3.4 Problem-Oriented Medical Record in Intensive Care

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Expanding medical knowledge in the past decades and clinical innovations have created an information crisis of staggering proportions (6). Medical specialization and the accumulation of increased data from patients characterize modern medical practice; on the other hand, symptoms of this information crisis are inefficiency, lack of continuity of care, problems treated out of context, loss of patient data, inadequate evaluation of performance and inaccessible information (2-5, 16, 19, 20).

In the past, the physician with limited means at his disposal was able to hold a “total” integrated view of the patient under his care. With rapid advancement in medical sciences and technology, it became apparent that no single individual would be able to be proficient in all areas of medicine. Specialization appeared with the assumption that several physicians acting together ideally would provide total and integrated care. In reality, however, events often work out quite differently; specialization and subspecialization produce rapid technological growth with increasing numbers of quantitative measurements which create chaos with the flow of information among the different components of the medical and paramedical teams (7). This situation has been deteriorating rapidly and our capabilities to identify problems increase proportionately more than our capabilities to solve them.

There is an urgent need for systematic analysis of medical care, more precise identification of needs, and development of methods to help the diagnostic and therapeutic decision-making processes (5).

The medical record was identified as the key element in the flow of medical information and the basic tool utilized by physicians in their decision making (2, 5, 6, 13, 15, 16). Various attempts have been made to improve the quality of medical record keeping with the use of electronic and computer data processing equipment to accumulate and correlate data. Poor technical solutions or inadequate basic format of the traditional source-oriented medical record have failed. The deficiencies of the traditional record become more evident in the case of the multiple-problem and multiple-specialty patient, because it fails to provide adequate communication among physicians when increasing amounts of clinically significant data fail to be entered in the record. In intensive care units (ICUs), multiple life-threatening conditions and the large amount of physiological and laboratory data frequently make the lack of communication and data loss more critical.

With the massive increase of available biochemical, radiological and physiological data being collected, information bypasses the physician. The central role in the flow of information around the patient, formerly carried out by the physician, is lost. Portions of the data now enter directly into the chart by some form of bookkeeping. A variable portion of the data is always permanently lost. On the other hand, due to the method of the record keeping, the material is frequently so poorly organized that our efforts to structure collected data into significant information are much impaired (10, 21).

Many times personal styles make the medical record intelligible only to the individual who writes it. Records of patients with conditions involving different body systems and diverse
specialists are frequently so disorganized that it is impossible to obtain a logical and ordered idea about past and present history of problems affecting the patient (18, 19). The medical record becomes a confused aggregation of clinical notes interspersed with numerical values, in which case the physician can only "digest" a limited portion of the data. A unique approach to medical record keeping was advocated by Weed (16-20), who introduced the concept that patient data should be recorded in relation to the patient's problems instead of the sources of data. When the problem-oriented medical record (POMR) first came to our attention several years ago, its logic and effectiveness were immediately apparent and it seemed that the POMR had the potential of becoming the cornerstone of comprehensive medical care as well as a dynamic and precise instrument of communication. Of much controversy, the proposed format has potential short-comings which include over-emphasis on style, repetitious and time-consuming recording of the same data pertinent to several different problems, and finally an expectation that problem orientation alone would permit effective medical care (1-3, 7, 8, 11, 12, 14). Problem-oriented records are not a panacea for other conceptual ailments in clinical activity. No change in the medical record, no matter how radical, can offer more than symptomatic relief for the many underlying basic problems of medical education; no system is better than its users. Our experience with a modified version of Weed's POMR at our Intensive Care Unit form the basis for this report. Our ICU is an 8-bed medical surgical unit which serves an active 220-bed general hospital and provides care in all specialties, including open heart surgery and emergency services. At the time of the writing, the POMR has been implemented for the past nine months and we have 412 records so structured.

Format and Content

The record is constituted by an administrative portion (Admission Referral Form) and a medical portion which is ordered chronologically and composed by the Initial Data Base (history, physical examination, initial problem identification and initial diagnostic and therapeutic plans), the Problem List, Progress Notes, and Flow Sheets. The system demands the routine collection of data on each patient, from which a list is made of all problems recognized. Each subsequent step in the patient's management is taken only as it relates to a specific problem in the context of all the other problems of the list. The patient's problem list is recorded in a conspicuous place. The central function of the physician as a problem-solver is stressed, as diagnostic and therapeutic decisions are constantly being made based on a cyclical flow of data (Fig. 1).

1. Admission Referral Form. This carries the identification data and succinctly describes the reason for transfer to the ICU, previous diagnosis, therapy and eventual procedures. A space is reserved for the annotation of immediate measures taken upon the patient's arrival. When the patient expires on arrival, this form becomes the whole ICU "chart".

2. Initial Data Base. History, physical examination and recent laboratory and radiological data are recorded in the traditional way. Negative findings are included only when judged of importance. The findings at the physical examination and pertinent laboratory results are chronologically tabulated in a source-oriented sequence. An initial problem identification is prepared and diagnostic and therapeutic measurement plans are immediately drawn up. After more data are obtained, the initial list of problem identification is consolidated into the Problem List.