

An Integrated System for the Recording and Retrieval of Medical Data in a Primary Care Setting

Eugene S. Farley, Jr., M.D., Donald F. Treat, M.D.,
Collin F. Baker, M.D., Jack Froom, M.D., Samuel H. Henck, M.D.
Rochester, New York

The Family Medicine Group at Highland Hospital — University of Rochester has developed a unified system that facilitates recording and retrieval of medical data in the setting of a primary care practice. Not all of the elements of this system originated with our group, but the combination of the various ingredients is unique. The system was developed and refined by the faculty, all of whom have had considerable experience in primary care and who concur that the method is practical. The adoption of this system by graduates of this program now engaged in busy ambulatory practices further confirms its usefulness.

A series of articles will be presented which describe each element of the system and which demonstrate how these elements interact to provide a unified data system that can enhance the quality of patient care in Family Practice. There are eight major parts of this unified data system:

1. Age-sex Register
2. A classification of disease suitable for primary care
3. Diagnostic Index-E-Book
4. Family folders
5. Filing of records by census tract
6. Problem-oriented medical records
7. Encounter forms that permit recording and retrieval of both operational and diagnostic data
8. Record forms which encourage obtaining a defined data base and function as flowsheets without unnecessary fragmentation of data.

It is not necessary to adopt all parts of this system, although they are complimentary. Some portions can be ex-

panded to fill gaps that would exist if other parts are omitted. It is possible, for example, to enter diagnostic information on age-sex cards.

Although this record system was designed primarily as a manual system, it is nevertheless completely compatible with computer programs. A computer program for the age-sex register and for the diagnostic index is currently in use in our program. Our recommendation is that manual systems be instituted initially so that complete understanding of their use can first be obtained. If computer capability is present, 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.

This system has many advantages for the practicing physician:

1. Ability to assess morbidity patterns within one's own practice and to compare these patterns with those of other practices or aggregates of practices.
2. Ability to assess post-graduate educational needs by an analysis of morbidity encountered on one's own practice.
3. Ability to perform self-audit or to permit audit of quality of care by peer groups.
4. Ability to plan and implement rational office management.
5. Ability to contact groups of patients as defined by specific parameters.
6. Ability to do research in primary care, either in one's own practice or in group projects.

Other advantages will be outlined as each element of the system is described in detail.

This system can be adopted as a valuable addition to varied primary care settings, including teaching programs. It is suggested that the reader can best judge its applicability to his own individual practice setting after all major components have been described.

From the Family Medicine Program, University of Rochester-Highland Hospital, Rochester, New York. Requests for reprints should be addressed to Dr Jack Froom, Family Medicine Program, University of Rochester-Highland Hospital, 335 Mt. Vernon Avenue, Rochester, New York, 14620.

TABLE I

Age-Sex Analysis of Family Medicine Program
As Compared With That Of Monroe County

	Monroe County		Family Medicine	
	No.	% Total Pop.	No.	% Total Pop.
MALES				
5	33,129	4.65	476	6.65
5-9	36,122	5.07	304	4.25
10-14	35,869	5.04	295	4.12
15-19	30,973	4.35	263	3.67
20-24	26,559	3.73	268	3.74
25-34	45,100	6.34	741	10.35
35-44	39,202	5.51	365	5.10
45-54	39,289	5.52	245	3.42
55-59	16,354	2.30	96	1.34
60-64	12,946	1.82	71	0.99
65-74	17,133	2.41	110	1.54
75 & over	10,330	1.45	61	0.85
Total	343,006	48.18	3,295	46.03
FEMALES				
5	31,485	4.42	343	4.79
5-9	34,574	4.86	291	4.07
10-14	34,456	4.84	243	3.39
15-19	31,595	4.44	315	4.40
20-24	32,084	4.51	488	6.82
25-34	46,875	6.58	810	11.32
35-44	40,687	5.72	563	7.87
45-54	42,983	6.04	301	4.21
55-59	17,808	2.50	133	1.86
60-64	14,940	2.10	95	1.33
65-74	23,676	3.33	146	2.04
75 & over	17,748	2.49	135	1.89
Total	368,911	51.82	3,863	53.97
Total Monroe County	711,917 (Based on 1970 census)			
Total Family Medicine	7,158 (As of January 1973)			

influenza vaccine to reduce excess mortality. The age-sex register gives one this capacity.

4. *Audit:*

Random samples of charts of 6 year old children can be studied to determine if adequate immunization has been accomplished. Samples of charts of 30 year old women can be checked for cervical smear. The 40 to 60 year old male population can be studied to see if the risk factors in ischemic heart disease have been assessed. Self audit and peer group audit are both possible with this device.

5. *Research:*

Morbidity data requires standardization for both age and sex in addition to assessment of the total population size that is studied. No meaningful research in primary care can be done without this data.

6. *Additional Uses:*

High risk patients' cards can be tabbed for easy recall. Some diagnostic data can be age edge punched to allow for sorting of groups of patients with specific diseases.

Reference

1. Froom J, Metcalfe D, Rozzi C. Computer analysis of morbidity recorded by primary care physicians. *Journal of Clinical Computing* 3:1, 1973.

