An Integrated Medical Record and Data System for Primary Care: Introduction

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The University of Rochester Family Medicine Program at Highland Hospital maintains a unified system which facilitates recording and retrieval of medical data in a primary care practice setting. Not all elements of the system were originated by the Rochester group, but this interdigitation of its numerous components is unique to this program. The system was developed and is in continuous refinement by the faculty,* family physicians dedicated to its flexibility and practicality. Adoption of components of the system by graduates of this program now in private practice, neighborhood health centers, group practices, and by several family medicine training sites further confirms its usefulness.

Initial development of the system was described in a series of papers beginning with the May 1974 issue of *The Journal.* Due to the interest generated by the earlier communications and intervening developmental modifications, a second series of articles will be presented which will describe the current status of the integrated medical record data system. The present series will briefly describe the elements of the data system and demonstrate their interaction in providing a uniform medical data and record system.

One of the major advances since the initial data systems description is the adoption of the International Classification of Health Problems in Primary Care (ICHPPC), developed by the World Organization of National Colleges and Academies of General Practice-Family Medicine (WONCA) and compatible with the Eighth Revision of the International Classification of Diseases (ICD-8). A "reason for visit" classification is a recent innovation, as are the important contributions of Dr. James Kilpatrick of the University of Virginia on practice population definition. Under the auspices of the North American Primary Care Research Group (NAPCRG), a glossary of terms is in preparation which more precisely defines the process of medical care. As utilization of ambulatory record systems has expanded both nationally and internationally, the need for more universally acceptable phraseology for diagnostic titles has become apparent. The World Organization of National Colleges and Academies of General Practice-Family Medicine (WONCA) has established a committee to develop such a set of definitions for the ICHPPC diagnostic titles.

Specific impacts of these recent developments will be discussed as they pertain to the eight components of the integrated medical record system. The eight components to be fully covered in subsequent communications are:

1. The Age-Sex Register
2. Classifications of health problems for primary care physicians
3. A diagnostic index (E book)
4. Family Folders
5. Chart filing by area of residence
6. Problem oriented medical records
7. Encounter forms for recording and retrieval of both operational and diagnostic data including a minimum basic data set
8. Record forms designed to include a defined data base, minimum screening tests, and which function as flow sheets without unnecessary fragmentation of data.

Although all portions of the system are congruent, it is not necessary to adopt every item listed above to benefit from such a system of data collection. Indeed, it may be prudent to examine carefully data needs appropriate to the particular health-care delivery setting. All information is recorded and retrieved at a cost of time and money. The benefits of any system should exceed the costs, although in most settings cost-benefit ratios for medical data systems are difficult to measure. Certain components of the system can be expanded to fill gaps that would exist if others were omitted. It is possible, for example, to enter diagnostic information on age-sex cards.

Although the record system was designed primarily as a manual system, it is nevertheless completely compatible with computerization. Data storage by computer for several elements of the system is currently in use in our program. However, we recommend that manual systems be instituted initially so that complete understanding of their use can first be obtained. In training programs, the use of manual systems exposes residents to practical tools that can be utilized in even the most remote and unsophisticated health-care delivery site. If computer capability is available it may be added at a later time. Analysis of computer data and the ability to detect and remove errors in programming will be enhanced by familiarity with a manual system.

Adoption of this system affords the physician numerous benefits including the ability to:

1. Assess morbidity patterns within one's own practice and to compare these patterns with those of other practices or aggregates of practices
2. Assess office management needs
3. Contact cohorts of patients as defined by parameters of age, disease or problem, sex, socioeconomic status, and area of residence
4. Perform self-audit or to permit audit of quality of care by peer groups
5. Assess postgraduate educational needs by analysis of morbidity encountered in one's own practice
6. Do research in primary care, either in one's own practice or to participate in group projects

Other capabilities will be outlined as each component of the data system is described in detail.

*David Metcalfe, MD, and Collin F. Baker, MD, are past faculty members who made important contributions to our data system.

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