The diagnostic index-E-book is a device to record and retrieve morbidity data. A classification of diseases with a diagnostic code is required for its use. An accompanying age-sex register is necessary to standardize the morbidity data. The index can be used to expand capabilities of office management, assessment of postgraduate educational needs, outreach, audit, and research. Significant morbidity data can be produced by pooling diagnostic information from the practices of many physicians. An example of this capability is reported whereby the 30 most common problems were identified in 12 separate practices of family physicians.

A diagnostic index is a device used to record information on cohorts of patients who have the same morbid conditions. The index may take different forms. Hospitals often use index cards, which are filed under the appropriate code number of the classification of diseases being used.

We have adopted and modified the E-book which was developed in England. It is used together with the Metcalfe Modification of the R.C.G.P. Classification of Disease as described previously.

**Methods**

The E-book is housed in a loose-leaf binder containing three-inch by five-inch sheets of paper filed in an overlapping or shingled manner as illustrated in figure 1.
date of encounter, patient's name, episode type*, date of birth, disposition code** and physician's name (figure 2).

If multiple diagnoses are made, the same information is recorded on the appropriate sheet for each diagnosis. Diagnoses of chronic conditions such as diabetes mellitus and pyelonephritis are recorded only one time for each patient. Diagnoses which are acute or recurrent, such as otitis media and pharyngitis, are recorded as often as they occur. Each sheet of paper is lined and has room for ten entries on each side. By convention, males are recorded on the front and females on the reverse side. The E-book slips are removed from the loose leaf binder and placed in a holding binder (figure 3) after an appropriate interval — in our case, six months.

Application of Diagnostic Index

The prevalence of chronic conditions, such as hypertension, can rapidly be determined in one's own practice by

*Episode type — diagnoses newly made at that visit are recorded as new (N). Those that had been made by a previous physician and were still extant are recorded as old (O).
**Disposition codes: 1-Discharged, 2-Return Check Dr., 3-Return Check Nurse, 4-Ref., 5-Admit Acute Hospital, 6-Admit Extended Care Facility, 7-Admit Nursing Home, 8-Admit Skilled Nursing Facility, 9-Consultation FMP.
counting the number of completed sheets corresponding to that code number and multiplying by 20. Incidence can be calculated by reference to the dates that the diagnoses were made. An age-sex analysis is easily made by checking the recorded dates of birth. The diagnostic index will have less meaning in any practice if it is not accompanied by an age-sex register as previously described. We strongly recommend that both techniques be employed together.

The diagnostic index is compatible with computer programs. Diagnostic data from encounter forms is keypunched onto 80 column IBM cards and stored on magnetic tape. Diagnoses are linked to patient files that have been previously established in the computerized age-sex register. Our programs are written to retrieve information in the following manner:

1. Total number of each diagnosis.
2. Analysis of diagnoses by age, sex and census tract.
3. Analysis of total patient population by age, sex and census tract.
4. Analysis of diagnosis by cases per thousand of all of the above indices.
5. All of the above indices by individual physician's practice and by total patient population.

We are currently recording diagnostic information on approximately 60,000 patients drawn from the practices of several family physicians. An age-sex analysis of that population is given in Table I.

Morbidity data of the thirty most common problems is listed in Table II.

### Additional Uses of Diagnostic Index

The value of the diagnostic index is readily apparent as a research tool for both retrospective and prospective studies. There are several additional uses of the diagnostic index:

1. **Office Management**
   A protocol for following patients with chronic diseases, such as hypertension or obesity, can be developed so that nurse-practitioners or similar physician expanders can take partial responsibility for these patients. The index enables one to determine the prevalence of these diseases in the practice. The physician may then assess his need for paramedical personnel in a rational manner.

2. **Postgraduate Education**
   The physician can determine the nature of morbidity seen in his practice accurately. He may wish to direct his postgraduate courses accordingly. He may even consult his index prior to a course and take the charts of his most perplexing patients with him to receive additional consultation.

3. **Outreach**
   After the University Group Diabetes Study was published, some physicians may have wished to discontinue oral hypoglycemic agents which they had previously prescribed for their diabetic patients. The diagnostic index would give the physician a complete list of his patients with diabetes and would allow him to accomplish this task easily.

4. **Audit**
   One can assess one's own diagnostic criteria or therapeutic efficiency by review of a cohort of patient charts with any given diagnosis. It is also possible to have a consultant do the audit as an educational device. Our faculty uses this technique to audit the practices of our graduates.

Although office practices have generally not been audited for quality of care, audit of patients' charts is becoming a standard practice in many hospitals. It is likely

### TABLE I

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>2,957</td>
<td>2,624</td>
</tr>
<tr>
<td>5-9</td>
<td>3,533</td>
<td>3,311</td>
</tr>
<tr>
<td>10-14</td>
<td>3,341</td>
<td>2,981</td>
</tr>
<tr>
<td>15-24</td>
<td>5,244</td>
<td>6,789</td>
</tr>
<tr>
<td>25-34</td>
<td>3,810</td>
<td>5,445</td>
</tr>
<tr>
<td>35-44</td>
<td>2,777</td>
<td>3,433</td>
</tr>
<tr>
<td>45-54</td>
<td>2,366</td>
<td>2,928</td>
</tr>
<tr>
<td>55-64</td>
<td>1,790</td>
<td>1,986</td>
</tr>
<tr>
<td>65+</td>
<td>1,629</td>
<td>2,285</td>
</tr>
<tr>
<td>Total Study Population</td>
<td>27,437</td>
<td>31,982</td>
</tr>
</tbody>
</table>
that audit will be extended to primary care settings in the future.

The diagnostic index is a simple device that can easily be introduced and utilized in a busy primary care practice. It can broaden the outlook of the physician and heighten his interest in his patients.

References

5. The following references were inadvertently omitted and should have accompanied Part 2 of this series, "Classification of Diseases," published in Vol. 1, No. 1, The Journal of Family Practice, May 1974. Ed.

5. The Research Unit of the Royal College of General Practitioners. The diagnostic index. J Royal College of Gen Practitioners 21, 609-612, 1971.
Part 4: Family Folders

Jack Froom, M.D.
Rochester, New York

The family folder holds the charts of all members of the family within a single folder. Its usefulness is augmented by the family care journal and the family tree and health history form. The family care journal displays important information about utilization patterns, recurrent illness and intra-family diseases. The family tree and health history form contains information which is relevant for all members of the family and yet needs to be filled out only once. The family folder is convenient because less time is needed for retrieval and refilling of family charts than for individual ones. Some of its disadvantages are its increased bulk and the difficulty of keeping individual patient’s reports separate. In spite of these disadvantages, however, its use is recommended.

Folders which contain charts of all members of a family permit and indeed implement a coordinated and comprehensive approach to the management of health problems within that family. Although suitable for internists and pediatricians, the advantages of filing in family folders are most evident for the family physician.

Methods.

The full usefulness of the Family Folder requires the use of two elements which can be combined on a single sheet of paper - the family care journal and the family tree and health history. An example of these two components is illustrated in figure 1.

The code numbers used in the family care journal are from the problem-oriented adaptation of the Royal College of General Practitioners Classification of Diseases as previously described1. Those used in the illustration are listed in Table I.

<table>
<thead>
<tr>
<th>Table I</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Code for Family Care Journal</strong></td>
</tr>
<tr>
<td>R.C.G.P. Code No.</td>
</tr>
<tr>
<td>218</td>
</tr>
<tr>
<td>511B</td>
</tr>
<tr>
<td>183</td>
</tr>
<tr>
<td>335</td>
</tr>
<tr>
<td>257</td>
</tr>
<tr>
<td>091</td>
</tr>
<tr>
<td>211</td>
</tr>
</tbody>
</table>
Figure 1. Important Elements of Family Folders

In Case of Emergency. Notify:

SAM JORDON at 442-7441 (HOME)
Alternate emergency number:

Mary at 454-7862 (WORK)

Family Name:

First Name | Date of Birth | Family Care Journal
--- | --- | ---
SAM | 05/17/30 |
MARY | 02/27/52 |
SUE | 04/06/62 |
GEORGE | 06/24/64 |
LODD | 12/01/66 |

Family Tree and Health History

(Enter only first names and diagnostic code numbers for familial disease)

Paternal

PGF's sibs

PGM's sibs

Grandparents

MGF's sibs

MGM's sibs

Aunts and uncles (siblings of parents)

Parents (Heads of household)

SUE 1962

GEORGE 1964 257

LLOYD 1967

Children

UNKNOWN

ADOPTED

SAM 1930 218

MARY 1932

HANNA 1934

MATT 1933

091

Maternal
The family care journal is a cumulative record of medical care received by the entire family. It is fastened to the inside of the left leaf of the family folder where it is readily available for entries and reference for all members of the family. The diagnostic code number (R.C.G.P. classification) for the most important health problem dealt with during each visit is entered under the patient's name opposite the date of the visit. There are spaces for 15 visits with 10 members of a family. If space for additional visits is required, half sheets containing only the family care journal can be stapled over the underlying initial form.

The family tree and health history need be completed only once and yet it serves the entire family. The accuracy and completeness of its information can be enhanced by input from different family members at the time of their separate examinations.

It is necessary to keep the notes and reports separate on each individual within the family folder. We use metal staples to fasten together all data on each patient. These staples are removed as new pages are added.

**Applications of Family Folders**

Family folders afford the physician a tool whereby he can not only collate important information related to the family but also carry out research within the practice. Some of the uses of the family folder are as follows:

1. **Utilization Patterns**

   Information on both over- and under-utilization can be obtained readily from the family care journal. A family may be neglecting the health problems of one child and at the same time be overly concerned with those of another child. The absence of medical care rendered to the husband can be noted and discussed at the time of his wife's examination.

   We have done a preliminary study comparing families in which we had an active record for each member, "complete care families," with those in which we did not, "shared care families." We noted that both groups were fairly evenly represented across the whole spectrum of socio-economic classes and that there were no significant differences among the illnesses encountered in each group. We found that the main difference between these two groups was their utilization figures which are given in Table II. These interesting findings are not yet fully understood and are under further study.

2. **Definition of Chronic Problems**

   We do not enter acute self-limited problems such as acute otitis media on our cumulative problem list. Frequent bouts of otitis media can be noted on the family care journal and the problem of recurrent otitis media will then be identified for entry on the problem list. The significance of recurrent acute problems is frequently overlooked in the setting of a large group practice where the patient may be seen by several different physicians, especially for acute problems. The family care journal is designed to call attention to these recurrent problems.

<table>
<thead>
<tr>
<th>TABLE II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physician Visits Per Year</strong></td>
</tr>
<tr>
<td>Complete Care Families</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Males</td>
</tr>
<tr>
<td>Females</td>
</tr>
<tr>
<td>All Adults</td>
</tr>
<tr>
<td>Children</td>
</tr>
<tr>
<td>All Patients</td>
</tr>
</tbody>
</table>

3. **Intra-Family Diseases**

The family care journal can offer evidence about the spread of contagious diseases within the family. Asymptomatic carriers of infectious organisms can sometimes be identified. Behavioral problems within the family can be analyzed by the same technique. Recurrent patterns of symptoms experienced by two or more members of a family could furnish clues concerning the etiology of those symptoms. Mother's headaches seen in relation to drug abuse by the oldest child, or recurrent abdominal pain in a child whose parents are in conflict are some obvious examples. The family tree and health history can alert the physician to potential genetic problems in the children by a completed detailed family history of illnesses that occurred on both sides of the family.

**Discussion**

The family folder is convenient and timesaving for the physician. At the time of their visits, patients frequently ask questions concerning treatment of other family members. Additional time spent retrieving and replacing charts is saved by reference to the family folder. The physician has the opportunity at that time to obtain and record follow-up information on other family members.

Although the family folder has more bulk and is somewhat more difficult to handle than individual charts, this disadvantage can be minimized to some extent by the careful pruning of reports. We retain only those reports which are most pertinent to patient care and file others in a holding file placed in a relatively inactive file area.

The family folder is recommended as a practical approach which augments the physician's capabilities for the continuous and comprehensive management of health care for the entire family, including the complex interactions and homeostatic mechanisms that characterize families and relate to the very essence of family medicine.

**Reference**
