# An Integrated Medical Record and Data System for Primary Care
# Part 2: Classifications of Health Problems for Use by Family Physicians

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Health problems encountered in the ambulatory setting differ from those of hospitalized individuals. For that reason disease classifications of morbidity devised for inpatient categorization are not totally applicable in the ambulatory setting. Numerous classification systems have been devised to overcome this discrepancy and have enjoyed varying levels of success. The International Classification of Health Problems in Primary Care (ICHPPC) is one of the more useful for family physicians and other primary care physicians. Its hierarchical structure and compatibility with the International Classification of Diseases (ICD) permits comparative use. The history, characteristics, and uses of ICHPPC are discussed as are those of additional classification systems recently developed for other purposes. One of these, a classification of performed procedures, may be used in conjunction with ICHPPC to provide a useful record for the provider as well as facilitating the referral of health-care information to third-party payors.

Family medicine has recently emerged as a fully recognized specialty. Precise definition of the content of family practice is necessary and may be gained by careful enumeration of ambulatory health problems in addition to those requiring hospitalization. Full appreciation of the magnitude of ambulatory health care delivered by primary care physicians requires accurate description of family practice morbidity.

Earlier hospital-based classification systems such as the International Classification of Diseases (ICD)[1] and its adaptions, International Classification of Diseases-Adapted[2] (ICD-A), and Hospital Adaptation of the ICDA[3] (H-ICDA), have been found to be relatively inappropriate in the ambulatory setting. One attempt to delineate health problems encountered in general practice using the Eighth Revision of the ICD reported 23 percent of problems seen as unclassifiable.[4]

Certain isolated but notable descriptions of general practice morbidity have been published.[5,6] In addition, an extensive report of morbidity in family/general practice was prepared by the Medical College of Virginia using the Royal College of General Practitioners Classification of Diseases-Adapted for use with Problem-Oriented Medical Records.[7]

However, a more universal definition of family practice content is essential for optimum development of residency training programs, allocation of federal, state, or private funds, third-party reimbursement mechanisms, and research into new and more effective methods of health-care delivery and disease prevention. Establishment of Professional Standards Review Organizations (PSRO) has underscored the need for explicit criteria for peer review and audit. Accurate systematized indexing of patient morbidity and disease management allows relative ease of such information retrieval.[8]

Classification of practice population demographics such as age, race, sex, and socioeconomic status should present no problem in defining the content of family practice. However, establishment of a single nationally (and internationally) acceptable classification of diseases and other health problems in the ambulatory setting is fraught with difficulties. Several classifications are in some measure useful for family physicians. The body of this report concerns an overall description of these classifications and a discussion of their relative utility and limitations.

### Principles of Classification

A classification may be defined as a functional device by which certain related phenomena are grouped under a circumscribed number of generic terms to facilitate quantitative evaluation. A nomenclature differs from a classification in that a nomenclature is solely a description of specific clinical or pathologic conditions. Common to all classifications discussed here is the use of code numbers to facilitate data handling. Some disorders may be grouped under a single rubric while other disease entities, usually the more frequent or important, require individual rubrics and code numbers. Since every problem encountered must be recorded, residual titles may be necessary for inclusion of the rarer disorders. Classifications should be constructed so that data contained within such residual categories as "other disorders of skin" are kept to a minimum.

Depending upon the orientation and ultimate aim of the taxonomer any of several axes could be selected. For example, clinical manifestations, etiology, or anatomic location might be the basic parameter of a classification. Since current classifications serve multiple purposes, most are not totally internally consistent. Although gross modification of any classification precludes fully accurate comparison with data from the earlier version, new knowledge and nomenclature may necessitate restructure of a classification.

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## Historical Perspectives

### *Hospital and Mortality Classifications*

Initial disease classifications were devised to record cause of death. It was not until 1948 that the Sixth Revision of ICD was extended to include causes of morbidity as well as mortality. With each subsequent revision, at approximately ten-year intervals, the ICD classification has become increasingly specific. The current version, ICD-8, was published in 1965.

With need for even further specificity of documentation in the United States, the US Department of Health, Education, and Welfare (DHEW) produced the International Classification of Diseases-Adapted for use in the United States (ICD-A) in 1968. Shortly thereafter, a somewhat different adaptation of ICD was produced and published by the Commission of Professional and Hospital Activities (CPHA). Their version is called the Hospital Adaptation of the International Classification of Diseases-Adapted (H-ICDA). ICDA and H-ICDA currently each account for classification systems used in approximately 50 percent of hospitals in the United States.

ICD-9 is scheduled for publication September 1977; however, further modification has been found technically necessary and will be devised through the combined efforts of the National Center for Health Statistics, the American Hospital Association (AHA), the CPHA, and other interested groups. This modification, entitled "International Classification of Diseases-Ninth Revision-Clinical Modification" (ICD-9-CM) is scheduled for release January 1978. It is anticipated that ICD-9-CM will be the sole modification of ICD-9 available for use in the United States.

### *Ambulatory Classifications*

Between 1959 and 1972 there was a corresponding interest in the generation of a classification of disorders encountered by family/general physicians. Separate and unique systems were devised in numerous countries. Great Britain evolved the Royal College of General Practitioners Classification of Diseases (RCGP),[9] the United States established the RCGP-Modified for use with Problem-Oriented Medical Records (POMR), and Canada, Australia, Israel, Germany, and the Scandinavian countries each established additional but separate classifications. Need for a single international classification of health problems in primary care became obvious. At the 1972 meeting of the World Organization of National Colleges and Academies of General Practice/Family Medicine (WONCA), a working party with international representation was established. This international group was charged with establishment of a field-tested international classification to be presented at the next international meeting of WONCA in 1974.

## The Field Trial

By 1973 the WONCA Committee on Classification had developed a list of 407 diagnostic titles suitable for testing. This trial version was tested in nine countries by over 300 physicians in varying types of ambulatory care settings. Analysis of data derived from the more than 100,000 doctor-patient contacts as well as comments from involved physicians led to production of the final version of the International Classification of Health Problems in Primary Care (ICHPPC).*[10]

ICHPPC has been endorsed by: (1) The parent organization (WONCA), (2) The Central Office of ICDA, and (3) The North American Primary Care Research Group (NAPCRG).

Not only are the 18 ICHPPC Sections congruent with ICD, ICD-A and H-ICDA, but individual titles generally correspond as well. Format of publication of ICHPPC is both tabular and alphabetic. Where exact correspondence of numerical itemization is not possible, both are noted within the text. Included as well is a dictionary of titles and corresponding code numbers suitable for computerization.

ICHPPC is an accurate reflection of the unique health problems frequently encountered by the primary care provider. It is not intended as an abbreviation of ICD but has of necessity incorporated appropriate modifications to accommodate different patient problems. Some of the advantages of ICHPPC may be briefly summarized.

1. ICHPPC has, by comparison to other ambulatory classification systems, more closely adhered to the widely-used hospital classifications, ICD and ICDA. By this means comparison of hospital and ambulatory morbidity is facilitated.

2. Extensive field testing in numerous countries and varied health-care delivery situations has provided a relatively universal choice of diagnostic titles.

3. Its 371 diagnostic titles allow it to be more wieldy for the busy practitioner while maintaining specificity of health problem classification.

4. Residual titles account for less than five percent of recorded health problems as determined statistically by the extensive field trials mentioned above and corroborated by subsequent review.

## Structure of the ICHPPC

The 371 diagnostic titles contained in the final version of ICHPPC are divided into 18 sections. These sections are compatible with those of ICD, ICD-A, and the H-ICDA classifications. The 18 ICHPPC sections are:

1. Infective and Parasitic Diseases
2. Neoplasms
3. Endocrine, Nutritional, and Metabolic Diseases
4. Diseases of Blood and Blood-Forming Organs
5. Mental Disorders
6. Diseases of the Nervous System and Sense Organs
7. Diseases of the Circulatory System
8. Diseases of the Respiratory System
9. Diseases of the Digestive System
10. Diseases of the Genitourinary System
11. Pregnancy, Childbirth, and Puerperium
12. Diseases of the Skin and Subcutaneous Tissue
13. Diseases of the Musculoskeletal System and Connective Tissue
14. Congenital Anomalies
15. Certain Causes of Perinatal Morbidity and Mortality
16. Physical Signs, Symptoms, and Ill-Defined Conditions
17. Accident, Poisonings, and Violence
18. Supplementary Classifications

The number of diagnostic titles within each section varies from one (1) in Section 15 to 35 titles in Section 16.

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## Functional Utilization of ICHPPC

The primary utilization of ICHPPC is to be fully described in a subsequent article in this series entitled, "The Diagnostic Index," as will its use as a research tool.

A secondary, but managerially important use is as an index for third-party payment. Although some agencies continue to require diagnostic codes based on ICDA or H-ICDA, several have begun to accept material based on ICHPPC. In addition, the AHA ICHPPC publication enumerates ICDA numbers beside each ICHPPC diagnostic title.

The need for ever increasing numbers of reports to third-party payors and government agencies has placed an additional burden on the busy family physician and his or her often limited staff. Classifications containing several thousand rubrics and requiring trained coding personnel are obviously inappropriate to the primary physician's situation. ICHPPC, which has been designed for provider coding, provides a valuable tool to family physicians. With selection of appropriate additions to ICHPPC of specific titles from ICD, other specialists such as pediatricians and internists may find ICHPPC a simpler yet specific classification for internal use as well as comparative study.

## Future Directions

### *Reason for Visit Classification*

Numerous family physicians desire a classification of "patients' reason for visit." A classification was devised in 1974 and, although published as a "Symptom Classification"[11] was used to code reason-for-visit data collected during the National Ambulatory Medical Care Survey.[12] Although the "Symptom Classification" was an excellent first effort, certain deficiencies led to subsequent publication in late 1976[13] of a "Reason for Visit Classification System for Ambulatory Care" by the American Medical Record Association. It has a modular construction and the disease module is compatible with the ICHPPC. It is designed to classify the reason for visit from the patients' terms. The seven sections included are:

1. Symptoms
2. Diseases
3. Diagnostic, Screening, and Preventive
4. Therapeutic Procedures, Process Problems, and Counseling
5. Injuries and Adverse Effects
6. Abnormal and Follow-ups for Test Results
7. Administration Reasons for Visits

The Classification is currently being tested but is not yet available for general use.

### *Procedures*

The family physician will require a classification for the several procedures performed within the hospital and ambulatory settings. Some insurance companies have developed separate classifications designed for health-care provider use on claim forms. The California Relative Value Scale also contains coded numbers of procedures acceptable to several insurance companies. Other similar classifications include a section in the ICDA entitled "surgical operations, diagnostic and other therapeutic procedures" and a publication by the American Medical Association entitled "Current Procedural Terminology."[14] Probably the greatest single determinant of which classification is most appropriate for the individual physician or group of physicians is the source of payment for services rendered to patients.

### *Long-Term Care Parameters*

A useful classification for family physicians is an index of chronic handicaps or disorders, to ascertain the appropriate level of care in a given situation. Managerial uses would include a more accurate determinant of disability compensation for insurance, employer, or patient use. Of use may be the "Patient Classification for Long Term Care" published in December 1973, by the US Department of Health, Education, and Welfare.[15] Its several sections include:

1. Identifying and Social Demographic Items
2. Functioning Status Items
3. Impairments
4. Medical Status: Risk Factor Measurements
5. Medically Defined Conditions

Although this particular classification maintains a high degree of specificity it is rather unwieldy and inordinately time consuming. The scope of its usefulness may be in inverse proportion to its complexity for the busy physician.

There exist a myriad of classification systems for the physician, each with its specific advantages and orientation. The type of practice, administrative and health-care delivery needs of the individual provider, and the population served will be important considerations in his or her choice of classification method. The ICHPPC classification combined with a procedure classification seem, at this time, to most appropriately meet the needs of the family physician. Although a reason-for-visit classification appears to be an interesting innovation, its practical value in the primary care setting has yet to be demonstrated.

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