Part 2. Classification of Diseases

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Accurate statistics of morbidity seen by primary care physicians are required for rational health planning. A classification of diseases is needed to record morbidity. There are several classifications that are suitable for recording morbidity seen in hospitalized patients, but these classifications are not directly applicable to ambulatory patients. The Royal College of General Practitioners (R.C.G.P.) Classification of Diseases as modified by Metcalfe for use with Problem-Oriented Records has been adopted by the North American Primary Care Research group, which represents 28 family medicine training programs. This classification has been used by the Rochester Family Medicine Program since January 1971 and, although not perfect, functions very well. An International Classification of Health Problems seen in primary care is expected to be available in the fall of 1974.

Introduction

Accurate and comprehensive health statistics are required to assess health needs and to evaluate health care delivery systems. Although reasonably accurate data on morbidity encountered in hospitalized patients exists, there is a lack of continuous precise reporting of that morbidity seen by primary care physicians. White recently wrote, "At present, virtually nothing is known about the distribution of symptoms, complaints and problems, and the actions taken by physicians in response to these problems. To realize that we are operating a health care industry whose annual budget approaches 85 billion dollars without the most elementary marketing' information is indeed a sobering thought."[1]

The primary care physician can benefit from recording diagnoses in his own practice. An analysis of this data would expand some of his capabilities of audit, outreach and assessment of postgraduate educational needs that were described in part one of this series *(Age-Sex Register)*. Collection of morbidity data from multiple physician recorders would provide the badly needed data for health planning on a regional and national basis.

It is necessary to use a classification of diseases to record morbidity. There are many classifications currently available, but it is important to choose one which meets the needs of the recorder. Health problems encountered in an ambulatory care setting are usually diagnosed at different levels of specificity from those seen in hospitalized patients. Classifications designed for hospital use therefore are generally not suitable for primary care.

Principles of Classification

A classification differs from a nomenclature, which is merely a list of approved terms. A classification is a statistical device which groups various phenomena for quantitative studies. Code numbers are used to facilitate mechanical handling of data. Some disease will warrant separate rubrics and code number assignments, while other diseases will be grouped under a single rubric. In general, frequency of occurance and importance of the morbid conditions will determine those conditions which should be considered separately. It is necessary, however, to permit recording of every disease encountered and residual titles will therefore be necessary. These categories should be kept to a minimum.

There can be many approaches to classification of diseases. Specific approaches will depend upon the ultimate use of the classification and upon the orientation of the taxonomer. One may use clinical manifestations, etiology or anatomic locations as different axes for classification.

Since current classifications often serve multiple purposes, most are not completely internally consistent. Nevertheless, changes in these classifications which appear to be more rational must be balanced against the difficulties for the user which are introduced by these changes. Some ability to do comparative retrospective studies may be lost if changes in rubrics are too radical. At the same time, new knowledge of the nature of disease and new nomenclature are strong forces for the restructuring of a classification.

Historical Perspective

The Bertillion Classification of Causes of Death (Jacques Bertillion 1851-1922) may be considered the beginning of an international classification of disease. It was adopted by the International Statistical Institute in 1893, received wide approval and formed the basis for the first revision of the International Classification of Causes of Death adopted at a conference in Paris in 1900. Subsequent revisions have occurred at approximately 10 year intervals and in 1948 the sixth Revision was a combined morbidity-mortality classification. For the first time causes of morbidity were included in an International Classification.

The eighth Revision of the International Classification of Diseases (I.C.D. 1965)[2] improved the ability to record and retrieve data from hospital charts. Although it was used extensively for this purpose, this revision was felt to lack sufficient detail for use in the United States. The Public Health Service therefore produced the International Classification of Diseases-Adapted for Use in the United States (I.C.D.A.).[3] This addition provided greater specificity and still maintained close correspondence with I.C.D.

A third important classification was published by the Commission of Professional and Hospital Activities, which conducts the Professional Activity Study (P.A.S.). Morbidity data is collected from many hospitals throughout the country providing profiles of activity which allow participating hospitals to audit their activities. Sufficient difficulties have been encountered with use of the I.C.D.A. to warrant the publication of yet another classification of disease. It is called the *Hospital Adaptation of I.C.D.A.* (H-I.C.D.A.) and was published in November, 1968.[4] This classification is based on both the I.C.D. and the I.C.D.A. A first revision is expected soon.

Although these three major classifications were generally suitable to record causes of death and of morbidity encountered in hospital populations, numerous problems arose when the classifications were used to record causes of morbidity in the ambulatory patient. A group of general practitioners in England attempted to classify all illnesses they encountered using the I.C.D.[5] The difficulties they encountered eventually led to the Royal College of General Practitioners (R.C.G.P.) Classification of Diseases which was also based on the I.C.D. This classification contained somewhat less than 500 rubrics as compared with the almost 4,000 rubrics of the I.C.D. and was more useful in the ambulatory care setting.

In 1967, Westbury and Tarrant tested both the I.C.D. and R.C.G.P. Classifications in their general practice in Canada. Dissatisfaction with both of these classifications was the stimulus for the creation of the *Canuck Classification* in March 1971. This classification is currently in use in a number of general practices throughout Canada. The Canuck classification is also closely tied to the I.C.D. and contains almost 400 rubrics. Practitioners in other countries such as Australia and Israel also have produced additional abbreviated classifications for use in primary care.

Metcalfe modified the R.C.G.P. Classification for use with problem-oriented records in 1970. His modification added sections on social problems, family history of disease and a selected therapeutic index. This classification is the one that we are currently using and has been adopted by the North American Primary Care Research Group representing 28 family medicine training programs.*

The need for an International Classification of Diseases suitable for use in primary care was enunciated by Westbury[6] at a meeting of the World Organization of National Academies and Colleges of General Practice (W.O.N.C.A.) in Melbourne, Australia in October, 1972. Agreement among the participants led to the formation of a working party to produce such a classification. There was representation from the United States, Canada, England, Australia, and New Zealand. The committee received instructions to create and test a new classification prior to the 1974 W.O.N.C.A. meeting. If accepted by this group and the member countries, an important instrument for cooperative international morbidity studies will have been produced.

Uses of the Classification

We are currently using the Metcalfe Modification of the R.C.G.P. Classification of Diseases to record morbidity in our model Family Practice. It is also in use in a number of nearby private practices, including those of family physicians, pediatricians, and internists.

The inclusion of rubrics describing symptoms, social problems, and abnormal laboratory findings make this classification compatible with problem-oriented records. Physicians are not forced to make diagnoses at a greater level of sophistication than their data warrants. Our doctors are required to find and record the appropriate code numbers for each diagnosis. This requirement enhances the accuracy of the data because data clerks are not needed to translate a written diagnosis into a code number. The code is a three digit one and the numbers assigned to frequently occuring conditions are rapidly learned. Those doctors who are currently using the classification have reported that the requirement that they classify each patient encounter by diagnostic code number encourages a more analytical approach to their findings than that previously used. Use of the classification therefore may be an important determinant of physician behavior which could improve the quality of care. However, this thesis needs to be tested.

The modified R.C.G.P. Code does present some difficulties and, as with all classifications, it is imperfect. In general, however, we find that it works quite well in the primary care setting. We hope that the new classification currently being tested by the W.O.N.C.A. working party will eliminate some of the difficulties that we have encountered, but until such time as it becomes available, we prefer the modified R.C.G.P. classification to all others that we have studied.

It is not necessary to await the perfect classification of disease before beginning to record morbidity. New rubrics and even new code numbers are easily learned. In addition, one must anticipate that revisions to any classification will occur at appropriate intervals. It is important for physicians to begin to record morbidity data even with imperfect tools. It is likely that the process of recording and the interest engendered by analysis of the data produced will have a salutory effect on quality of care.

**The Royal College of General Practitioners (R.C.G.P.) Classification of Diseases is available upon request from the author at the University of Rochester School of Medicine at Highland Hospital, 335 Mount Vernon Avenue, Rochester, New York 14620 and from the Family Practice Program of the Medical College of Virginia, MCV Station, Box 636, Richmond, Virginia 23298.*