not be coded.

13. **Boxes 36–61 (A–Z)** Variable identification details relating to the patient are completed in accordance with special instructions from the Records and Statistics Unit. **Boxes 22–47 (A–Z)**

will be keyed to the letter of the alphabet above each box.

Guidance as to abstracting procedure will be given by the Records and Statistics Unit from time to time and enquiries will be dealt with.

Acknowledgements

The Records and Statistics Unit acknowledges with thanks the stimulus given by Professor R. C. Wofinden and Mr W. B. Fletcher and the help by Dr M. J. Whitfield in the design of these cards.

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The attachment of local health authority staff to general practices. A study in three county boroughs with special reference to health visiting. MARY AMBLER, B.A., J. A. D. ANDERSON, M.D., D.P.H., MICHAEL BLACK, M.B., B.S., D.P.M., PETER DRAPER, M.B. B.CHIR., JANET LEWIS, M.A., DIP. SOC. ADMIN., W. MOSS, B.SC., and T. G. C. MURRELL, M.D., D.T.M. & H. *Med. Offr.* 1968. 129, 299.

General practice attachments raise various problems, some of which have not yet been widely discussed. The fact that attached staff are employed by LHAs means that there cannot easily be the same mutual choice of working colleague as there is when a practitioner employs a practice nurse. It also means that attached staff, who are usually restricted to working within the LHA boundary, cannot visit patients on their doctors' lists who live outside this boundary unless special arrangements are made, but the current reviews of local government and the NHS previously referred to might produce recommendations which would reduce this problem. Another difficulty is that it is uneconomic for the LHA to provide clerical help for their staff if they are scattered in a large number of different practices, although special arrangements can be made for this to be provided by practice staff. A further note of caution concerns nursing teams. If more nursing teams with a hierarchy of skills are developed, new problems of organization affecting all community health staff will have to be solved.