Part 6: The Problem-Oriented Medical Record

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The basic ingredients of the problem-oriented medical record are a defined data base, problem definition, appropriate plan for each problem, and dated progress notes containing numbered problems. Several modifications of Weed's method are described, such as numbering of problems with R.C.G.P. Classification of Diseases code numbers, omission of acute self-limited problems from the problem list, recording medications on the reverse side of the problem list, and modifications of progress notes. The amount of time required to convert from traditional to problem-oriented records is modest. The value of the problem-oriented medical record has not yet been proven in terms of improved quality of patient care, nor has its cost in terms of physician time been assessed. Nevertheless, it is an interesting method that is particularly useful in a training program, and its value in practice will probably be demonstrated through further use.

The problem-oriented medical record (P.O.M.R.) has evoked considerable interest, excitement and controversy since its introduction by Lawrence Weed[1] in 1969. Bjorn and Cross[2] have written an enthusiastic report on its practical application in a rural practice, and Hurst and Walker[3] have published a compilation of papers that recommend its use in a variety of settings. However, Goldfinger[4] takes a dissenting view and accuses the "disciples" of P.O.M.R. of being possessed by an uncritical and religious fervor. Feinstein[5] finds merit in the traditional record and feels that the "apparent advantages (of P.O.M.R.) rise not from the problem-structured format but from the associated enthusiasm and supervision with which the new system is applied."

At present there is no proof that the P.O.M.R. improves the quality of patient care. The cost, as measured by either an increase or decrease in physician time, has not been determined. Why, then, should one adopt a new technique of uncertain value? The primary reason is that traditional medical records of ambulatory patients are often defective in structure, content and retrieval capabilities. The P.O.M.R. has been designed to correct this. This paper describes our use and modifications of the P.O.M.R. in the setting of a Family Medicine model clinic.

Components of Problem-Oriented Medical Record

The P.O.M.R. has been described by Weed[1] and by others[2,3]. It has four basic elements.

1. *A Defined Data Base.* Definition of an appropriate data base is the most difficult aspect of the system. What, for instance, constitutes a rational data base for a 14-year-old female scheduled for a prophylactic examination? It will certainly differ from that required for an apparently healthy 58-year-old male. The question of which medical data should be recorded must be carefully considered because costs are incurred by the collection, storage and retrieval of this data, whether accomplished manually or by computer. Some questions that require additional research are:

a. How should the medical history be obtained? Should one use self-administered questionnaires, paramedical personnel as history-takers, a computer terminal, or the traditional physician-patient interaction?

b. Is the same history form appropriate for all ages and for both sexes?

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c. What screening laboratory procedures should be done? What is their cost-benefit ratio, yield, and false-positives?
d. Will an extensive data base increase retrieval time for needed data and therefore decrease efficiency of patient care, or is the opposite true?

2. *A Problem List.* Different physicians define problems differently, even from the same initial data base. The level of sophistication, knowledge of disease process and analytical skills of the physician are all involved in problem definition. In a training program, review of how problems are formulated permits the teacher to follow the thought processes of his students. This principle may also be true for peer review.

The problem list with problems properly titled, dated and numbered serves as an index to the medical record. Problems should be dated according to when they are first recorded in the medical record. This facilitates access to the initial full description of the problem.

The problem list is a very useful device to remind the physician of all of the patient's problems at each encounter. It is helpful when the physician is trying to assess rapidly a patient's status, particularly in a group practice where one often sees a colleague's patient.

3. *An Appropriate Plan for each Problem.* Three areas are involved:
a. Additional diagnostic studies.
b. Therapy.
c. Patient education.

This portion of the record directs the physician into a rational use of therapy and diagnostic studies because each problem must have its own plan and the plan should be appropriate for the problem.

4. *Dated Progress Notes Containing Numbered Problems.* Information elicited about each problem is divided in the progress note into subjective (S), objective(O), assessment (A), and plan (P). Progress notes are recorded only for those problems handled in a given encounter. All of the problems on the problem list need not be considered during each visit, although some repetition may be needed for a proper analysis. Note the following example:

Problem 091 — Diabetes Mellitus
- S. No increased thirst or polyuria.
- O. Fundi-negative. Peripheral pulsations normal. Two hour P.P. blood sugar 150 mg percent.
- A. Reasonably good control.
- P. Continue 1200 calorie A.D.A. diet.

Problem 101 — Obesity
- S. States that he is following diet.
- O. Weight 184 lbs. No change in three weeks. No edema.
- A. Probably not following diet.
- P. Detailed discussion about diet. Patient to keep food diary.

In this case, although diet was an important aspect of both problems, the apparent noncompliance was not adversely affecting the diabetes as it was the obesity problem. Note the economy of description. This is entirely appropriate in an ambulatory care setting.

Modifications of the Problem-Oriented Record

The Rochester Family Medicine Training Program adopted P.O.M.R. in 1970. We find the following modifications increase its usefulness for us.

1. *Numbering of Problems.* We use the three-digit code numbers from the problem-oriented adaption of the Royal College of General Practitioners' Classification of Diseases (Part 2 of this series) as problem numbers. Weed's system of sequentially numbering problems, producing gaps where inactivated problems appear, has no particular merit. Sequential problem numbers indicate neither the importance of the problems nor their chronological appearance.

The use of disease classification code numbers encourages standard terminology and facilitates recording of the code numbers in the diagnostic-E-book (Part 3 of this series). Thus, problem 091 is always Diabetes Mellitus for any patient regardless of associated problems.

2. *The Problem List.* Our problem lists do not contain acute self-limited conditions. Inclusion of these problems would make the list less useful by increasing its length. Burger et al.[6] suggest the use of an additional problem list for temporary or acute problems. Our Family Care Journal (Part 4 of this series) serves that purpose in addition to functioning as an integrated record of the care of a family.

Our problem list (figure 1) is printed on heavy stock paper. It is not fastened to the chart, but instead is inserted opposite the most current progress note where it is readily accessible for reference.

3. *Medication List.* Medications are recorded on the opposite side of the problem list (figure 2). Note that the problem number must be identified for each medication prescribed. This card, which lists both the problems and the medications, contains the most crucial information about the patient. One might consider giving an updated copy of this information to the patient for use in an emergency when his full medical record is unavailable.

4. *Progress Notes.* The progress note need not have an entry under each of the four parts (subjective, objective, analysis, plan) if no new information is elicited appropriate for that sub-section. The pressure of time in the primary care setting does not permit recording extraneous, repetitive or unimportant information.

Conversion from Traditional Records

The data already recorded in the traditional ambulatory medical record is too valuable to discard. This author took an average of 6.4 minutes to construct a problem-oriented summary of each record in an established practice.[7] In the process, a considerable amount of buried clinical data was unearthed. This included such problems as anemias that had not been followed up, conflicting medications given for coexisting conditions and diagnoses made without sufficient documentation. Summaries of records were made only of current patients. It was possible to problem-orient approximately 100 records per month without budgeting additional time in the office. At that rate, it would take approximately two to two and a half years to problem-orient the average practice.

Figure 1

PROBLEM LIST

JORDON	SAM	05 17 23	33
Last Name	Given Name	Date of Birth	CT

DATE	DIAGNOSTIC CODE	PROBLEM TITLE	DATE RESOLVED	INACTIVE
			1932	R. INGUINAL HERNIA
			1951	APPENDECTOMY
8-16-71	101	OBESITY		
8-16-71	218	ESSENTIAL HYPERTENSION		
8-16-71	123	EXCESSIVE SMOKING		
10-20-71	454	HEADACHE →	11-16-71	
4-17-72	306	ABDOMINAL PAIN → DUODENAL ULCER	6-17-72	
6-17-72	278	DUODENAL ULCER		
6-17-72	704-A	MARITAL CONFLICT		

MEDICATION RECORD

Drug Allergies, Intolerances, Idiosyncracies, Abuses:	Well-tolerated and Effective Drugs:
RASH FROM SULFA DRUGS	

LONG-TERM MEDICATIONS

DATE	DIAG CODE	PROBLEM TITLE	MEDICATION	DOSE	SIG	AMT RXd	REFILL INSTR	SUBSEQUENT REFILLS (Date / amount or cutoff date)			
8-16-71	218	HYPERTENSION	HYDROCTZ	50 MGM	B.I.D	100	5x				
9-12-71	218	HYPERTENSION	ALPHA-METHYLDOPA	250 MGM	Q.I.D	100	5x →	SEE BELOW			
10-1-71	218	HYPERTENSION	ALPHA-METHYLDOPA	500 MGM	Q.I.D	100	5x				
6-17-72	278	DUODENAL ULCER	MAALOX	30 CC	Q2H	480cc	PRN				

SHORT-TERM MEDICATIONS

DATE	CODE	MEDICATION	DOSE	SIG	AMT	REFILL	DATE	CODE	MEDICATION	DOSE	SIG	AMT	REFILL
10-20-71	454	A.S.A	600MGM	PRN	100	PRN							

Figure 2

Uses of the Problem-Oriented Medical Record

1. In a group practice the P.O.M.R. may speed retrieval of medical data, particularly for patients with whom the physician is unfamiliar. He knows precisely where to locate the needed data and time spent reading the chart could be reduced. This thesis needs to be tested.

2. Application of P.O.M.R. to audit and teaching is probably its most important use in a residency training program. Here the efficiency of P.O.M.R. has already been demonstrated and is readily apparent to any teacher who has audited charts recorded by both traditional and P.O.M.R. methods.

The passage of legislation establishing Professional Standard Review Organizations (P.S.R.O.) makes it not unlikely that ambulatory records will someday be subject to audit. The use of P.O.M.R. will facilitate that process.

The Future

Many studies to evaluate P.O.M.R. should be done. Its value in terms of improved quality of patient care and its cost in physician time must be assessed, in spite of difficult methodological problems. Many have already found P.O.M.R. to be an interesting and even exciting method of recording medical information. The clarity and logic of the method may be sufficient reason to assure its continued use.

References

1. Weed LL. Medical Records, Medical Education and Patient Care. Cleveland, The Press of Case Western Reserve University, 1969.

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