

## **The problems of problem-orientated records\***

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Through an Upjohn Travelling Fellowship in 1975 I was able to visit some practices where problem-orientated medical records (POMR) have been introduced, to find out some of the advantages and the difficulties in using this new form of record.

All those visited were busy service practices so that the records could be studied in a real situation. The practitioners agreed that the standard of record keeping in general practice needed improvement, and they were trying to do this by following the POMR philosophy advocated by Weed and others (Weed, 1969; Bjorn and Cross, 1970; and Hurst, 1971).

There have been several studies on medical records in general practice and they have all come to the conclusion that records are inadequate for efficient care of patients as well as for education, audit, and research (Collings, 1950; Cormack, 1970; Dawes, 1972).

### **In what ways are records inadequate?**

It is important to consider the shortcomings of the present record system in order to assess the benefits which are claimed for the problem-orientated system. The records as kept by the average general practitioner are inadequate in four aspects:

- (1) Omission of essential information,
- (2) Omission of important information,
- (3) Poor retrievability of information that is recorded,
- (4) Lack of uniformity.

#### *(1) Omission of essential information*

The items of information which most doctors agree are essential to good care of patients include:

- (1) Previous medical history, operations, and accidents,
- (2) Allergies and sensitivities,
- (3) Contraceptive and obstetric history in women,
- (4) Immunisation status in children,
- (5) A record of all medication prescribed for the patient.

While some patients may reasonably be expected to carry some of this information in their heads, it is quite inappropriate to expect all patients to know the details of past illnesses or the names of medications given to them. It has been argued that the patient is the best medical record, as he is always available and up to date. With the patient acting as the receptacle for this information the doctor then obtains as much as is necessary by taking a history whenever details are needed for clinical decisions.

Apart from being time-consuming, there are occasions when conversation with the patient is difficult. Also, patients find it difficult to recall all the important past events

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in their lives in an interview so that the accuracy and completeness of the information so obtained may be open to doubt.

It seems reasonable that some form of summary sheet should exist in every record where this essential information can be recorded.

### (2) *Omission of important information*

If essential information is often missing from the record then it will not be surprising if other important information is also absent. Here I include:

- (1) Family history of inherited tendencies to illness,
- (2) Social information including details of family problems and housing,
- (3) Occupation,
- (4) Smoking habits and alcohol intake,
- (5) A profile of the patient's daily activities at work and play,
- (6) Other information such as blood group, ethnic origin, and foreign travel.

Although it may not be possible to obtain all this information on one occasion, it is helpful to have space in the records where such facts can be entered as they are discovered.

These items of history can only be obtained direct from the patient and some way of both obtaining and recording this information should be considered by each general practitioner. All of the practices visited are using some form of questionnaire, which is completed by the patient and then filed or transcribed on to the notes. In this way most of this basic information is recorded in the notes with very little expenditure of time by the doctors. It is of course important to discuss the questionnaire with the patient at subsequent consultations to check details and insert omissions. This only takes a few minutes and enables an accurate record to be made of both essential and important background information (Sheldon, 1974a).

### (3) *Poor retrievability*

Even if all this background information is recorded somewhere in the notes, it is still useless if it is not easily retrievable. The usual mixture of shuffled letters, illegible writing, and frayed continuation cards deters most doctors, who prefer to take a new history from the patient rather than sort through the old records.

The EC5 record envelope has now been obsolete for 30 years and it is a disgrace that it is still in use. Numerous excuses have been made for retaining it, yet it seems illogical to me to demand the latest expensive drug, piece of medical machinery, and operation, all of which may be of very doubtful value, and yet not demand an up-to-date efficient record system.

The introduction of the A4 size folder into general practice has long been overdue. The advantages of this size of record has been well documented by Loudon (1975) and Hawkey *et al.* (1971). The change from EC5 to A4 will make a definite improvement to the records kept, even if only by the better retrievability of the information recorded. In a recent study by Tulloch comparing EC5 records and A4 problem-orientated records he found a significant difference in the time taken to retrieve some "marker" items of information (Tulloch, 1975). Time saved is always useful to the general practitioner, and there is now little doubt that even the best kept EC5 record system is not as easy to refer to as an A4 record file.

Another factor which reduces the retrievability of records is the lack of organisation of the record. Many doctors dislike the idea of structured notes as they feel it inhibits them, but some structure is essential in all our activities, and record keeping is no exception. The amount of organisation required will vary between doctors, but there is a minimum amount which should be required by everyone.

**(4) Lack of uniformity**

The fourth major deficit of existing records is the lack of uniformity. Many patients will be included in the list of several different doctors during their lifetime and each will keep the records in his own way. Thus one doctor will throw away all correspondence about the patient, another will cut up the letters into varying shapes, a third will write copious notes which will never be read by anyone else, and a fourth never even bothers to take the record file out of the drawer when seeing the patient.

The Royal College of General Practitioners has attempted to help in this matter by introducing summary cards and other structured cards into the system, but in a survey of 200 consecutive new records coming into this practice not one such card was found.

A uniformly acceptable structure needs to be introduced with basic guide lines, so that every general practitioner will keep his records to a certain minimum standard but then allowing each doctor to elaborate upon this standard if he wishes.

**Why don't general practitioners keep better records?**

There are several reasons why the standard of records in general practice is poor:

(1) As explained above, the design of the records themselves is not conducive to good record keeping,

(2) The importance of records in clinical care has not yet been realised by the majority of doctors,

(3) Time is often short in general practice and record keeping is usually the first activity to suffer,

(4) Neither money nor encouragement have been forthcoming to enable general practitioners to improve their record systems,

(5) Medical students have not been taught adequately about medical records. They are not taught how to take a history; perform an examination; make diagnoses and recognise problems; start therapy; reassure the patient, and then record the whole consultation in the ten minutes or so usually available in outpatients and general practice,

(6) Before the advent of the primary care team no one but the general practitioner would look at the records, so there was no critical comment about their shortcomings. Any form of audit improves the performance of most doctors, and it is to be expected that records should improve as the team aspect of primary care is developed.

**Are general practitioners satisfied with their records?**

In his survey of general-practice records, Dawes in 1972 said "The attitudes of the doctors concerned were of interest in that a general air of guiltless acceptance was apparent amongst those who co-operated. Varieties of the expression "You are welcome to look at the records for what they are worth" was heard in most practices, and little belief in the importance of careful record keeping was expressed by any of the doctors.

It is unfortunate that many general practitioners see no reason to be dissatisfied with their notes. They have little interest in research or education and are not convinced that improving their records would help them or their patients.

**Do records make any difference to clinical care?**

It is easy to talk theoretically about the importance of records, but in order to persuade people that they are important it is necessary to quote practical examples where the records either helped the delivery of good care or hindered it.

I would therefore like to quote three recent occurrences in my practice where omissions from notes led to poor care of patients, and three instances where the notes helped in the care of the patient.

*Example 1*

A young child was staying awake at night and causing distress to the parents. After several unsuccessful attempts to solve the problem myself, a locum saw the patient and prescribed a medicine which "worked wonders". Unfortunately, no record was made of the nature of the medicine and so when the mother came for a repeat prescription a very difficult and embarrassing consultation ensued.

*Example 2*

An elderly, confused lady, who was a new patient to the practice, was given aspirin for her arthritis. It was not possible to obtain a history from her owing to her dementia and the notes contained no reference to previous complications. She then had to be transfused four pints of blood after a haematemesis. Later her son appeared and pointed out that this had happened previously and asked why I didn't know about this and so avoided aspirin.

*Example 3*

A woman who was allergic to ampicillin was given some, because this allergy, although entered in the notes, was not prominent.

In each of these cases, if the records had been kept properly, the possibility of mistakes would have been minimised. Likewise I feel that the following cases show that good records can improve the care given to the patients:

*Example 4*

A record of all the pregnancies of this patient were recorded from which it was obvious that she had an illegitimate child living with grandparents. This fact was of some importance during a family crisis and led to a helpful discussion about the tensions which existed.

*Example 5*

A young woman seemed unduly anxious about minor symptoms. It was noted in her family history that her mother had died at an early age. When questioned about this the patient volunteered that before her death her mother had had similar symptoms to those now described by the patient. Examination and reassurance were all that were needed.

*Example 6*

A lady with vague symptoms was noted to have had toxæmia in a previous pregnancy. The blood pressure was taken and found to be raised.

I do not need to stress that the better the records are kept the better the chance that good care will be delivered to the patient. It is true that some doctors have phenomenal memories and seem to be able to dispense with records altogether, but this does not alter the fact that for the vast majority of doctors good records increase the efficiency with which clinical care is delivered.

### **Are problem-orientated records an improvement?**

The philosophy of the problem-orientated medical record has mainly been advanced by Weed in the U.S.A. (Weed, 1969), who has introduced several new ideas for their improvement. General practitioners in this country have always been "problem-orientated" for we have to deal with the patient and his problems rather than with diagnosis and isolated episodes of illness (*Journal of the Royal College of General Practitioners*, 1973).

The major advance in Weed's thinking is to make the records "problem-structured" rather than chronologically sequenced. In my view one of the most important aspects of problem-orientated records is that each doctor who tries to implement this method of record keeping is forced to examine the whole structure of his records, and improvements will follow even if the whole philosophy of problem-orientated records is not accepted.

For general practice the problem-orientated notes may be considered to consist of three main parts:

*(1) Data base*

The data base is the basic information about a patient upon which the doctor relies when solving each new problem brought. It includes past medical history, social history, family history, past investigations, screening tests, vaccinations, and allergies.

*(2) Problem list*

The problem list contains a list of all the problems of a medical or social nature which either the patient or the doctor considers may constitute a threat to health.

*(3) Progress notes*

The progress notes are organised for ease of reference into:

- S** Subjective findings.
- O** Objective findings.
- A** Assessment.
- P** Plan.

This varies slightly from the structure advocated by Weed as it omits the section called 'initial plan' which is more suited to the hospital environment where consultations tend to concern one illness rather than short but more frequent consultations as in primary care. The advantages which follow from the introduction of problem-orientated records can best be shown by taking each of these sections in turn.

*(1) The data base*

When a history is taken from a patient several types of information are obtained.

(a) *Static information.* Information about the patient which does not alter, but grows in volume as he grows older. Apart from obvious facts such as sex, date of birth, ethnic origin, or blood group, this also includes past medical history, allergies, sensitivities, and past family and social history.

(b) *Changing information.* There is a defined amount of information about each patient which alters with time. The rate of change of this information is variable and it is best to consider two sub-sections.

- (i) Slowly changing—items such as marital status, occupation, and social class, body habitus, and personality.
- (ii) Quickly changing—items such as smoking habits, occupation in some patients, drug therapy, and recent medical problems.

(c) *New information.* The history of the present complaint and review of body systems by direct questioning completes the history and is often the only part accurately and fully documented. Here the doctor learns the problems which have brought the patient to him and on many occasions neither party has the desire to spend more time gathering information which may or may not be important.

(d) *Tacit information.* This includes all of the "feelings and impressions" which the doctor gains as he talks with the patient. Without understanding how it works, each doctor relies on this "sixth sense" to weigh up the patient, decide how much reliance to put on the patient's story, and assess what treatment is likely to be effective.

The general-practice data base consists of these first two kinds of information, the new information being recorded under progress notes as subjective findings, and the tacit information is usually not recorded at all. All the practices visited used questionnaires completed by patients to obtain the major part of the background information which forms the data base, and as experience with the use of questionnaires increases,

it appears that this is a satisfactory way of obtaining such information, especially from patients as they register with their new general practitioner.

### *The problem list*

There is much controversy over the problem list and each practice tackled it in a different way. The problem list should consist of all diagnoses, symptoms, pathological findings, and social problems which may constitute a threat to health. Its purpose is both to provide an index to the progress notes and also to provide a summary of all the patient's past and present problems which may need consideration during a consultation.

### *Progress notes*

These are the notes made on continuation sheets each time the patient consults the doctor and in a problem-orientated record these notes are structured. Thus each time the patient attends, a heading is put down which describes the problem requiring attention. The subjective and objective findings are briefly recorded, then the assessment of the problem entered and the plans finally made. If more than one problem is dealt with, it is best to put more than one heading. It is then easy to look back through the progress notes and pick out the past consultations which have a bearing on the present one by looking at the headings.

Flow sheets are an important addition to the progress notes and it is a great help to incorporate them for long-term problems or other problems where graphical representation is of help.

This structuring of the progress notes is also of value as it makes the general-practitioner record an assessment and plan for each problem, so that on future occasions, it is easy to see if the assessments were correct and the plans suitable.

It is probably easier now to give a typical example of the way a consultation would be recorded:

14.8.75 Problem 4. Headaches.  
 No change in pattern over last 1/12.  
 Eyes tested—n.a.d.  
 Talked about the tensions in work and at home.  
 So . . .

PLAN:  
 ct. Paracetamol.  
 See weekly for chat.

Problem 2. Oral contraceptive.  
 B.P. 120/70 Wt. 8st. 4 lbs.  
 No problems.

PLAN:  
 6/2 supply of 'Minovlar'.

It will be seen that no more need be written in the problem-orientated record than in the ordinary records, but the use of organisation helps reference to the notes made. This is of value to the general practitioner so that he can quickly remind himself of past consultations, but is also of value to any other doctor who is concerned with the patient.

The problem number corresponds with the problem list which may then act as an index to the notes.

### **The problems of problem-orientated records**

While visiting other practices I was able to confirm my own impression that the form of POMR advocated by Weed is not suitable for British general practice. All of the practices visited had met the same sort of problems, but had applied different solutions

to them. It is worthwhile examining each of these problems in turn so that an adapted version of POMR can be recommended to other practitioners.

### *(1) Agreement with partners*

The first problem concerned a doctor with other partners in the practice who do not share his enthusiasm for POMR. This was a definite handicap in the larger practices where the patient may be seen by any of the partners. In these circumstances it is virtually impossible for one partner to try and organise the notes if all the others ignore this and make notes in their usual fashion.

In these circumstances, it seems preferable for all the partners to agree to implement just one aspect of POMR (such as a summary sheet for family history, social history and past illnesses) and encourage everyone to use this. If this is successful then the next step can be taken and so on until an acceptable structure is seen to be beneficial by all partners.

### *(2) Cost and time of conversion*

The cost and time of conversion is often raised as an objection to changing to POMRs. It is important to realise that POMR records can be kept at no extra cost at all, and if records are slowly converted (preferably with new patients as they arrive), very little extra time need be spent. Some of the practices visited were using summary cards supplied by the Royal College of General Practitioners while others were using insert sheets designed by themselves and cyclostyled or printed.

### *(3) Staff*

Some enthusiasm is needed to break through the initial barrier of converting records. With an average 2,500 records per doctor, it can take years before all the records are converted, and with new patients constantly joining a practice it is best to delegate most of the work to ancillary staff.

Most practices had one member of the practice team whose work it was to look after the records when other duties allowed. In my practice one part-time receptionist with no previous experience has been easily trained to create the data base and summary sheet of all new patients, so that all the doctor need do is quickly check it and add any other problems that he thinks will need consideration.

### *(4) Contact between doctors*

There is one great danger in POMR in that if it is made to replace the normal communications about patients between partners, it may cause serious lapses in the care of patients. Weed thinks that communications are improved if a structured record is used, as each member of the team records his assessment and plans. But definite lapses in care can occur if recording information in the notes is substituted for person-to-person communication with other members of the primary care team. There is a temptation for one member of the team, say a trainee, to record his thoughts and suggestions for action, but fail to communicate personally with anyone else, so creating a dangerous situation. In one practice this was responsible for a considerable delay in treating a woman with pain from secondary deposits from a carcinoma of the breast.

### *(5) Correspondence and laboratory reports*

In the POMR system advocated by Weed there is no place for the chronological filing of correspondence and laboratory reports. These are meant to be transcribed into the progress notes and then destroyed. This leads to much extra work and diminished retrievability of information.

Most general practices continue to file correspondence chronologically and to mount laboratory and x-ray reports chronologically on report forms. This is obviously more difficult with an EC5 envelope and serious difficulties arose in the two practices visited which had not converted to A4 folders. The vast superiority of the A4 folder was here obvious and it is my opinion that the change to A4 folders should be made before, or even instead of, the conversion to POMR.

*(6) Maintaining the problem list*

The design of the problem list and how to keep it up to date was a problem mentioned by all the doctors visited. Some doctors numbered the problems and others did not. Some used it as a summary sheet of all past illnesses as well as a statement of present problems. There was some disagreement as to what constituted a problem, and how much information should be put on the problem list. There was also no agreement on the method of showing whether a problem was active or inactive, or even if this was necessary.

However, all were agreed that some form of problem list was essential and was a great help in reminding the doctors at each consultation of the other problems which existed in each patient.

*(7) Definition of the data base*

The definition of the data base needed for a patient in general practice has not been decided, and each doctor has different opinions about how much information needs to be collected for each patient. Each of the practices were experimenting with questionnaires completed by patients to gather most of this information and my impression was that this is the most satisfactory way of building a data base. I have elsewhere described the use of a questionnaire in my own practice and have found very few problems over a period of two years' continuous use (Sheldon, 1974a).

*(8) Use of pages*

Some practices like to use one whole page for each problem so that at one visit entries may have to be made on several pages, whilst most practices entered the problems chronologically with headings at the top of each entry.

*(9) Difficulties with SOAP formula*

The SOAP formula for progress notes also led to some difficulties as it hampered some doctors' recording and made them less keen to use problem orientating. In my view it is unnecessary to use the headings S and O as in most consultations it is fairly obvious which is which. Most of us were brought up to use c/o for the symptoms and o/e for the examination, and I see no reason to change this habit. It is however useful to put ASS: to enter opinions rather than  $\Delta$  which implies a definite diagnosis, and each entry should include something under the heading PLAN: even if it is only a record of medication given.

*(10) Record size*

Apart from easier retrievability the size of the record does not really matter. It is important to stress that notes can be problem-structured no matter what the size or form of the file.

### Conclusions

The problem-orientated record can be adapted for use in general practice and leads to a much improved standard of record keeping. It need cost little in money or time to convert to POMR and the benefits will soon outweigh the initial outlay of both of these.

Much experience has been gained in their use in widely differing practices and it is hoped soon to have a manual of POMR which would enable any interested practitioner to build on this experience and change to POMR with little difficulty.

### **My system**

While visiting other practices I have tried to incorporate other doctors' good ideas and avoid their mistakes. The form of records as used by me is not a true POMR as Weed has advocated, but nevertheless works in practice.

#### *Registration sheet*

The registration sheet is completed by the receptionist as the patient registers. This has been described elsewhere (Sheldon, 1974b).

#### *Questionnaire*

The questionnaire is given to the patient at the time and then filed in the notes when it is returned. At the next consultation the doctor goes through the questionnaire with the patient and enters any comments or omissions.

#### *Summary sheet*

The summary sheet is used to enter the information about the patient gleaned in later years.

#### *Problem list*

The problem list is initially made up when old records are received in the practice. This is done by a member of the ancillary staff who sorts and files the correspondence and reports and then compiles the problem list from the notes and the questionnaire. This is again checked at the next consultation by the doctor who will add any other problems as needed.

#### *Progress notes*

The progress notes are made chronologically, with a rubber stamp to give the problem heading and plan to each problem. The problem heading is usually entered in red ink to aid referral.

#### *Flow sheets*

Flow sheets are used where applicable with graphs for weight and blood pressure. They are also used for immunisation schedules in infants and adults. The last item in the notes is the laboratory report where all reports are filed chronologically.

As a final comment I would like to say in common with all the other practices visited that once having used a POMR system, I could not now go back to keeping records in the old-fashioned way. All we need do now is somehow persuade the other 99 per cent of practitioners that POMR is not for the cranks alone, but would help every practitioner in the country to improve the standard of his clinical care.

### **Acknowledgements**

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**Addendum**

Dr M. G. Sheldon was awarded a prize of £100 for the best report from an Upjohn Travelling Fellow in 1975.

Copies of the form described can be obtained from Dr M. G. Sheldon, High Town Road Surgery, Banbury, Oxon.

**REFERENCES**

- Bjorn, J. C. & Cross, H. D. (1971). *The problem-orientated private practice of medicine*. Chicago: Modern Hospital Press.
- Collings, J. S. (1950). *Lancet*, **1**, 555–585.
- Cormack, J. J. C. (1970). *Journal of the Royal College of General Practitioners*, **20**, 333–353.
- Dawes, K. S. (1972). *British Medical Journal*, **3**, 219–223.
- Hawkey, J. K., Loudon, I. S. L., Greenhalgh, G. P. & Bungay, G. T. (1971). *British Medical Journal*, **4**, 667–670.
- Hurst, J. W. (1971). *Archives of Internal Medicine*, **128**, 456–462.
- Journal of the Royal College of General Practitioners* (1973). Editorial, *Problem orientated medical records*, **23**, 301–02.
- Loudon, I. S. L. (1975). *Update*, **10**, 259–66.
- McIntyre, N. (1973). *British Medical Journal*, **2**, 598–560.
- Sheldon, M. G. (1974). *General Practitioner*, April 12, 22–23.
- Sheldon, M. G. (1974). *Journal of the Royal College of General Practitioners*, **24**, 582–583.
- Tulloch, A. J. (1975). *Personal communication*.
- Weed, L. L. (1969). *Medical Records, Medical Education and Patient Care*. Cleveland: Press of Case Western Reserve University.
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