

CCICD-10
C A N A D A

Final Report

**The Canadian Enhancement
of ICD-10**

**(International Statistical Classification of
Diseases and Related Health Problems,
Tenth Revision)**

June 2001



Canadian Institute
for Health Information

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ISBN 1-894766-01-6

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The Canadian Enhancement of ICD-10 (International Statistical Classification of Diseases and Related Health Problems, Tenth Revision)

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(International Statistical Classification of Diseases
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Acknowledgements

The modification of ICD-10 (International Statistical Classification of Diseases and Related Health Problems, Tenth Revision), to meet administrative, epidemiological and public health research requirements of Canadians involved much collaboration. There were hundreds who gave their time and energy. Our thanks goes out to each individual contributor (named or not), for the success of ICD-10-CA belongs to them.

The Expert Advisory Panel provided advice on the ICD-10 Canadian enhancement process, selected clinical reviewers and assisted CIHI in the review, analysis and final decisions for enhancements. Working under very tight time constraints, these individuals command our gratitude for their practical guidance.

When approached by CIHI for assistance with this project, Canadian associations, organizations and institutions embraced the opportunity to influence the modification of ICD-10 for morbidity coding by enthusiastically recruiting volunteers to review selected portions of the classification.

Classification reviewers provided extensive commentary and suggestions for Canadian enhancements. These special individuals also coordinated additional review among their colleagues.

André L'Hours, World Health Organization (WHO), provided invaluable assistance with his thorough review of every proposed enhancement on our behalf and provided us with the benefit of his learned advice and expertise in classification development.

We would also like to offer special thanks to the staff at NewBook Production Inc. for their patience, creativity and skill in taking the contents of our database and translating it into electronic and paper format.

The National Implementation Advisory Committee (NIAC), established in 1997 by CIHI, coordinated federal, provincial and territorial implementation plans for ICD-10-CA. The Committee includes representation from each provincial and territorial Ministry or Department of Health, Statistics Canada, Health Canada and CIHI. Past and present members have contributed their valuable time and input to the national implementation of ICD-10-CA and CCI (Canadian Classification of Health Interventions).

Executive Summary

At the recommendation of the National Implementation Advisory Committee (NIAC), the National ICD-10 Modification Advisory Task Force was established in August 1998 to recommend initial enhancements, if necessary, to ICD-10 for use in Canada. The Report of the National ICD-10 Modification Task Force was presented to the NIAC in December 1998. This report presented various enhancement options, an assessment of each option and recommendations. After consultations with their jurisdictions, members of the NIAC provided feedback on their preferred enhancement option. The goal of achieving a single national standard was seen as a priority. Given that there was significant interest from several provinces to produce enhancements to ICD-10 prior to implementation, CIHI proceeded with the development of enhancements to ICD-10 for use in Canada by April 1, 2001.

The purpose of the ICD-10 enhancement process was to ensure the continued relevancy and utility of the classification in Canada.

The goals of the process were:

- 1) to identify initial enhancements to ICD-10 for use in Canada beginning April 1, 2001; and
- 2) to define the basic principles regarding the ongoing maintenance of ICD-10-CA and the Canadian Classification of Health Interventions (CCI).

The process began in April 1999 with the establishment of an Expert Panel, whose purpose was to advise on initial enhancements to ICD-10 and the ongoing maintenance process.

This Expert Panel, comprised of eight high profile physicians from across Canada, identified consultative individuals and groups of reviewers for the initial enhancement of ICD-10. During the summer and fall of 1999, 132 reviewers (93 were physicians) submitted recommended enhancements to twenty ICD-10 chapters. Among the reviewers were physicians, health record specialists, nurse managers, epidemiologists, utilization managers and members of the Expert Panel. Also, eight Canadian Societies/Associations and seventeen representatives from the Quebec Federation of Medical Specialists reviewed chapters and submitted recommended enhancements. Chapter XIX—Injury, Poisoning and Certain Other Consequences of External Causes and Chapter XX—External Causes of Morbidity and Mortality were forwarded to members of the National Trauma Registry Advisory Committee for input.

All proposed enhancements to the classification were evaluated against the criteria outlined below. A description of each criterion is found in Appendix B.

Criteria for the Selection of Enhancements:

- consistent with purpose of Classification
- no change to structure/presentation
- consistent with WHO rules and guidelines
- scope
- specificity/clinical meaningfulness
- current clinical credibility
- coding guidelines, inclusions and indexing
- administrative use

The proposed Canadian enhancements to the ICD-10 were submitted to the World Health Organization (WHO) for review and analysis. The World Health Organization provided detailed feedback of which approximately 95% of recommended enhancements received agreement. The final enhancements to ICD-10 include approximately 4,000 new codes. ICD-10 code enhancements have been identified on the CD with a red maple leaf.

One of the main benefits of implementing ICD-10-CA and CCI (Canadian Classification of Interventions) in Canada is the introduction of a single set of national standards. This single set of national standards will accommodate a more comprehensive scope, improved specificity, an ongoing maintenance process to reflect Canadian health care practices, an opportunity to improve health information, plus improved national and international comparability.

The World Health Organization approved changes that will make ICD-10-CA a truly Canadian version of the International Statistical Classification of Diseases and Health Related Problems, 10th Revision.

Section 1—Introduction

This document presents background information on the decision to enhance ICD-10, describes the process used in the development of ICD-10-CA, summarizes major enhancements by chapter, lists the benefits of having a single national standard and defines the basic principles for the ongoing maintenance.

WHO License

The World Health Organization (WHO) is the official publisher of ICD-10 (in English and French) and holds the international copyright. While individual countries may negotiate a license agreement in order to produce national versions of ICD-10, WHO requires that no modifications be made which will alter the meaning of the categories and subcategories of the classification. With the approval of Health Canada, CIHI applied for and received a license agreement for Canada. The license allows CIHI to use, reproduce and distribute ICD-10 in English and French within Canada. CIHI received permission to enhance the classification to meet Canadian needs within the requirements of the license.

Before our proposed national modifications to ICD-10 were finalized, they were submitted to WHO for review and approval.

Section 2—Background on the Decision to Enhance ICD-10

In November 1991, the National Health Information Council (NHIC) agreed, in principle, to adopt an updated diagnostic standard, the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) and a revised Canadian Classification of Diagnostic, Therapeutic, and Surgical Procedures (CCP). In October 1994, the CIHI Board of Directors reviewed the NHIC decision and requested a study be conducted to assess the impacts of implementing ICD-10 and a new CCP. An external Advisory Group carried out this study and reported its findings and recommendations in the report, *Achieving Standardization in Diagnosis and Intervention Classification: Future Directions for Canada* (CIHI November 1995). These recommendations were approved by the CIHI Board in the Fall of 1995. The Executive Summary appears in Appendix N.

In December 1995 the Conference of Deputy Ministers of Health and the Chief Statistician of Canada approved the recommendations to adopt for Canada the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision by the year 2001. The Canadian Classification of Health Interventions (CCI) was developed as the procedural classification to be used in conjunction with ICD-10.

CIHI established the National ICD-10/CCI Implementation Advisory Committee (NIAC) in June 1997 to facilitate the co-ordination and integration of federal, provincial and territorial implementation plans. While it was always intended that CIHI would obtain rights from the World Health Organization (WHO) to modify ICD-10 for Canada, the plan called for no modifications until after implementation was complete.

To address the interest expressed in other national modifications of ICD-10, the NIAC recommended that a comparison be carried out by CIHI of the following versions of ICD-10:

- International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10);
- International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM); and
- International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM (Draft) (draft made available for public review—November 19, 1997).

A comparison of International versions of ICD-10: Summary of Findings (August 1998) appears in Appendix O.

The following provides information about the development of the two international modifications to ICD-10.

ICD-10-AM

The National Centre for Classification in Health (NCCH) is responsible for the development of ICD-10-AM. Assistance in developing the modification was received from a number of government organizations including the Department of Health and Family Services, the Australian Institute of Health and Welfare, the Australian Bureau of Statistics, and the Australian Casemix Clinical Committee. Further clinical and technical advice was received from the NCCH Coding Standards Advisory Committee and the Clinical Coding and Classification Groups (CCCG). Australia implemented ICD-10-AM in July 1998.

For additional information refer to web site <http://www.cchs.usyd.edu.au/ncch/>.

ICD-10-CM

The development of ICD-10-CM commenced in 1995 when the National Center for Health Statistics (NCHS) awarded a contract to the Center for Health Policy Studies (CHPS) to evaluate the ICD-10 as published by the WHO. The evaluation concluded that while ICD-10 had many strengths further modifications would be necessary to meet U.S. morbidity coding needs. These modifications were undertaken by a Technical Advisory Panel which consisted of members from the NCHS, CHPS, the Health Care Financing Administration (HCFA) as well as various physician groups and classification experts. There is no confirmed implementation date in the USA for ICD-10-CM.

For additional information refer to web site <http://www.cdc.gov/nchs/about/otheract/icd9/abtcd10.htm>.

At the recommendation of the NIAC, the National ICD-10 Modification Advisory Task Force was established in August 1998 to recommend initial enhancements, if necessary, to ICD-10 for use in Canada. The Report of the National ICD-10 Modification Task Force was presented to the NIAC in December 1998. This report presented various enhancement options, an assessment of each option and recommendations. After consultations with

their jurisdictions, members of the NIAC provided feedback on their preferred enhancement option. The goal of achieving a single national standard was seen as a priority. Given that there was significant interest from several provinces to produce enhancements to ICD-10 prior to implementation, CIHI proceeded with the development of enhancements to ICD-10 for use in Canada by April 1, 2001.

Section 3—Purpose and Goals of the ICD-10 Enhancement Process

The purpose of the ICD-10 enhancement process is to ensure the continued relevancy and utility of the classification in Canada.

The goals of the process were:

- 1) to identify initial enhancements to ICD-10 for use in Canada beginning April 1, 2001; and
- 3) to define the basic principles regarding the ongoing maintenance of ICD-10-CA and the Canadian Classification of Health Interventions (CCI).

Section 4—ICD-10 Enhancement Process

Phase 1—Enhancement Process

The process began with the establishment of an Expert Panel whose purpose was to advise on initial enhancements to ICD-10 for use in Canada beginning April 1, 2001 as well as the ongoing maintenance process. Figure 1 represents the management structure of the enhancement process in Phase I. The Expert Panel is accountable to CIHI. The World Health Organization(WHO) Secretariat, the WHO Update Reference Committee and relevant stakeholders across Canada had a role to play in the enhancement process. Finally, CIHI was responsible for providing regular progress reports to NIAC on the work of the Expert Panel to ensure that enhancements were feasible from an implementation perspective. It should be noted that the provinces were involved as much as possible in Phase I. This allowed provinces to gauge the potential impact of proposed enhancements before they were finalized.

Figure 1—Enhancement Management Structure

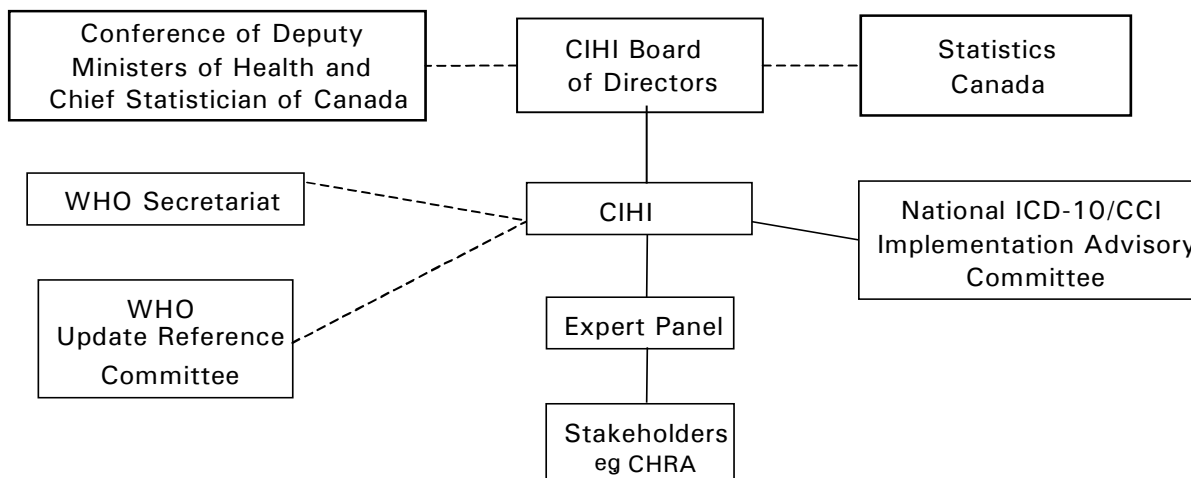
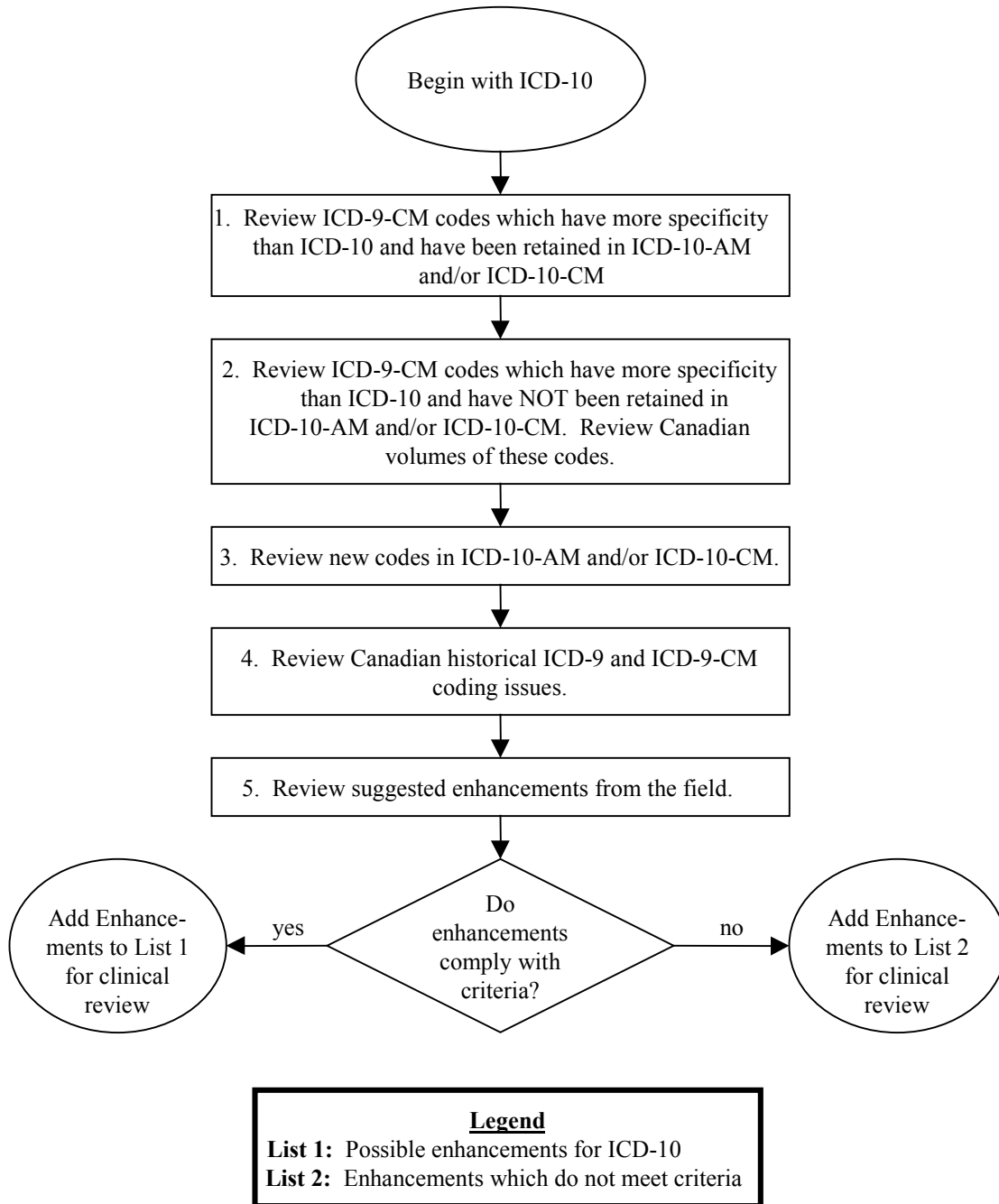


Figure 2—Method for identification of enhancements to ICD-10 for use in Canada



The steps for the development of a Canadian version of ICD-10 and the timeframe to accomplish them are presented in Table 1. In the development of the process, consideration was given to the following factors:

- ✓ The target date for the implementation of ICD-10/CCI across Canada was April 1, 2001.
- ✓ The identification of enhancements had to be completed by February 2000 to allow sufficient time to complete the development of implementation support tools.
- ✓ A formal request was made by CIHI for copies of ICD-10-CM (Draft) to assist in the identification of potential Canadian enhancements. The National Center for Health Statistics (NCHS), however, had not confirmed the target date for the availability of the final version of ICD-10-CM.
- ✓ All enhancements must be reviewed and approved by the WHO; the time required for this review was two months.
- ✓ Extensive work had already gone into the development of ICD-10 edits and crosswalk/conversion tables at CIHI.

Table 1: Timeline of Enhancement Process

Phase	External Process	Timeframe
Phase 1	<ul style="list-style-type: none"> Approval of ICD-10 Enhancement Process by NIAC 	February 1999
	<ul style="list-style-type: none"> Solicit suggestions from NIAC and others for potential members for the Expert Panel 	February 1999–March 1999
	<ul style="list-style-type: none"> Establish ICD-10 Expert Panel 	February 1999–April 1999
	<ul style="list-style-type: none"> Review and approval of Process by Expert Panel 	May 1999
	<ul style="list-style-type: none"> Communication of Enhancement Process across Canada 	April 1999
	<ul style="list-style-type: none"> Expert Panel addresses its mandate, including clinical consultations 	May 1999–October 1999
	<ul style="list-style-type: none"> Progress Report to NIAC 	May 1999
	<ul style="list-style-type: none"> NIAC co-ordinates provincial review of proposed enhancements 	October 1999
	<ul style="list-style-type: none"> Deadline for final comments of proposed enhancements to CIHI 	October 1999
	<ul style="list-style-type: none"> Expert Panel final review of enhancements 	October 1999
	<ul style="list-style-type: none"> Review of enhancements by WHO 	November 1999–February 2000
	<ul style="list-style-type: none"> Progress Report to NIAC 	November 1999
	<ul style="list-style-type: none"> Identification of final enhancements completed 	April 2000
	<ul style="list-style-type: none"> Development of tabular list and index 	May 2000–September 2000
	<ul style="list-style-type: none"> Development of coding guidelines and standards 	March 2001
<ul style="list-style-type: none"> Canadian version of ICD-10 available 	December 2000	
Phase 2	<ul style="list-style-type: none"> Review of Phase I Development of Ongoing Maintenance Process Review of the role of NIAC 	June 2001

Phase 2—Ongoing Maintenance Process

The enhancement process, which includes the identification of ICD-10 enhancements, the criteria, the consultative process and the Terms of Reference for the Expert Panel, are presently being reviewed based on the experiences during Phase I. This review also involves the role of the NIAC and its membership to ensure that ongoing implementation concerns of the classifications are addressed.

To ensure that the Ongoing Maintenance process is open, consideration will be given to a mechanism that includes public submission for enhancements and guidelines.

In the development of the process, the following factors will be adhered to:

- the development cycle of the maintenance process will factor in the WHO updating cycle;
- a standing mechanism with an established production cycle will be developed;
- an open mechanism for input will be established; and
- the enhancement process will occur on a regular basis.

The ongoing maintenance process will also adhere to the following principles:

- Relevant—the process must be developed to be applicable to both ICD-10 and CCI;
- Simple—the process must be easy to apply and follow;
- Comprehensive—the process must be applicable for input from all stakeholders; and
- Dynamic—the process must be adaptable to encompass development of both the initial enhancements and the ongoing maintenance.

Section 5—What is ICD-10-CA?

The International Statistical Classification of Diseases and Related Health Problems—Tenth Revision, Canada, referred to as ICD-10-CA, is a Canadian modification of the disease classification published by the WHO. The classification includes a tabular listing (listing of codes in alphanumeric order), an alphabetical index, as well as relevant coding guidelines/recording instructions.

Presentation of ICD-10-CA

ICD-10-CA is organized in sections (chapters) according to body system/anatomy with the exception of some additional chapters for certain conditions, causes or factors influencing health status. The new ICD-10-CA chapters and code ranges are presented in the following table (Table 3).

Table 3:

Chapter Number	ICD-10-CA Chapter Title	Code Range
I	Certain infectious and parasitic diseases	A00–B99
II	Neoplasms	C00–D48
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	D50–D89
IV	Endocrine, nutritional and metabolic diseases	E00–E90
V	Mental and behavioural disorders	F00–F99
VI	Diseases of the nervous system	G00–G99
VII	Diseases of the eye and adnexa	H00–H59
VIII	Diseases of the ear and mastoid process	H60–H95
IX	Diseases of the circulatory system	I00–I99
X	Diseases of the respiratory system	J00–J99
XI	Diseases of the digestive system	K00–K93
XII	Diseases of the skin and subcutaneous tissue	L00–L99
XIII	Diseases of the musculoskeletal system and connective tissue	M00–M99
XIV	Diseases of the genitourinary system	N00–N99
XV	Pregnancy, childbirth and the puerperium	O00–O99
XVI	Certain conditions originating in the perinatal period	P00–P96
XVII	Congenital malformations, deformations, and chromosomal abnormalities	Q00–Q99
XVIII	Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified	R00–R99
XIX	Injury, poisoning and certain other consequences of external causes	S00–T98
XX	External causes of morbidity and mortality	V01–Y98
XXI	Factors influencing health status and contact with health services	Z00–Z99
XXII	Morphology of Neoplasms	U00–U99
XXIII	Provisional codes for research and temporary assignment	

Code Structure

ICD-10-CA currently has an alphanumeric format with a code size ranging from 3 to 6 characters as illustrated below:

A##.BBB where:

A = alpha character

= numeric character

B = numeric character or blank

Future enhancements to ICD-10-CA may extend the code length to 7 alphanumeric characters.

Other code structure implications are presented below.

- Valid ICD-10-CA disease codes include three, four, five and six character codes. e.g.

N72	Inflammatory diseases of cervix uteri
J20.6	Acute bronchitis due to rhinovirus
M08.00	Juvenile rheumatoid arthritis (multiple sites)
O21.903	Vomiting of pregnancy, unspecified, Antepartum condition or complication

U Codes

The World Health Organization recommended that “U” Codes be assigned by Countries for the provisional assignment of new diseases of uncertain etiology (U00–U49) and for research purposes (U50–U99). Therefore, Chapter XXIII was incorporated to identify Canada’s Provisional Codes for Research and Temporary Assignment.

Chapter XXIII—Provisional Codes for Research and Temporary Assignment

- U00 Infection with drug-resistant micro-organism
- U98 Place where injury occurred
Mandatory with W00–Y34 (not Y06 and Y07) from
Chapter XX—External causes of morbidity and mortality
- U99 Activity of injured person at time of event
Not Mandatory
May be coded with Y01–Y34 from Chapter XX
May also be coded with U98

Section 6—Benefits

Single Set of National Standards

One of the main benefits of implementing ICD-10-CA and CCI (Canadian Classification of Health Interventions) in Canada is the introduction of a single set of national standards. Historically, a variety of medical classification standards have been used within Canada. Two standards have been in use at the national level for the diagnosis classification: International Statistical Classification of Diseases, Injuries and Causes of Death, Ninth Revision (ICD-9) and ICD-9-Clinical Modification (ICD-9-CM, volumes 1 and 2). There have been also two standards for procedure classification: the Canadian Classification of Diagnostic, Therapeutic, and Surgical Procedures (CCP) and Volume 3 of the ICD-9-CM. Although there are inherent similarities between the two diagnostic classifications and between the two procedure classifications, there are also some differences. The differences have continually increased as updates to the ICD-9-CM are introduced by the United States annually. Differences also exist between various publications of ICD-9-CM. This mixture of standards across jurisdictions has presented some obstacles in compiling national databases and conducting inter-provincial comparisons. A single set of national standards eliminates these obstacles and reduces the inefficient resources spent on supporting two sets of standards.

This single set of national standards will accommodate

- a more comprehensive scope,
- improved national and international comparability,
- improved specificity,
- an ongoing maintenance process to reflect Canadian health care practices, plus
- an opportunity to improve health information through more effective code structure and presentation.

ICD-10-CA

More Comprehensive Scope

ICD-10-CA represents the broadest scope of any previous revision in Canada to date. ICD-10-CA is more comprehensive than current standards and extends well beyond the traditional causes of death and hospital admission. The expansion of content and specificity to conditions and situations that are not diseases are particularly relevant for use of the classification system outside the hospital setting. Examples include the capture of risk factors to health, such as lifestyle, life management, psychosocial circumstances, and the occupational or physical environment.

Such an expanded scope may attract new users to ICD-10-CA and may increase the number of databases in which the codes appear. This is important given the evolution of integrated health information systems.

Examples of subcategories provided in the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Canada for capture of risk factors to health are documented in the following Table.

Table 4:

ICD-10-CA Code	Code Title
Z56.3	Stressful work schedule
Z57.2	Occupational exposure to dust
Z57.7	Occupational exposure to vibration
Z58.1	Exposure to air pollution
Z58.2	Exposure to water pollution
Z59.1	Inadequate housing
Z63.0	Problems in relationship with spouse or partner
Z72.0	Tobacco use
Z72.3	Lack of physical exercise
Z72.4	Inappropriate diet and eating habits
Z73.0	Burn-out
Z73.2	Lack of relaxation and leisure

National and International Comparability

As a member state of WHO, Canada is governed by its nomenclature regulations, which make ICD-10 the international standard for reporting of illness and death. Of the G7 countries, Canada and United States were the only remaining countries to implement ICD-10. Canada's implementation of ICD-10-CA and development of equivalency tables to ICD-10 thus ensures internationally comparable data. The strict criteria used for the selection of enhancements ensures international comparability at the category level.

Improved Specificity

Because the current standards were developed for implementation in the late 1970s, their terminology and content continue to become less and less current. ICD-10-CA introduces both new terminology and new clinical concepts, giving it a higher level of clinical credibility and acceptance.

The increased specificity contributes to more relevant data for epidemiological research and decision-support purposes. Gains in the level of specificity also increase the sensitivity of the classification when making refinements in applications, such as grouping methodology.

Ongoing Maintenance Process

The ongoing maintenance of ICD-10-CA ensures clinical relevance and credibility.

Improved Health Information through More Effective Code Structure and Presentation

Structural changes introduced in ICD-10-CA will contribute to its effectiveness. Significant enhancements to the system's structure and presentation included an enlarged coding frame (i.e. more than double the number of available codes through the use of alphanumeric characters), hierarchic and logical presentation of codes, increased use of combination codes and improved format of the classification.

Adaptability, maintenance and updating are critical if a classification system is to be dynamic enough to be used in our rapidly changing world. Unlike previous revisions, ICD-10 allows for enhancements to accommodate newly discovered diseases, such as AIDS. WHO has established an ongoing maintenance and updating process that ensures input from member states, including Canada, as well as from interested professional bodies. In addition, there are plans to share updates internationally by means of the latest technology. This enhances the long-term viability of the classification system. At this time there are no plans for an eleventh revision of ICD because of the introduction of this maintenance and updating process.

Appendix A
Structure of ICD-10

Structure of ICD-10

Structurally, the ICD is divided into mutually-exclusive chapters. Since the classification is considered to be based on a single, variable axis, the content of the chapters is either based on disease/condition type (e.g. infectious and parasitic diseases; neoplasms; injuries and poisonings); disease site (e.g. diseases of the nervous system); or circumstances (e.g. pregnancy, childbirth and the puerperium; perinatal conditions). Refer to Table 1 for a listing of the ICD-10 chapters.

Table 1. Listing of the ICD-10 Chapters

Chapter	ICD-10
I	Certain infectious and parasitic diseases (A00–B99)
II	Neoplasms (C00–D49)
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D59)
IV	Endocrine, nutritional and metabolic diseases (E00–E99)
V	Mental and behavioural disorders (F00–F99)
VI	Diseases of the nervous system (G00–G99)
VII	Diseases of the eye and adnexa (H00–H59)
VIII	Diseases of the ear and mastoid process (H60–H99)
IX	Diseases of the circulatory system (I00–I99)
X	Diseases of the respiratory system (J00–J99)
XI	Diseases of the digestive system (K00–K99)
XII	Diseases of the skin and subcutaneous tissue (L00–L99)
XIII	Diseases of the musculoskeletal system and connective tissue (M00–M99)
XIV	Diseases of the genitourinary system (N00–N99)
XV	Pregnancy, childbirth and the puerperium (O00–O99)
XVI	Certain conditions originating in the perinatal period (P00–P99)
XVII	Congenital malformations, deformations, and chromosomal abnormalities (Q00–Q99)
XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)
XIX	Injury, poisoning and certain other consequences of external causes (S00–T99)
XX	External causes of morbidity and mortality (V00–Y99)
XXI	Factors influencing health status and contact with health services (Z00–Z99)

Each chapter is further subdivided: first into blocks; then into categories; and potentially subcategories. The blocks divide chapters into sections of similar content. For example the chapter for diseases of the circulatory system includes blocks for acute rheumatic fever; chronic rheumatic heart disease; hypertensive disease; ischaemic heart disease; diseases of pulmonary circulation; and other forms of heart disease.

The blocks are made up of varying numbers of three character categories. The categories may be assigned to a single disease entity (e.g. chronic renal failure) or to a group of similar entities (e.g. calculus of kidney and ureter). Where further specification or detail is deemed necessary, subcategories are assigned. The subcategories may provide finer detail as to the nature of the disease/condition or to its anatomic location (e.g. the localization of the calculus specifically to the kidney).

Table 2 illustrates some of these ICD-10 structural concepts.

Table 2. ICD-10 Structural Concepts

	ICD-10	
Chapter	Diseases of the Circulatory System (I00–I99)	
Block	<ul style="list-style-type: none"> • Acute rheumatic fever (I00–I02) • Chronic rheumatic heart diseases (I05–I09) • Hypertensive diseases (I10–I15) • Ischaemic heart diseases (I20–I25) • Pulmonary heart disease and diseases of pulmonary circulation (I26–I28) • Other forms of heart disease (I30–I52) • Cerebrovascular diseases (I60–I69) • Diseases of arteries, arterioles and capillaries (I70–I79) • Diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified (I80–I89) • Other and unspecified diseases of the circulatory system (I95–I99) 	
Three Digit Category (Rubric)	I24	Other acute ischaemic heart diseases
Four Digit Category (Subcategory)	I24.0	Coronary thrombosis not resulting in myocardial infarction
	I24.1	Dressler’s syndrome
	I24.8	Other forms of acute ischaemic heart disease
	I24.9	Acute ischaemic heart disease, unspecified

Although data might be aggregated for statistical or presentation purposes to the level of the chapter or the block, when utilizing the classification for coding, the most detailed category must be used. If there is a subcategory level the condition must be coded to that level.

Within the categories and subcategories there are usually lists of other diagnostic codes. These are the “inclusion terms” and are given as examples of some of the diagnostic statements, conditions or synonyms that may be classified to a particular code. The lists of inclusion terms are not exhaustive and coders are directed to refer to the Alphabetical

Index first for alternative names for diagnostic entities. The inclusion terms provide additional guidance that a particular condition has been classified correctly.

e.g. **I24.1 Dressler's syndrome**
Postmyocardial infarction syndrome

When there are general diagnostic descriptions common to a range of categories or subcategories they can be found at notes titled "*Includes*" immediately following a chapter, block or category title.

e.g. **I21 Acute myocardial infarction**
Includes: myocardial infarction specified as acute or with a stated duration of 4 weeks (28 days) or less from onset

Further, there may be "*Excludes*" terms that will direct the coder to a more appropriate category or subcategory depending on the circumstances of the case. The correct code is included in parentheses following each excluded term. When there are general exclusions common to a range of categories or subcategories they can be found at notes titled "*Excludes*" immediately following a chapter, block or category title.

e.g. **I24 Other acute ischaemic heart diseases**
Excludes: angina pectoris (I20.–)
transient myocardial ischaemia of newborn (P29.4)

or

I24.9 Acute ischaemic heart disease, unspecified
Excludes ischaemic heart disease (chronic) NOS (I25.9)

In ICD-10, the categories are represented by three characters. The first of these is an alpha character and it is followed by two numeric characters. This more than doubles the number of possible categories and permits some additional changes such as a more structured format to the range of codes assigned to each of the chapters.

Combination Codes

The ICD provides some categories where two or more conditions can be represented by a single code.

e.g. **I08 Multiple valve diseases**
I08.0 Disorders of both mitral and aortic valves
I08.1 Disorders of both mitral and tricuspid valves
I08.2 Disorders of both aortic and tricuspid valves
I08.3 Combined disorders of mitral, aortic and tricuspid valves
I08.9 Multiple valve disease, unspecified

Such codes succinctly define the reason for an encounter. In some cases comorbidity or complexity are built in. Combination codes will facilitate development of future grouping methodologies.

Dual Classification of Etiology and Manifestation (Dagger† and Asterisk*)

The ICD was originally intended for the collection of data on causes of death. It had an epidemiological or public health focus which meant that the primary axis of classification was generally that of the etiology, particularly for infectious or communicable diseases. As the ICD became used more frequently for morbidity data collection, there was more interest in the manifestation of diseases in body systems. That was in part because the manifestation represented the condition for which treatment was sought and this aligned more readily with physician specialty or institution service designations.

To satisfy the two information needs of etiology and the affected organ system, the ICD-9 introduced the concept of dual classification. This concept is referred to as the dagger/asterisk system because these symbols (†/*) are used to identify affected codes and conditions. The main focus of the ICD-9 continued to be on etiology and thus in any circumstances where the dual classification might be applied, the etiology/dagger code was considered the primary code. The manifestation/asterisk code was considered as optional supplementary information that could be collected to support alternative tabulation or analysis of the data collected. The asterisk code can never be used as the main condition.

On the CIHI discharge abstract, there was no provision for the collection of the †/* symbols from ICD-9 or for the linking of the dual codes from either ICD-9 or ICD-9-CM. The edits did, however, prohibit an asterisk code from being used as a Most Responsible Diagnosis (MRDx), thus eliminating the use of asterisk codes in assignment to a CMG™ for case mix analysis.

The ICD-10 has adopted the Dagger † and Asterisk * system and efforts are being made to clarify its use. Although this dual classification is optional, it is strongly recommended by WHO. Canada has recommended the implementation of this dual classification system on a mandatory basis.

The following excerpt illustrates the dagger and asterisk system:

- | | |
|---------------|--|
| M05.3† | Rheumatoid arthritis with involvement of other organs and systems
Rheumatoid: <ul style="list-style-type: none">• carditis (I52.8*)• endocarditis (I39.-*)• myocarditis (I41.8*)• myopathy (G73.7*)• pericarditis (I32.8*)• polyneuropathy (G63.6*) |
| 132.8* | Pericarditis in other diseases classified elsewhere
Pericarditis (in): <ul style="list-style-type: none">• rheumatoid (M05.3†)• systemic lupus erythematosus (M32.1†)• uraemic (N18.8†) |

In this example, if a patient had rheumatoid arthritis with pericarditis, the main diagnosis would be classified to M05.3 and I32.8 would be the secondary condition.

Postprocedural Conditions

Most body system chapters in ICD-10 also contain categories for conditions that occur as a consequence of specific procedures or techniques or as the result of the removal of an organ.

e.g. **I97.2** **Postmastectomy lymphoedema syndrome**

Postprocedural conditions may represent a natural consequence of surgery. They represent conditions which may require an encounter with the health care system in their own right.

Conventions Used in the Tabular List

In listing terms in the tabular list, the ICD uses some special conventions relating to the use of parentheses, square brackets, colons, braces, abbreviations, and some words. These need to be clearly understood by reviewers.

Parentheses ()

- Parentheses are used to enclose supplementary words, which may follow a term without affecting the code assignment. For example, in I10 the inclusion term, "Hypertension (arterial) (benign) (essential) (malignant) (primary) (systemic)", indicates that the code I10 is appropriate when the diagnostic statement of "Hypertension" is used alone or qualified by any, or any combination, of the words in parentheses.
- Parentheses are also used to enclose the code to which an exclusion term refers.

e.g. **I30** **Acute pericarditis**
Excludes rheumatic pericarditis (I01.0)

Square brackets []

- Square brackets are used to enclose synonyms, alternative words or explanatory phrases.

e.g. **I71.0** **Dissection of aorta [any part]**

Colon :

- A colon is used in listings of inclusion and exclusion terms when the words that precede it are not complete terms for assignment to that rubric. They require one or more of the modifiers or qualifiers indented under them.

e.g. **I25.3** **"Aneurysm of heart"**, the diagnosis "aneurysm" is to be classified there only if qualified by the words "mural" or "ventricular".

Brace }

- A brace is used in listings of inclusion and exclusion terms to indicate that neither the words that precede it or the words after it are complete. Any of the terms before the brace should be qualified by one or more of the terms that follow it.

e.g. **I24.0** **Coronary thrombosis** not resulting in myocardial infarction

Coronary (artery) (vein):

- Embolism
- Occlusion not resulting in myocardial infarction
- Thromboembolism

“NOS”

- These letters are an abbreviation for “not otherwise specified”, implying “unspecified” or “unqualified”.

“Not elsewhere classified”

- The words “not elsewhere classified” when used in three-character category titles, warn that certain specified variants of the condition may appear in other parts of the classification.

e.g. **I97** **Postprocedural disorders** of circulatory system, not elsewhere classified

This category includes several specified postprocedural conditions. Other categories may be provided in different chapters (eg. Chapter XX External Causes of Morbidity and Mortality).

“And” in titles

- “And” includes “and/or”.

e.g. **I66.0** **Occlusion and stenosis** of middle cerebral artery,are to be classified cases of “occlusion of middle cerebral artery”, “stenosis of middle cerebral artery” and “occlusion and stenosis of middle cerebral artery”.

Point dash .-

- In some cases, the fourth character of a subcategory code is replaced by a dash.

e.g. **I34** **Nonrheumatic mitral valve disorders**
Excludes: when specified as rheumatic (I05.-)

This indicates to the coder that a fourth character exists and should be applied from the appropriate category.

Appendix B

Enhancement Process Principles

Enhancement Process Principles

A set of criteria was developed to control the types of changes that were introduced into the Canadian modification of ICD-10 during Phase 1 of the Enhancement Process. In addition to the enhancement criteria, the following information was noted:

- Diagnosis codes should not reflect procedural information;
- Suggested changes may be in the form of terminology changes or additions rather than to the coding scheme itself;
- ICD-10-CM (Draft) has removed all references to mortality information (e.g. Code I46.1 Sudden cardiac death, so described has been deleted); and
- No changes to the classification will be considered in Phase 1 with respect to the codes for Dagger † / Asterisk * conditions.

Enhancement Criteria

The following criteria were used by the CIHI Project Team to determine which codes should be indicated/highlighted for possible change.

When reviewing the codes for possible enhancements the following criteria were considered:

1. Consistent with Purpose of Classification

*"The purpose of the ICD is to permit the systematic recording, analysis, interpretation and comparison of mortality and morbidity data collected in different countries or areas and at different times. The ICD is used to translate diagnoses of diseases and other health related problems from words into an alphanumeric code, which permits easy storage, retrieval and analysis of the data. **The ICD is neither intended nor suitable for indexing of distinct clinical entities.** There are also some constraints on the use of the ICD for studies of financial aspects, such as billing or resource allocation" (WHO, 1992, ICD-10 Volume 2, pg.2).*

- Enhancements may capture both morbidity and mortality related conditions: Note that ICD-10-CM (Draft) was developed specifically for the collection of U.S. morbidity data. Since the index was not available it was unclear how conditions related to mortality would be classified, i.e. Sudden Infant Death Syndrome (SIDS).
- Distinct clinical entities may be introduced if significant to the health of Canadians.

2. No Change to Structure/Presentation

The ICD is a variable-axis classification of which the Tenth Revision uses an alphanumeric code. The structure was developed from the scheme initially proposed by William Farr in the early days (1856) of international discussions on classification. For all practical, epidemiological purposes, he believed that statistical data on diseases should be grouped in the following way:

- epidemic diseases;
- constitutional or general diseases;

- local diseases arranged by site;
- developmental diseases; and
- injuries.

A statistical classification of diseases should retain the ability to both identify specific disease entities and allow for statistical presentation of data for broader groups.

Any enhancements to ICD-10 should be consistent with the current structure/ presentation of the classification. For further information on the basic structure and principles of ICD refer to Section 2.4 of Volume 2 of ICD-10.

The following structure rules also apply:

- Codes should not be relocated from one chapter to another;
- No codes will be deleted; however, appropriate codes can be de-activated by the use of guidelines and edits; and
- Codes that represent the etiology and manifestation concept (as indicated by the dagger † and asterisk * symbols) shall not be enhanced.

3. Consistent with WHO Rules and Guidelines

The WHO licensing agreement authorizes modifications of ICD-10 with clearly designated amendments, including:

- extensions at the fifth-character level or beyond; and
- the addition of three and four character codes, in a manner consistent with the existing classification, provided however that the addition of three and four character codes will only be affected when it is not feasible to achieve Canadian Government purposes through the use of extensions at the fifth character level and after consultation with WHO in order to consider alternative solutions.

While there is no formal agreement/requirement for international reporting of morbidity data, WHO recognizes the need to balance a broad classification for purposes of international comparison versus local needs within countries for increased specificity for purposes of utilization management, epidemiology and research uses.

No changes/enhancements should be made that affect the following:

- code titles;
- content and definition of existing three and four character codes;
- international comparisons of diagnostic information; and
- ability to compare data over time.

4. Scope

The ICD-10 represents the broadest scope of any ICD revision to date. It is more comprehensive than the current standards and extends well beyond the traditional causes of death and causes of hospitalization. However, recognizing that the ICD itself can never satisfy the needs of all users, WHO has situated the ICD-10 as the core of a family of health-related classifications. The family concept was developed to recognize that the ICD alone cannot respond to all the demands placed on a diagnosis classification. *“The ICD*

itself would thus meet the requirement for diagnostic information for general purposes, while a variety of other classifications would be used in conjunction with it and would deal either with different approaches to the same information or with different information." (WHO, 1992, ICD-10 Volume 1, pg. 1–2). Examples of these specialty applications or classifications include ICD-O-2 (International Classification of Diseases for Oncology, 2nd edition), **ICIDH-2** (International Classification of Functioning and Disability ICIDH-2 Beta 2 Version] World Health Organization, Geneva 1999) **now known as ICF** (International Classification of Functioning, Disability and Health, May 2001) and DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, 4th addition).

Note:

With reference to enhancements, very discrete partitions regarding histology of a specific cancer would not be included with ICD-10. Since ICD-10 was developed as part of a "family" of classifications, distinct codes for oncology are classified in the ICD-O-2. Similarly diagnosis codes reflecting procedures will not be added to ICD-10 as these will be available in the CCI.

5. Specificity/Clinical Meaningfulness

Increased specificity contributes to more relevant data for epidemiology, research and decision-support purposes. However, a statistical classification of diseases must be confined to a limited number of mutually exclusive categories able to encompass the whole range of morbid conditions. A specific disease entity that is of particular public importance or that occurs frequently should have its own category. Otherwise, categories will be assigned to groups of separate but related conditions (WHO, 1992, ICD-10 Volume 2, pg.12). Further information on the level of detail of a classification system and the difference between a nomenclature and a classification is available in Section 2.3 of Volume 2 of ICD-10.

Note:

Suggested enhancements for ICD-10 should demonstrate important detail that is clinically meaningful in Canada.

6. Current Clinical Credibility

Current clinical credibility refers to both terminology and content of the classification. Does the enhancement introduce new terminology and clinical concepts that give it a higher level of clinical credibility and acceptance to users? Current clinical credibility also refers to the addition of new diseases or manifestation of diseases (as occurred with AIDS in ICD-9).

Note:

An example of including current clinical credibility would be to introduce the term and appropriate code for necrotizing fasciitis. This condition is not listed in either the tabular list or the index of ICD-10.

7. Coding Guidelines, Inclusions and Indexing

It is not always necessary to create a new code to describe a disease entity. Consideration should be given to the use of inclusion terms and/or coding guidelines and to improving the index of ICD-10, where possible, rather than the creation of a new code. Adjectives or supplementary words describing a particular condition may be added to the index or the tabular list of ICD-10 in order to provide more guidance for the coder.

For example, a clinician may use the term “global” to more fully describe a myocardial infarction when he is recording in the patient chart. Rather than creating a new code or “splitting” a code already in existence, the term “global” could simply be added as an inclusion term at I21.2 Acute transmural myocardial infarction of other sites.

Likewise, to stay in keeping with WHO, it may be more beneficial to simply direct coders to “code also” specific conditions that are often diagnosed in tandem rather than creating a large number of new combination codes.

8. Administrative Use

A number of grouping methodologies are used for utilization management, funding and other administrative purposes. These grouping methodologies group patients with similar clinical and/or resource utilization characteristics and are typically based on diagnostic and intervention classifications. Where possible, consideration should be given to enhancements to ICD-10 that improve the validity of grouping methodologies.

An example may be to split one condition, such as diverticulitis, into two codes—diverticulitis with hemorrhage and diverticulitis without hemorrhage thus enabling each code to be assigned to a separate case mix group.

Appendix C

Expert Panel Assignment of Reviewers

The following table lists each chapter of ICD-10 and the expert panel member assigned to it. Each expert panel member was responsible for enlisting a minimum of 3 reviewers for each of their chapters.

Chapter	ICD-10 Title	Lead
I	Certain infectious and parasitic diseases (A00–B99)	Dr. C. van Walraven
II	Neoplasms (C00–D49)	Dr. J. Shepherd
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D59)	Dr. J. Shepherd
IV	Endocrine, nutritional and metabolic diseases (E00–E99)	Dr. S. Edworthy
V	Mental and behavioural disorders (F00–F99) (This chapter was significantly enhanced in ICD-10)	Not Reviewed
VI	Diseases of the nervous system (G00–G99)	Dr. C. van Walraven
VII	Diseases of the eye and adnexa (H00–H59)	CIHI to identify
VIII	Diseases of the ear and mastoid process (H60–H99)	Dr. R. Sauve
IX	Diseases of the circulatory system (I00–I99)	Dr. R. Davies
X	Diseases of the respiratory system (J00–J99)	Dr. R. Davies
XI	Diseases of the digestive system (K00–K99)	Dr. R. Stone
XII	Diseases of the skin and subcutaneous tissue (L00–L99)	Dr. S. Edworthy
XIII	Diseases of the musculoskeletal system and connective tissue (M00–M99)	Dr. S. Edworthy
XIV	Diseases of the genitourinary system (N00–N99)	Dr. J.M. Moutquin
XV	Pregnancy, childbirth and the puerperium (O00–O99)	Dr. J.M. Moutquin
XVI	Certain conditions originating in the perinatal period (P00–P99)	Dr. R. Sauve
XVII	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	Dr. R. Sauve
XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)	Dr. B. Bernstein
XIX	Injury, poisoning and certain other consequences of external causes (S00–T99)	National Trauma Registry Working Group
XX	External causes of morbidity and mortality (V00–Y99)	National Trauma Registry Expert Working Group
XXI	Factors influencing health status and contact with health services (Z00–Z99)	Dr. B. Bernstein

Appendix D
ICD-10 Expert Review Summary

ICD-10 Expert Review Summary

January 2000

Professional Group	# Recommended Reviewers	# Actual Reviewers	%
8 Expert Panel Members and Recommended Reviewers	81	70	86%
* 10 Canadian Societies / Associations	13	8	62%
Quebec Federation of Medical Specialists		17	
National Trauma Registry Advisory Committee		3	
**Health Record and other non-physician Health Care Professionals		34	
TOTAL		132	

* 10 Canadian Societies/Associations agreed to participate in the ICD-10 Enhancement process.

**Workbooks were forwarded to members of the National Trauma Registry Advisory Committee and ICD-10/CCI National Implementation Advisory Committee for distribution to reviewers of their choice. Committee members were not requested to inform CIHI of reviewer names; therefore, the percentage of participants for this Professional Group could not be calculated.

Appendix E

ICD-10 Enhancements
Summary of Major Changes

ICD-10 Enhancements—Summary of Major Changes

Chapter I—Certain Infectious and Parasitic Diseases

Category	Description	Enhancement
A05	Other bacterial foodborne intoxications	<ul style="list-style-type: none"> A05.8 was subdivided to identify foodborne vibrio vulnificus intoxication (A05.80) and other specified bacterial foodborne intoxications (A05.88)
A15	Respiratory tuberculosis, bacteriologically and histologically confirmed	<ul style="list-style-type: none"> A15 title was changed to Respiratory Tuberculosis A15.1–A15.3 code range was deleted The following code range had a change in title to omit bacteriologically and histologically confirmed: A15.4–A15.9
A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	<ul style="list-style-type: none"> A16 was deleted along with code range A16.0–A16.9
A18	Tuberculosis of other organs	<ul style="list-style-type: none"> A18.3 title was changed from Tuberculosis of intestines, peritoneum and mesenteric glands to Tuberculosis of intestines, peritoneum and mesenteric lymph nodes
A31	Infection due to other mycobacteria	<ul style="list-style-type: none"> A31.2 (Disseminated mycobacterium avium-intracellulare complex (DMAC) infection) was added
A41	Other septicaemia	<ul style="list-style-type: none"> A41.5 was subdivided to identify Septicaemia due to Escherichia coli [E. Coli] (A41.50), Pseudomonas (A41.51), Serratia (A41.52), other gram-negative organisms (A41.58) and Gram-negative septicaemia, unspecified (A41.59) A41.8 was subdivided to identify Septicaemia due to enterococcus (A41.80) and Other specified septicaemia (A41.88)

Chapter I—Certain Infectious and Parasitic Diseases

Category	Description	Enhancement
B20–B24	Human immunodeficiency virus (HIV) disease	<ul style="list-style-type: none"> • B20, B21, B22 and B23 were deleted. • B24 title was changed from Unspecified human immunodeficiency virus [HIV] disease to Human immunodeficiency virus [HIV] disease
B37	Candidiasis	<ul style="list-style-type: none"> • B37.8 was subdivided to identify Candidal esophagitis (B37.80), Candidal enteritis (B37.81), Candidal cheilitis (B37.82), Candidal otitis externa (B37.83) and Candidiasis of other sites (B37.88)
B95	Streptococcus and staphylococcus as the cause of diseases classified to other chapters	<ul style="list-style-type: none"> • B95.4 was subdivided to identify Streptococcus Group G (B95.40) and Other specified streptococcus (B95.48)
B96	Other bacterial agents as the cause of diseases classified to other chapters	<ul style="list-style-type: none"> • B96.8 was subdivided to identify Helicobacter pylori [H. pylori] (B96.80) and Other specified bacterial agents (B96.88)

Chapter II—Neoplasms

Category	Description	Enhancement
C30	Malignant neoplasm of nasal cavity and middle ear	<ul style="list-style-type: none"> C30.0 was subdivided to identify Vestibule of nose (C30.00) and Other parts of nasal cavity (C30.01)
C34	Malignant neoplasm of bronchus and lung	<ul style="list-style-type: none"> C34.0 (main bronchus), C34.1 (upper lobe), C34.3 (lower lobe), C34.8 (overlapping lesion) and C34.9 (bronchus or lung unspecified) were subdivided to identify laterality (0–right, 1–left, 9–unspecified side)
C41	Malignant neoplasm of bone and articular cartilage of other and unspecified sites	<ul style="list-style-type: none"> C41.0 was subdivided to identify malignant neoplasm of craniofacial bones (C41.00) and maxillofacial bones (C41.01)
C46	Kaposi’s sarcoma	<ul style="list-style-type: none"> C46.7 was subdivided to identify Kaposi’s sarcoma of gastrointestinal sites (C46.70), Kaposi’s sarcoma of lung (C46.71) and Kaposi’s sarcoma of other sites (C46.78)
C50	Malignant neoplasm of breast	<ul style="list-style-type: none"> Code range C50.0–C50.9 was subdivided to identify laterality (0–right, 1–left, 9–unspecified side)
C56	Malignant neoplasm of ovary	<ul style="list-style-type: none"> C56 was subdivided to identify unilateral (C56.0), bilateral (C56.1) and not specified (C56.9)
C57	Malignant neoplasm of other and unspecified female genital organs	<ul style="list-style-type: none"> C57.0 was subdivided to identify fallopian tube, unilateral (C57.00), bilateral (C57.01) and unspecified (C57.09)
C62	Malignant neoplasm of testis	<ul style="list-style-type: none"> C62.0 (undescended), C62.1 (descended) and C62.9 (unspecified) were subdivided to identify laterality (0–right, 1–left, 9–unspecified side)
C79	Secondary malignant neoplasm of other sites	<ul style="list-style-type: none"> C79.8 was subdivided to identify Secondary malignant neoplasm of breast (C79.80) and Secondary malignant neoplasm of other specified sites (C79.88)

Chapter II – Neoplasms

Category	Description	Enhancement
C84	Peripheral and cutaneous T-cell lymphomas	<ul style="list-style-type: none"> • C84.2 (T-zone lymphoma) was deleted • C84.3 (Lymphoepithelioid lymphoma) was deleted
C85	Other and unspecified types of non-Hodgkin's lymphoma	<ul style="list-style-type: none"> • C85.0 (Lymphosarcoma) was deleted
C88	Malignant immunoproliferative diseases	<ul style="list-style-type: none"> • C88.0 was subdivided to identify Waldenstrom's macroglobulinaemia (C88.00) and Other lymphoplasmacytic lymphoma (C88.08)
C90	Multiple myeloma and malignant plasma cell neoplasms	<ul style="list-style-type: none"> • C90.2 title was changed from Plasmacytoma, extramedullary to Plasmacytoma with 5th digits .0 (Plasmacytoma of bone) and .8 (Plasmacytoma of other tissue and extramedullary plasmacytoma as an inclusion term)
C91	Lymphoid leukaemia	<ul style="list-style-type: none"> • C91.2 (Subacute lymphocytic leukaemia) was deleted
C92	Myeloid leukaemia	<ul style="list-style-type: none"> • C92.2 (Subacute myeloid leukaemia) was deleted
C93	Monocytic leukaemia	<ul style="list-style-type: none"> • C93.2 (Subacute monocytic leukaemia) was deleted
C94	Other leukaemias of specified cell type	<ul style="list-style-type: none"> • C94.1 (Chronic erythraemia) was deleted • C94.4 (Acute panmyelosis) was deleted
C95	Leukaemia of unspecified cell type	<ul style="list-style-type: none"> • C95.2 (Subacute leukaemia of unspecified cell type) was deleted
D00	Carcinoma in situ of oral cavity, oesophagus and stomach	<ul style="list-style-type: none"> • D00.0 was subdivided to further identify carcinoma in situ of labial mucosa and vermilion border (D00.00), buccal mucosa (D00.01), gingiva and edentulous alveolar ridge (D00.02), soft palate (D00.03), hard palate (D00.04), floor of mouth (D00.05), tongue (D00.06), pharynx (D00.07) and oral cavity, unspecified (D00.09)

Chapter II—Neoplasms

Category	Description	Enhancement
D18	Haemangioma and lymphangioma, any site	<ul style="list-style-type: none"> D18.0 (Haemangioma, any site) was subdivided to further identify subcutaneous tissue (D18.00), intracranial structures (D18.01), hepatobiliary system (D18.02), digestive system (D18.03), ear, nose, mouth and throat (D18.04) other sites (D18.08) and unspecified site (D18.09)
D36	Benign neoplasm of other and unspecified sites	<ul style="list-style-type: none"> D36.1 (Peripheral nerves and autonomic nervous system) was subdivided to further identify face, head and neck (D36.10), upper limb, including shoulder (D36.11), lower limb, including hip (D36.12), thorax (D36.13), abdomen (D36.14), pelvis (D36.15), trunk, unspecified (D36.16), unspecified (D36.19)
D37	Neoplasm of uncertain or unknown behaviour of oral cavity and digestive organs	<ul style="list-style-type: none"> D37.0 was subdivided to identify lip (D37.01) and tongue (D37.02) D37.03 (Neoplasm of uncertain or unknown behaviour of the major salivary glands) was added and subdivided to identify parotid (D37.030), sublingual (D37.031), submandibular (D37.032) and unspecified (D37.039) D37.04 (Minor salivary glands), D37.05 (Pharynx) and D37.08 (Other specified sites of the oral cavity) were added

Chapter III—Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism

Category	Description	Enhancement
D68	Other coagulation defects	<ul style="list-style-type: none">• D68.8 was subdivided to identify Inherited hypercoagulable states (D68.80), Acquired hypercoagulable states (D68.81) and Other specified coagulation defects (D68.88)
D69	Purpura and other haemorrhagic conditions	<ul style="list-style-type: none">• D69.3 was subdivided to identify Evans' syndrome (D69.30) and Other idiopathic thrombocytopenic purpura (D69.38)
D70	Agranulocytosis	<ul style="list-style-type: none">• D70 was subdivided to identify Neutropenia (D70.0) and Other Agranulocytosis (D70.8)

Chapter IV – Endocrine, nutritional and metabolic diseases

Category	Description	Enhancement
E07	Other disorders of thyroid	<ul style="list-style-type: none">E07.8 was subdivided to identify Sick-euthyroid syndrome (E07.81) and Other specified disorders of thyroid (E07.88)
E83	Disorders of mineral metabolism	<ul style="list-style-type: none">E83.1 was subdivided to identify Haemochromatosis (E83.10), Other disorders of iron metabolism (E83.18) and Disorder of iron metabolism, unspecified (E83.19)
E86	Volume depletion	<ul style="list-style-type: none">E86 was subdivided to identify Dehydration (E86.0) and Other volume depletion (hypovolemia) (E86.8)

Chapter V—Mental and behavioural disorders

Because Chapter V was significantly enhanced in ICD-10, it was not reviewed at this time.

Chapter VI—Diseases of the nervous system

Category	Description	Enhancement
G47	Sleep disorders	<ul style="list-style-type: none"> G47.3 was subdivided to identify Sleep apnoea, obstructed (G47.30), Sleep apnoea, central (G47.31) and Other sleep apnoea (G47.38)
G56	Mononeuropathies of upper limb	<ul style="list-style-type: none"> G56.4 title was changed from Causalgia to Causalgia of upper limb
G57	Mononeuropathies of lower limb	<ul style="list-style-type: none"> G57.7 (Causalgia of lower limb) was added
G81	Hemiplegia	<ul style="list-style-type: none"> G81.0 (Flaccid hemiplegia) was subdivided to identify dominant (G81.00), non-dominant (G81.01) and unspecified [unilateral] side (G81.09) G81.1 (Spastic hemiplegia) was subdivided to identify dominant (G81.10), non-dominant (G81.11) and unspecified [unilateral] side (G81.19) G81.9 (Hemiplegia, unspecified) was subdivided to identify dominant (G81.90), non-dominant (G81.91) and unspecified [unilateral] (G81.99)
G82	Paraplegia and tetraplegia	<ul style="list-style-type: none"> G82.0 was subdivided to identify Flaccid paraplegia, complete (G82.01), incomplete (G82.02) and unspecified (G82.09) G82.01 was subdivided to identify cervical (G82.011), thoracic (G82.012) and lumbar or unspecified (G82.013) G82.02 was subdivided to identify cervical (G82.021), thoracic (G82.022) and lumbar or unspecified (G82.023) G82.09 was subdivided to identify cervical (G82.091), thoracic (G82.092) and lumbar or unspecified (G82.093)

Chapter VI—Diseases of the nervous system

Category	Description	Enhancement
G82	Paraplegia and tetraplegia	<ul style="list-style-type: none"> • G82.1 was subdivided to identify Spastic paraplegia complete (G82.11), incomplete (G82.12) and unspecified (G82.19) • G82.11 was subdivided to identify cervical (G82.111), thoracic (G82.112) and lumbar or unspecified (G82.113) • G82.12 was subdivided to identify cervical (G82.121), thoracic (G82.122) and lumbar or unspecified (G82.123) • G82.19 was subdivided to identify cervical (G82.191), thoracic (G82.192) and lumbar or unspecified G82.193) • G82.2 was subdivided to identify Paraplegia, unspecified type—complete (G82.21), incomplete (G82.22) and unspecified (G82.29) • G82.21 was subdivided to identify cervical (G82.211), thoracic (G82.212) and lumbar or unspecified (G82.213) • G82.22 was subdivided to identify cervical (G82.221), thoracic (G82.222) and lumbar or unspecified (G82.223) • G82.29 was subdivided to identify cervical (G82.291), thoracic (G82.292) and lumbar or unspecified (G82.293) • G82.3 was subdivided to identify Flaccid quadriplegia (tetraplegia)—complete (G82.31), incomplete (G82.32) and unspecified (G82.39) • G82.31, G82.32 and G82.39 were further subdivided to identify levels C1—C4 and C5—C7

Chapter VI—Diseases of the nervous system

Category	Description	Enhancement
G82	Paraplegia and tetraplegia	<ul style="list-style-type: none"> • G82.4 was subdivided to identify Spastic quadriplegia (tetraplegia)—complete (G82.41), incomplete (G82.42) and unspecified (G82.49) • G82.41, G82.42 and G82.49 were further subdivided to identify levels C1–C4 and C5–C7 • G82.5 was subdivided to identify Tetraplegia, unspecified—complete (G82.51), incomplete (G82.52) and unspecified (G82.59) • G82.51, G82.52 and G82.59 were further subdivided to identify levels C1–C4 and C5–C7
G83	Other paralytic syndromes	<ul style="list-style-type: none"> • G83.2 was subdivided to identify Monoplegia of upper limb on dominant side (G83.20), Monoplegia of upper limb on non-dominant side (G83.21) and Monoplegia of upper limb on unspecified [unilateral] side (G83.22) • New code added—G83.5 Locked-in state
G93	Other disorders of brain	<ul style="list-style-type: none"> • G93.8 was subdivided to identify Brain death (G93.81) and Other specified disorders of brain (G93.88)
G96	Other disorders of central nervous system	<ul style="list-style-type: none"> • G96.0 was subdivided to identify Cerebrospinal fluid rhinorrhea (leak) (G96.00), otorrhea (leak) (G96.01), leak within cranium (G96.02), Other cerebrospinal fluid leak (G96.08) and Cerebrospinal fluid leak NOS (G96.09)
G97	Postprocedural disorders of nervous system, not elsewhere classified	<ul style="list-style-type: none"> • G97.0 (Cerebrospinal fluid leak from spinal puncture) was deleted

Chapter VII—Eye and Adnexa

Category	Description	Enhancement
H25	Senile cataract	<ul style="list-style-type: none"> The following 5th digits were assigned to H25.0 (Senile incipient cataract), H25.1 (Senile nuclear cataract), H25.2 (Senile cataract, morgagnian type), H25.8 (Other senile cataract) and H25.9 (Senile cataract unspecified): 0–unilateral 1–bilateral 9–unspecified
H26	Other cataract	<ul style="list-style-type: none"> The following 5th digits were assigned to H26.0 (Infantile, juvenile and presenile cataract), H26.1 (Traumatic cataract), H26.2 (Complicated cataract), H26.3 (Drug-induced cataract), H26.4 (After-cataract), H26.8 (Other specified cataract) and H26.9 (Cataract, unspecified): 0–unilateral 1–bilateral 9–unspecified
H47	Other disorders of optic [2 nd] nerve and visual pathways	<ul style="list-style-type: none"> H47.2 was subdivided to identify Hereditary optic atrophy (H47.20), Other specified atrophy (H47.28) and Unspecified optic atrophy (H47.29)
H59	Postprocedural disorders of eye and adnexa, not elsewhere classified	<ul style="list-style-type: none"> 59.8 was subdivided to identify Cataract (lens) fragments in eye following cataract surgery (H59.80), Cystoid Macular oedema (H59.81) and Other postprocedural disorders of eye and adnexa (H59.88)

Chapter VIII—Diseases of the ear and mastoid process

No enhancements were recommended at this time.

Chapter IX—Diseases of the circulatory system

Category	Description	Enhancement
I10	Essential (primary) hypertension	<ul style="list-style-type: none"> I10 was subdivided to identify Benign hypertension (I10.0) and Malignant hypertension (I10.1)
I11–I13	Hypertensive heart and renal disease	<ul style="list-style-type: none"> 4th character extensions were deleted to allow for use of dual classification for added specificity.
I15	Secondary hypertension	<ul style="list-style-type: none"> The following 5th digits were assigned to I15.0 (Renovascular hypertension), I15.1 (Hypertension secondary to other renal disorders), I15.2 (Hypertension secondary to endocrine disorders), I15.8 (Other secondary hypertension), I15.9 (Secondary hypertension, unspecified): 0–Benign or unspecified 1–Malignant
I21	Acute myocardial infarction	<ul style="list-style-type: none"> I21.4 was subdivided to identify Acute subendocardial myocardial infarction, anterior wall (I21.40), Inferior wall (I21.41), Other sites (I21.42) and Unspecified site (I21.49)
I23	Certain current complications following acute myocardial infarction	<ul style="list-style-type: none"> I23.8 was subdivided to identify Papillary muscle dysfunction following acute myocardial infarction (I23.80), Pericarditis following acute myocardial infarction (I23.81), Postmyocardial infarction angina (within four weeks of past acute myocardial infarction (I23.82), Other complications following acute myocardial infarction (I23.88) and Current complications following acute myocardial infarction, unspecified (I23.89)

Chapter X—Diseases of the respiratory system

Category	Description	Enhancement
J38	Diseases of vocal cords and larynx, not elsewhere classified	<ul style="list-style-type: none"> J38.0 was subdivided to identify Paralysis of vocal cords and larynx, unilateral (J38.01), bilateral (J38.02) and unspecified (J38.09)
J45	Asthma	<ul style="list-style-type: none"> J45.0 (Predominantly allergic asthma), J45.1 (Nonallergic asthma), J45.8 (Mixed asthma) and J45.9 (Asthma, unspecified) were subdivided to identify without stated status asthmaticus (0) and with stated status asthmaticus (1)
J95	Postprocedural respiratory disorders, not elsewhere classified	<ul style="list-style-type: none"> J95.0 was subdivided to identify Hemorrhage from tracheostomy stoma (J95.00), Infection of tracheostomy stoma (J95.01), Malfunction of tracheostomy stoma (J95.02), Tracheo-esophageal fistula following tracheostomy (J95.03), Other specified tracheostomy complication (J95.08) and Unspecified tracheostomy complication (J95.09) J95.8 was subdivided to identify Post-procedural pneumothorax (J95.80) and Other post-procedural respiratory disorders (J95.88)
J98	Other respiratory disorders	<ul style="list-style-type: none"> J98.1 was subdivided to identify Atelectasis (J98.10), Other specified pulmonary collapse (J98.18) and Unspecified pulmonary collapse (J98.19)

Chapter XI—Diseases of the digestive system

Category	Description	Enhancement
K07	Dentofacial anomalies [including malocclusion]	<ul style="list-style-type: none"> • K07.0 was subdivided to identify Maxillary hyperplasia (maxillary macrognathism) (K07.00), Mandibular hyperplasia (mandibular macrognathism) (K07.01), Macrogenia (macrognathism: maxillary and mandibular) (K07.02), Maxillary hypoplasia (maxillary micrognathism) (K07.03), Mandibular hypoplasia (mandibular micrognathism) (K07.04), Microgenia (micrognathism: maxillary and mandibular) (K07.05), Other specified anomalies of jaw size (K07.08) and Anomaly of jaw size, unspecified (K07.09) • K07.1 was subdivided to identify Mandibular prognathism (K07.11), Maxillary prognathism (K07.12), Mandibular retrognathism (K07.13), Maxillary retrognathism (K07.14), Other specified anomalies (or asymmetry) of jaw-cranial base relationship (K07.18) and Anomaly of jaw-cranial base relationship, unspecified (K07.19) • K07.6 was subdivided to identify Temporomandibular joint (TMJ) disorders—Recurrent dislocation (K07.60), Articular disc disorder (K07.61), Extracapsular disorder (K07.62), Arthralgia (K07.63), Ankylosis (K07.64), Other disorders (K07.68) and unspecified (K07.69)

Chapter XI—Diseases of the digestive system

Category	Description	Enhancement
K08	Other disorders of teeth and supporting structures	<ul style="list-style-type: none"> K08.8 was subdivided to identify Maxillary alveolar ridge hyperplasia (K08.80), Mandibular alveolar ridge hyperplasia (K08.81), Maxillary alveolar ridge hypoplasia (K08.82), Mandibular alveolar ridge hypoplasia (K08.83), Toothache NOS (K08.87) and Other specified disorders of teeth and supporting structures (K08.88)
K80	Cholelithiasis	<ul style="list-style-type: none"> The following 5th digits were assigned to K80.0 (Calculus of gallbladder with acute cholecystitis), K80.1 (Calculus of gallbladder with other cholecystitis), K80.2 (Calculus of gallbladder without cholecystitis), K80.3 (Calculus of bile duct with cholangitis), K80.4 (Calculus of bile duct with cholecystitis), K80.5 (Calculus of bile duct without cholangitis or cholecystitis) and K80.8 (Other cholelithiasis): 0—without mention of obstruction 1—with obstruction
K91	Postprocedural disorders of digestive system, not elsewhere classified	<ul style="list-style-type: none"> K91.4 was subdivided to identify Colostomy hemorrhage (K91.40), Colostomy infection (K91.41), Other colostomy malfunction, NEC (K91.42), Enterostomy hemorrhage (K91.43), Enterostomy infection (K91.44), Other enterostomy malfunction, NEC (K91.45), and Colostomy and enterostomy malfunction, unspecified (K91.49) K91.6 was subdivided to identify Gastrostomy hemorrhage (K91.60), Gastrostomy infection (K91.61), Other gastrostomy malfunction, NEC (K91.62) and Gastrostomy malfunction, unspecified (K91.69)

Chapter XII—Diseases of the skin and subcutaneous tissue

Category	Description	Enhancement
L03	Cellulitis	<ul style="list-style-type: none"> • L03.0 was subdivided to identify Cellulitis of finger (L03.00) and toe (L03.01) • L03.1 was subdivided to identify Cellulitis of upper limb (L03.10) and lower limb (L03.11) • L03.3 was subdivided to identify Cellulitis of chest wall (L03.30), abdominal wall (L03.31), Umbilicus (L03.32), groin (L03.33), back [any part except buttock] (L03.34), buttock (L03.35), perineum (L03.36) and trunk, unspecified (L03.39)
L10	Pemphigus	<ul style="list-style-type: none"> • L10.8 was subdivided to identify Paraneoplastic pemphigus (L10.80) and Other pemphigus (L10.88)
L89	Decubitus ulcer	<ul style="list-style-type: none"> • L89 was expanded to identify Decubitus ulcer limited to erythema only [redness] without skin breakdown (Stage 1) (L89.0), limited to breakdown of skin (Stage 2) (L89.1), with fat layer exposed (Stage 3) (L89.2), with depth involving muscle (Stage 4) (L89.3), with depth involving bone (Stage 5) (L89.4), with joint space involvement (Stage 5) (L89.5), with necrosis involving muscle or bone (Stage X) (L89.8) and without mention of severity (L89.9)

Chapter XIII – Diseases of the musculoskeletal system and connective tissue

Category	Description	Enhancement
M02	Reactive arthropathies	<ul style="list-style-type: none"> M02.4 (Post streptococcal reactive arthritis [PSRA]) was added
M30	Polyarteritis nodosa and related conditions	<ul style="list-style-type: none"> M30.1 title Polyarteritis with lung involvement [Churg-Strauss] was changed to Allergic granulomatous angiitis
M31	Other necrotizing vasculopathies	<ul style="list-style-type: none"> M31.3 was subdivided to identify Wegener’s granulomatosis without mention of renal involvement (M31.30) and Wegener’s granulomatosis with renal involvement (M31.31)
M67	Other disorders of synovium and tendon	<ul style="list-style-type: none"> M67.1, M67.2, M67.3, M67.4, M67.8 and M67.9 were expanded with the following fifth digits to identify sites of involvement: 0–Multiple sites, 1–Shoulder region, 2–upper arm, 3–Forearm, 4–Hand, 5–Pelvic region and thigh, 6–Lower leg, 7–Ankle and foot, 8–Other, 9–Site unspecified
M79	Other soft tissue disorders, not elsewhere classified	<ul style="list-style-type: none"> M79.6 was subdivided to identify Pain in upper limb (M79.60), lower limb (M79.61) and unspecified limb (M79.69)
M93	Other osteochondropathies	<ul style="list-style-type: none"> M93.2 was subdivided to identify Osteochondritis dissecans Multiple sites (M93.20), Shoulder (M93.21), Elbow (M93.22), Wrist (M93.23), Hip (M93.24), Knee (patella) (M93.25), Ankle (talus) (M93.26), Other site (M93.28) and Unspecified site (M93.29)

Chapter XIV – Diseases of the genitourinary system

Category	Description	Enhancement
N26	Unspecified contracted kidney	<ul style="list-style-type: none"> N26 was subdivided to identify Atrophy of kidney (senile, terminal) (N26.0), Renal sclerosis NOS (N26.1) and Contracted kidney, unspecified (N26.9)
N28	Other disorders of kidney and ureter, not elsewhere classified	<ul style="list-style-type: none"> N28.8 was subdivided to identify Hypertrophy of kidney (N28.80), Megaloureter (N28.81), Nephroptosis (N28.82), Pyelitis cystica (N28.83), Pyeloureteritis cystica (N28.84), Ureteritis cystica (N28.85), Other specified disorders of kidney and ureter (N28.88)
N41	Inflammatory diseases of prostate	<ul style="list-style-type: none"> N41.4 (Granulomatous prostatitis) was added
N42	Other disorders of prostate	<ul style="list-style-type: none"> N42.8 was subdivided to identify Prostatodynia syndrome (N42.80) and Other specified disorders of prostate (N42.88)
N44	Torsion and noninflammatory disorders of testis	<ul style="list-style-type: none"> N44 was expanded to identify Torsion of appendix epididymis (N44.00), Extravaginal torsion of spermatic cord (N44.01), Torsion of appendix testis (N44.02) and Other torsion of testis (N44.08)
N45	Orchitis and epididymitis	<ul style="list-style-type: none"> N45.0 was subdivided to identify Epididymitis with abscess (N45.00), Orchitis with abscess (N45.01) and Epididymo-orchitis with abscess (N45.02) N45.9 was subdivided to identify Epididymitis (N45.90), Orchitis (N45.91) and Epididymo-orchitis (N45.92)
N46	Male infertility	<ul style="list-style-type: none"> N46 was expanded to identify Azoospermia (N46.0), Oligospermia (N46.1), Other male infertility (N46.8) and Unspecified male infertility (N46.9)

Chapter XIV – Diseases of the genitourinary system

Category	Description	Enhancement
N47	Redundant prepuce, phimosis and paraphimosis	<ul style="list-style-type: none"> Title was changed to Disorders of prepuce N47 was subdivided to identify Phimosis (N47.0), Paraphimosis (N47.1) and Other disorders of prepuce (N47.8)
N48	Other disorders of penis	<ul style="list-style-type: none"> N48.2 was subdivided to identify Abscess of penis (N48.20), Cellulitis of penis (N48.21) and Other inflammatory disorders of penis (N48.28)
N50	Other disorders of male genital organs	<ul style="list-style-type: none"> N50.1 was subdivided to identify Hematospermia (N50.10) and Other vascular disorders of male genital organs (N50.18)
N83	Noninflammatory disorders of ovary, fallopian tube and broad ligament	<ul style="list-style-type: none"> N83.5 was subdivided to identify Torsion of ovary and ovarian pedicle (N83.50), Torsion of fallopian tube (N83.51) and Torsion of ovary and ovarian pedicle with torsion of fallopian tube (N83.52)
N99	Postprocedural disorders of genitourinary system, not elsewhere classified	<ul style="list-style-type: none"> N99.5 was subdivided to identify Haemorrhage of external stoma of urinary tract (N99.50), Infection of external stoma of urinary tract (N99.51), Other malfunction of external stoma of urinary tract, NEC (N99.52), Complication of external stoma of urinary tract, unspecified (N99.59)

Chapter XV—Pregnancy, childbirth and the puerperium

Category	Description	Enhancement
008–099	From Complications following abortion and ectopic and molar pregnancy <u>to</u> Other maternal diseases classifiable elsewhere but complicating pregnancy, childbirth and the puerperium	<ul style="list-style-type: none"> Codes 008.0 to 099.8 were assigned a supplementary subclassification (at the end of the code) to identify the following, as appropriate: <ul style="list-style-type: none"> 1–delivered, with or without mention of antepartum condition 2–delivered, with mention of postpartum complication 3–antepartum condition or complication 4–postpartum condition or complication 9–unspecified as to episode of care
006	Unspecified abortion	<ul style="list-style-type: none"> 006 was deleted
007	Failed attempted abortion	<ul style="list-style-type: none"> Code range was deleted and replaced with 007.3 (Failed attempted abortion, complicated) and 007.4 (Failed attempted abortion, without complication)
014	Gestational [pregnancy-induced] hypertension with significant proteinuria	<ul style="list-style-type: none"> Code range was revised as follows: 014.001 (delivered, with or without mention of antepartum condition), 014.002 (delivered, with mention of postpartum complication), 014.003 (antepartum condition or complication), 014.004 (postpartum condition or complication), 014.009 unspecified as to episode of care, or not applicable)

Chapter XV—Pregnancy, childbirth and the puerperium

Category	Description	Enhancement
O24	Diabetes mellitus in pregnancy	<ul style="list-style-type: none"> Each code in range O24.0–O24.9 was subdivided to further identify Diabetes mellitus arising in pregnancy, adequately controlled with diet or oral agents (0), adequately controlled with insulin (1), inadequately controlled with diet or oral agents (and insulin not used to stabilize) (2), inadequately controlled with diet or oral agents but adequately controlled with insulin (3), inadequately controlled with insulin (4) and level of control unspecified (9)
O34	Maternal care for known or suspected abnormality of pelvic organs	<ul style="list-style-type: none"> O34.2 was subdivided to identify Uterine scar due to previous cesarean section (O34.20) and Uterine scar due to other and unspecified previous surgery (O34.29)
O35	Maternal care for known or suspected fetal abnormality and damage	<ul style="list-style-type: none"> O35.0 was subdivided to identify Maternal care for (suspected) fetal anencephaly (O35.00), spina bifida (O35.01), hydrocephalus (O35.2), fetal spina bifida with hydrocephalus (O35.03), other neural tube defects in fetus (O35.08) and central nervous system malformation in fetus, unspecified (O35.09)
O36	Maternal care for other known or suspected fetal problems	<ul style="list-style-type: none"> Each code in range O36.0–O36.9 was subdivided to further identify first trimester (1), second trimester (2), third trimester (3) and unspecified trimester (9)
O37	Maternal care for decreased fetal movements	<ul style="list-style-type: none"> New category added O37 was subdivided to identify Decreased fetal movements, second trimester (O37.02), third trimester (O37.03) and unspecified trimester (O37.09)

Chapter XV—Pregnancy, childbirth and the puerperium

Category	Description	Enhancement
O40	Polyhydramnios	<ul style="list-style-type: none"> O40 was subdivided to identify Polyhydramnios, first trimester (O40.01), second trimester (O40.02), third trimester (O40.03) and unspecified trimester (O40.09)
O41	Other disorders of amniotic fluid and membranes	<ul style="list-style-type: none"> O41.0, O41.1 and O41.8 were subdivided to identify first trimester (1), second trimester (2), third trimester (3) and unspecified trimester (9)
O42	Premature rupture of membranes	<ul style="list-style-type: none"> O42.0 was subdivided to identify Preterm premature rupture of membranes, onset of labour within 24 hours (O42.01), Full term premature rupture of membranes, onset of labour within 24 hours (O42.02) and Premature rupture of membranes, onset of labour within 24 hours, unspecified whether preterm or full term (O42.09) O42.1 was subdivided to identify Preterm premature rupture of membranes, onset of labour after 24 hours (O42.11), Full term premature rupture of membranes, onset of labour after 24 hours (O42.12) and Premature rupture of membranes, onset of labour after 24 hours, unspecified whether preterm or full term (O42.19)
O43	Placental disorders	<ul style="list-style-type: none"> O43.0 was subdivided to identify Fetomaternal transfusion syndromes (O43.00), Fetus to fetus transfusion syndromes (O43.01) and Unspecified placental transfusion syndrome (O43.09) O43.8 was subdivided to identify Placental dysfunction (O43.80), Placental infarction (O43.81) and Other specified placental disorder (O43.88)

Chapter XV—Pregnancy, childbirth and the puerperium

Category	Description	Enhancement
O45	Premature separation of placenta [abruptio placentae]	<ul style="list-style-type: none"> O45.0 was subdivided to identify Premature separation of placenta with afibrinogenemia (O45.00), with disseminated intravascular coagulation (O45.01), with other coagulation defect (O45.08) and with coagulation defect, unspecified (O45.09)
O46	Antepartum haemorrhage, not elsewhere classified	<ul style="list-style-type: none"> O46.0 was subdivided to identify Antepartum haemorrhage with afibrinogenaemia (O46.00), with disseminated intravascular coagulation (O46.01), with other coagulation defects (O46.08) and with coagulation defect, unspecified (O46.09)
O68	Labour and delivery complicated by fetal stress [distress]	<ul style="list-style-type: none"> O68.8 (Labour and delivery complicated by other evidence of fetal stress) and O68.9 (Labour and delivery complicated by fetal stress, unspecified) were deleted
O71	Other obstetric trauma	<ul style="list-style-type: none"> O71.0 was subdivided to identify Dehiscence (without extension) of old uterine scar before onset of labour (O71.00), Dehiscence of old uterine scar with extension before onset of labour (O71.01) and Other rupture of uterus before onset of labour (O71.08) O71.1 was subdivided to identify Dehiscence (without extension) of old uterine scar during labour (O71.10), Dehiscence of uterus with extension during labour (O71.11) and Other rupture of uterus during labour (O71.18)
O75	Other complications of labour and delivery, not elsewhere classified	<ul style="list-style-type: none"> O75.8 was subdivided to identify Preterm labour with delivery delayed by therapy (O75.80) and Other specified complications of labour & delivery (O75.88)

Chapter XVI—Certain conditions originating in the perinatal period

Category	Description	Enhancement
P05	Slow fetal growth and fetal malnutrition	<ul style="list-style-type: none"> • P05.0 (Light for gestational age) was deleted • P05.9 was subdivided to identify Symmetric intrauterine growth restriction [IUGR] (P05.90), Asymmetric intrauterine growth restriction [IUGR] (P05.91) and Unspecified intrauterine growth restriction [IUGR] (P05.99)
P13	Birth injury to skeleton	<ul style="list-style-type: none"> • P13.0 was subdivided to identify Linear skull fracture due to birth injury (P13.00), Depressed skull fracture due to birth injury (P13.01), Other/multiple skull fracture due to birth injury (P13.08) and Unspecified skull fracture due to birth injury (P13.09) • P13.3 was subdivided to identify Birth injury to humerus (P13.30) and Birth injury to other long bones (P13.38)
P20	Intrauterine hypoxia	<ul style="list-style-type: none"> • P20 Title was changed to Intrauterine asphyxia • Intrauterine hypoxia changed to Intrauterine asphyxia within P20.0, P20.1 and P20.9 code descriptions
P21	Birth asphyxia	<ul style="list-style-type: none"> • P21.0 (Severe birth asphyxia) and P21.1 (Mild and moderate birth asphyxia) were deleted • P21.9 title was change from Birth asphyxia, unspecified to Newborn asphyxia, unspecified
P26	Pulmonary haemorrhage originating in the perinatal period	<ul style="list-style-type: none"> • P26.1 (Massive pulmonary haemorrhage originating in the perinatal period) was deleted • P26.9 (Unspecified pulmonary haemorrhage originating in the perinatal period) was deleted

Chapter XVI— Certain conditions originating in the perinatal period

Category	Description	Enhancement
P51	Umbilical haemorrhage of newborn	<ul style="list-style-type: none"> P51 with P51.0 (Massive umbilical haemorrhage of newborn), P51.8 (Other umbilical haemorrhages of newborn) and P51.9 (Umbilical haemorrhage of newborn, unspecified) were deleted
P74	Other transitory neonatal electrolyte and metabolic disturbances	<ul style="list-style-type: none"> P74.2 was subdivided to identify Hyponatraemia of newborn (P74.20), Hypernatraemia of newborn (P74.21) and Unspecified disturbance of sodium balance of newborn (P74.29) P74.3 was subdivided to identify Hypokalaemia of newborn (P74.30), Hyperkalaemia of newborn (P74.31) and Unspecified disturbance of potassium balance of newborn (P74.39)
P78	Other perinatal digestive system disorders	<ul style="list-style-type: none"> P78.8 was subdivided to identify Congenital cirrhosis (of liver) (P78.80) and Other specified perinatal digestive system disorders (P78.88)
P91	Other disturbances of cerebral status of newborn	<ul style="list-style-type: none"> P91.8 was subdivided to identify Neonatal (cerebral) ventriculomegaly (P91.80) and Other specified disturbances of cerebral status of newborn (P91.88)

Chapter XVII— Congenital malformations, deformations and chromosomal abnormalities

Category	Description	Enhancement
Q20	Congenital malformations of cardiac chambers and connections	<ul style="list-style-type: none"> Q20.3 was subdivided to identify Transposition of great vessels [TGV]—Dextratransposition of aorta (Q20.30), Complete transposition of great vessels (Q20.31), Congenitally corrected transposition of great vessels (Q20.32) and Other transposition of great vessels NEC (Q20.38) Q20.5 was subdivided to identify Discordant atrioventricular connection with corrected transposition (Q20.50) and Discordant atrioventricular connection NEC (Q20.58)
Q27	Other congenital malformations of peripheral vascular system	<ul style="list-style-type: none"> Q27.3 was subdivided to identify Peripheral arteriovenous malformation of upper limb (Q27.30), lower limb (Q27.31), digestive system vessel (Q27.32), renal vessel (Q27.33) and other site (Q27.38)
Q32	Congenital malformations of trachea and bronchus	<ul style="list-style-type: none"> Q32.1 was subdivided to identify Congenital malformation of tracheal cartilage (Q32.10), Congenital atresia of trachea (Q32.11), Congenital stenosis of trachea (Q32.12), Congenital tracheocele (Q32.13) and Other specified congenital malformation of trachea (Q32.18)
Q35	Cleft palate	<ul style="list-style-type: none"> Q35.5 (Cleft hard palate with cleft soft palate, unilateral) and Q35.6 (Cleft palate, medial) were deleted
Q36	Cleft lip	<ul style="list-style-type: none"> Q36 remains; however, Q36.0 (Cleft lip, bilateral), Q36.1 (Cleft lip, medial) and Q36.9 (Cleft lip, unilateral) were deleted

Chapter XVII – Congenital malformations, deformations and chromosomal abnormalities

Category	Description	Enhancement
Q37	Cleft palate with cleft lip	<ul style="list-style-type: none"> Q37 remains; however, the code range Q37.0–Q37.9 was deleted
Q50	Congenital malformations of ovaries, fallopian tubes and broad ligaments	<ul style="list-style-type: none"> Q50.3 was subdivided to identify Accessory ovary (Q50.30), Ovarian streak (Q50.31) and Other congenital malformations of ovary (Q50.38)
Q55	Other congenital malformations of male genital organs	<ul style="list-style-type: none"> Q55.6 was subdivided to identify Hypoplasia of penis (Q55.60) and Other congenital malformations of penis (Q55.68)
Q62	Congenital obstructive defects of renal pelvis and congenital malformations of ureter	<ul style="list-style-type: none"> Q62.1 was subdivided to identify Atresia and stenosis or ureteropelvic junction (Q62.10), Atresia and stenosis of ureterovesical orifice (Q62.11) and Other atresia and stenosis of ureter (Q62.18)
Q64	Other congenital malformations of urinary system	<ul style="list-style-type: none"> Q64.1 was subdivided to identify Cloacal exstrophy of urinary bladder (Q64.10) and Other exstrophy of urinary bladder (Q64.18) Q64.3 was subdivided to identify Congenital bladder neck obstruction (Q64.30), Congenital stricture of urethra (Q64.31), Congenital stricture of urinary meatus (Q64.32) and Other congenital atresia and stenosis of urethra & bladder neck (Q64.38) Q64.7 was subdivided to identify Congenital urethrorectal fistula (Q64.70), Congenital double urethra (or urinary meatus) (Q64.71) and Other congenital malformations of bladder and urethra (Q64.78)

Chapter XVII— Congenital malformations, deformations and chromosomal abnormalities

Category	Description	Enhancement
Q76	Congenital malformations of spine and bony thorax	<ul style="list-style-type: none">• Q76.2 was subdivided to identify Congenital spondylolisthesis (Q76.20) and Congenital spondylolysis (Q76.21)

Chapter XVIII—Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified

Category	Description	Enhancement
R09	Other symptoms and signs involving the circulatory and respiratory systems	<ul style="list-style-type: none"> • R09.0 title was changed from Asphyxia to Asphyxia, unspecified
R10	Abdominal and pelvic pain	<ul style="list-style-type: none"> • R10.1 was subdivided to identify Right upper quadrant pain (R10.10), Left upper quadrant pain (R10.11), Epigastric pain (R10.12) and Upper abdominal pain, unspecified (R10.19) • R10.3 was subdivided to identify Right lower quadrant pain (R10.30), Left lower quadrant pain (R10.31), Periumbilical pain (R10.32) and Lower abdominal pain, unspecified (R10.39)
R11	Nausea and vomiting	<ul style="list-style-type: none"> • R11 was subdivided to identify Projectile vomiting (R11.0) and Other and unspecified nausea and vomiting (R11.8)
R13	Dysphagia	<ul style="list-style-type: none"> • R13 was subdivided to identify Oropharyngeal dysphagia (R13.0), Esophageal dysphagia (R13.2), Other and unspecified dysphagia (R13.8)

Chapter XVIII—Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified

Category	Description	Enhancement
R26	Abnormalities of gait and mobility	<ul style="list-style-type: none"> R26 was subdivided to identify Falling (R26.81), Unsteadiness (R26.82), Other and unspecified abnormalities of gait and mobility (R26.88)
R31	Unspecified haematuria	<ul style="list-style-type: none"> R31 was subdivided to identify Gross hematuria (R31.0), Microscopic hematuria (R31.1), Other and unspecified hematuria (R31.8)
R35	Polyuria	<ul style="list-style-type: none"> R35 was subdivided to identify Nocturia (R35.0), Other and unspecified polyuria (R35.8)
R39	Other symptoms and signs involving the urinary system	<ul style="list-style-type: none"> R39.1 was subdivided to identify Hesitancy of micturition (R39.10), Poor urinary stream (R39.11), Feeling of incomplete bladder emptying (R39.12), Urgency of micturition (R39.13), Dribbling of urine (R39.14), Other and unspecified difficulties of micturition (R39.18)
R40	Somnolence, stupor and coma	<ul style="list-style-type: none"> R40.2 (Coma, unspecified) was subdivided to identify Persistent vegetative state (R40.20) and Coma, unspecified (R40.29)
R41	Other symptoms and signs involving cognitive functions and awareness	<ul style="list-style-type: none"> R41.6 (Neurological neglect) was added R41.8 was subdivided to identify Transient alteration of awareness (R41.80), Other and unspecified symptoms and signs involving cognitive functions and awareness (R41.88)
R46	Symptoms and signs involving appearance and behaviour	<ul style="list-style-type: none"> R46.8 was subdivided to identify Obsessive-compulsive behaviour (R46.80), Other symptoms and signs involving appearance and behaviour (R46.88)

Chapter XIX—Injury, poisoning and certain other consequences of external causes

The level of detail in Chapter XIX meets or exceeds what appears in ICD-9-CM.
For example,

Category	Description	Enhancement
S06	Intracranial injury	<ul style="list-style-type: none"> • S06.7 (Intracranial injury with prolonged coma) was deleted • The following 5th digits were assigned to S06.00–S06.91: <ul style="list-style-type: none"> 0–without loss of consciousness 1–with brief loss of consciousness 2–with moderate loss of consciousness 3–with prolonged loss of consciousness with return to pre-existing level of consciousness 4–with prolonged loss of consciousness without return to pre-existing level of consciousness 9–with loss of consciousness of unspecified duration • The following 6th digits were assigned to the S06.0–S06.9 code range: <ul style="list-style-type: none"> 0–without open intracranial wound 1–with open intracranial wound

Chapter XIX—Injury, poisoning and certain other consequences of external causes

The level of detail in Chapter XIX meets or exceeds what appears in ICD-9-CM.
For example,

Category	Description	Enhancement
S72	Fracture of femur	<ul style="list-style-type: none"> • The following 6th digits were assigned to S72.0–S72.9: 0–closed 1–open • S72.0 was subdivided to identify Fractures of upper femoral epiphysis (separation) (S72.00), Fractures of base of femoral neck (cervicotrochanteric) (S72.01), Other fracture of femoral neck (S72.08) and Unspecified fracture of neck of femur (S72.09) • S72.1 was subdivided to identify Intertrochanteric fracture (S72.10) and unspecified trochanteric fracture (S72.19) • S72.4 was subdivided to identify Fracture of lower femoral epiphysis (separation) (S72.40), Condylar fracture of femur (S72.41), Supracondylar fracture of femur (S72.42) and Unspecified fracture of lower (distal) end of femur (S72.49)

Chapter XIX—Injury, poisoning and certain other consequences of external causes

The organ injury codes were expanded according to the American Injury Scale (AIS) for trauma registry. An example of this expansion appears in S36.

Category	Description	Enhancement
S36	Injury of intra-abdominal organs	<ul style="list-style-type: none"> • 5th digits were assigned to the following organs: <ul style="list-style-type: none"> .00–spleen .01–liver or gallbladder .02–pancreas .03–stomach .04–small intestine .05–colon .06–rectum .07–multiple intra-abdominal organs .08–other intra-abdominal organs .09–unspecified intra-abdominal organ to identify haematoma, laceration and other kinds of vascular injury • The following 6th digits were then assigned as an additional level of detail: <ul style="list-style-type: none"> 0–without open wound into cavity 1–with open wound into cavity

Chapter XX—External causes of morbidity and mortality

Category	Description	Enhancement
V86	Occupant of special all-terrain or other motor vehicle designed primarily for off-road use, injured in transport accident	<ul style="list-style-type: none"> • V86.0 was subdivided to identify Driver of snowmobile injured in traffic accident (V86.00) and Driver of other all-terrain or other off road motor vehicle injured in traffic accident (V86.08) • V86.1 was subdivided to identify Passenger of snowmobile injured in traffic accident (V86.10) and Passenger of other all-terrain or other off road motor vehicle injured in traffic accident (V86.18) • V86.3 was subdivided to identify Unspecified occupant of snowmobile injured in traffic accident (V86.30) and Unspecified occupant of other all-terrain or other off road motor vehicle injured in traffic accident (V86.38) • V86.5 was subdivided to identify Driver of snowmobile injured in nontraffic land accident (V86.50), Driver of snowmobile injured in nontraffic accident, falling through ice (V86.51) and Driver of other all-terrain or other off road motor vehicle injured in nontraffic accident (V86.58) • V86.6 was subdivided to identify Passenger of snowmobile injured in nontraffic land accident (V86.60), Passenger of snowmobile injured in nontraffic accident, falling through ice (V86.61) and Passenger of other all-terrain or other off road motor vehicle injured in nontraffic accident (V86.68)

Chapter XX—External causes of morbidity and mortality

Category	Description	Enhancement
V86	Occupant of special all-terrain or other motor vehicle designed primarily for off-road use, injured in transport accident	<ul style="list-style-type: none"> V86.9 was subdivided to identify Unspecified occupant of snowmobile injured in nontraffic land accident (V86.90), snowmobile injured in nontraffic accident, falling through ice (V86.91) and of other all-terrain or other off road motor vehicle injured in nontraffic accident (V86.98)
W02	Fall involving ice-skates, skis, roller-skates or skateboards	<ul style="list-style-type: none"> W02 title was changed to Fall involving skates, skis, sport boards and rollerblades W02 was expanded with 5th digits to identify Fall involving ice skates (W02.00), skis (W02.01), roller skates/rollerblades (W02.02), skateboards (W02.03), snowboards (W02.04) and Fall other specified (W02.08)
W05	Fall involving wheelchair	<ul style="list-style-type: none"> W05 title was changed to Fall involving wheelchair and other types of walking devices W05 was expanded with 5th digits to identify Fall involving wheelchair (W05.00), adult walker (W05.01), baby walker (W05.02), stroller/carriage (W05.03), other specified walking devices (W05.08) and unspecified walking devices (W05.09)
W21	Striking against or struck by sports equipment	<ul style="list-style-type: none"> W21 was expanded with 5th digits to identify Striking against or struck by ball (W21.00), bat (W21.01), hockey stick (W21.02), hockey puck (W21.03), other specified sport equipment (W21.08) and other unspecified sport equipment (W21.09)

Chapter XX—External causes of morbidity and mortality

Category	Description	Enhancement
W22	Striking against or struck by other objects	<ul style="list-style-type: none"> W22 was expanded with 5th digits to identify Striking against or struck by/while skiing/snowboarding (W22.00), while tobogganing (W22.01), by/playing hockey (W22.02), by/playing football/rugby (W22.03), by/playing soccer (W22.04), by/playing baseball (W22.05), by/in other sports/recreation (W22.07), by/in non-sports (W22.08) and by unspecified (W22.09)
W34	Discharge from other and unspecified firearms	<ul style="list-style-type: none"> W34 was expanded with 5th digits to identify Discharge from BB gun (W34.00), air gun (W34.01), other specified firearm (W34.08) and unspecified firearm (W34.09)
W51	Striking against or bumped into by another person	<ul style="list-style-type: none"> W51 was expanded with 5th digits to identify Striking against or bumped into by another person in skiing/snowboarding (W51.00), tobogganing (W51.01), hockey (W51.02), football/rugby (W51.03), soccer (W51.04), baseball (W51.05), other sports/recreation (W51.07), non-sports (W51.08) and unspecified person (W51.09)
X37	Victim of cataclysmic storm	<ul style="list-style-type: none"> X37 was expanded with 5th digits to identify Victim of snow/ice storm (X37.00), hurricane/tropical storm (X37.01), tornado (X37.02), other specified storm (X37.08) and unspecified storm (X37.09)
X74	Intentional self-harm by other and unspecified firearm discharge	<ul style="list-style-type: none"> X74 was expanded with 5th digits to identify Intentional self-harm by BB gun (X74.00), air gun (X74.01), other specified firearm (X74.08) and unspecified firearm (X74.09)

Chapter XX—External causes of morbidity and mortality

Category	Description	Enhancement
X95	Assault by other and unspecified firearm discharge	<ul style="list-style-type: none">• X95 was expanded with 5th digits to identify Assault by BB gun (X95.00), air gun (X95.01), other specified firearm (X95.08) and unspecified firearm (X95.09)
Y24	Other and unspecified firearm discharge, undetermined intent	<ul style="list-style-type: none">• Y24 was expanded with 5th digits to identify undetermined intent—BB gun (Y24.00), Air gun (Y24.01), Other specified firearm (Y24.08), Unspecified firearm (Y24.09)

Chapter XXI—Factors influencing health status and contact with health services

Category	Description	Enhancement
Z02	Examination and encounter for administrative purposes	<ul style="list-style-type: none"> • Z02.4 was subdivided to identify Examination for driving licence (Z02.40), flying/pilot licence (Z02.41) and other transport licence (Z02.48) • Z02.8 was subdivided to identify Encounter for paternity testing (Z02.80), adoption services (Z02.81) and other administrative examinations (Z02.88)
Z04	Examination and observation for other reasons	<ul style="list-style-type: none"> • Z04.5 was subdivided to identify Examination and observation following alleged adult sexual and physical abuse (Z04.50), alleged child sexual and physical abuse (Z04.51) and other inflicted injury (Z04.58)
Z22	Carrier of infectious disease	<ul style="list-style-type: none"> • Z22.5 was subdivided to identify Carrier of viral hepatitis B (Z22.50), Carrier of viral hepatitis C (Z22.51) and Carrier of other viral hepatitis (Z22.58)
Z37	Outcome of delivery	<ul style="list-style-type: none"> • Z37.5 was subdivided to identify Triplets, all liveborn (Z37.50), Quadruplets, all liveborn (Z37.51), Quintuplets, all liveborn (Z37.52), Sextuplets, all liveborn (Z37.53), Other multiple births, all liveborn (Z37.58) and Multiple births, unspecified, all liveborn (Z37.59) • Z37.6 was subdivided to identify Triplets, some liveborn (Z37.60), Quadruplets, some liveborn (Z37.61), Quintuplets, some liveborn (Z37.62), Sextuplets, some liveborn (Z37.63), Other multiple births, some liveborn (Z37.68) and Multiple births, unspecified, some liveborn (Z37.69)

Chapter XXI—Factors influencing health status and contact with health services

Category	Description	Enhancement
Z37	Outcome of delivery	<ul style="list-style-type: none"> • Z37.7 was subdivided to identify Triplets, all stillborn (Z37.70), Quadruplets, all stillborn (Z37.71), Quintuplets, all stillborn (Z37.72), Sextuplets, all stillborn (Z37.73), Other multiple births, all stillborn (Z37.78) and Multiple births, unspecified, all stillborn (Z37.79) • Z37.9 was subdivided to identify Multiple births NOS (Z37.90) and Single birth NOS (Z37.91)
Z38	Liveborn infants according to place of birth	<ul style="list-style-type: none"> • Z38.0 was subdivided to identify Singleton, born in hospital, delivered vaginally (Z38.00) and Singleton, born in hospital, delivered by caesarean (Z38.01) • Z38.3 was subdivided to identify Twin, born in hospital, delivered vaginally (Z38.30) and Twin, born in hospital, delivery by caesarean (Z38.31) • Z38.6 was subdivided to identify Triplet, born in hospital, delivered vaginally (Z38.60), Triplet, born in hospital, delivered by caesarean (Z38.61), Quadruplet, born in hospital, delivered vaginally (Z38.62), Quadruplet, born in hospital, delivered by caesarean (Z38.63), Quintuplet, born in hospital, delivered vaginally (Z38.64), Quintuplet, born in hospital, delivered by caesarean (Z38.65), Sextuplet, born in hospital, delivered vaginally (Z38.66), Sextuplet, born in hospital, delivered by caesarean (Z38.67), Other multiple birth, born in hospital, delivered vaginally (Z38.68) and Other multiple birth, born in hospital, delivered by caesarean (Z38.69)

Chapter XXI—Factors influencing health status and contact with health services

Category	Description	Enhancement
Z40	Prophylactic surgery	<ul style="list-style-type: none"> Z40.0 was subdivided to identify Prophylactic removal of breast (Z40.00), ovary (Z40.01) and other organ (Z40.08)
Z76	Persons encountering health services in other circumstances	<ul style="list-style-type: none"> Z76.8 was subdivided to identify Organ donor transplant candidate (Z76.80) and Persons encountering health services in other specified circumstances (Z76.88)
Z80	Family history of malignant neoplasm	<ul style="list-style-type: none"> Z80.4 was subdivided to identify Family history of malignant neoplasm of ovary (Z80.40), malignant neoplasm of prostate (Z80.41) and malignant neoplasm of other genital organs (Z80.48)
Z86	Personal history of certain other diseases	<ul style="list-style-type: none"> Z86.4 was subdivided to identify Personal history of alcohol abuse (Z86.40), drug abuse (Z86.41), tobacco use (Z86.42) and other psychoactive substance abuse (Z86.48) Z86.7 was subdivided to identify Personal history of thromboembolic disease (Z86.70) and other diseases of the circulatory system (Z86.78)
Z87	Personal history of other diseases and conditions	<ul style="list-style-type: none"> Z87.1 was subdivided to identify Personal history of peptic ulcer disease (Z87.10), colonic polyps (Z87.11) and other diseases of the digestive system (Z87.18)
Z92	Personal history of medical treatment	<ul style="list-style-type: none"> Z92.2 was subdivided to identify Personal history of long-term (current) use of antibiotics (Z92.20), postmenopausal hormone replacement therapy (Z92.21), multiple prescription drugs [polypharmacy] (Z92.22) and drug therapy (Z92.28)

Chapter XXI—Factors influencing health status and contact with health services

Category	Description	Enhancement
Z94	Transplanted organ and tissue status	<ul style="list-style-type: none"> • Z94.8 was subdivided to identify Other transplanted organ and tissue status - Bone Marrow transplant status (Z94.80), Intestine transplant status (Z94.81), Pancreas transplant status (Z94.82) and Other transplanted organ and tissue status (Z94.88)
Z96	Presence of other functional implants	<ul style="list-style-type: none"> • Z96.6 was subdivided to identify the Presence of orthopaedic joint implants—Presence of artificial hip (Z96.60), artificial knee (Z96.61), other orthopaedic joint implants (Z96.68) and orthopaedic joint implants unspecified (Z96.69)

Appendix F

**National Implementation
Advisory Committee (NIAC)**

National Implementation Advisory Committee (NIAC)

NIAC was established in 1997 by CIHI to coordinate federal, provincial and territorial implementation plans for CCI and ICD-10-CA. The Committee is composed of a representative from each provincial and territorial Ministry or Department of Health, Statistics Canada, Health Canada and CIHI. The following present and past members have contributed their valuable time and input to the national implementation of CCI and ICD-10-CA:

Bev Dickie,	Newfoundland
Danna Dobson,	Ontario
Joanne Fairlie,	Yukon
Michael Flood,	New Brunswick
Barbara Harvie,	Nova Scotia
Jean Houde,	Quebec
Marilyn Hurrell,	Northwest Territories
Florence Landygo,	Manitoba
Andrew Langford,	Northwest Territories
Dr. Don Ling,	Prince Edward Island
Jean Mercier,	Quebec
Linda Miller,	Alberta
Cyril Nair,	Statistics Canada
Francois Nault,	Statistics Canada
Valerie Phillips,	Saskatchewan
Dr. Maks Rahman,	Health Canada
Julene Reimer,	Manitoba
Catherine Ryan,	Newfoundland
Dr. Alan Thomson,	British Columbia
Cathie Wicks,	Newfoundland
Russell Wilkins,	Statistics Canada
Sheri Wright,	Yukon

Terms of Reference

Purpose

To co-ordinate and integrate federal, provincial and territorial implementation plans and activities with those at CIHI. To provide advice to CIHI about the interests and concerns of external stakeholders.

Membership

The from each Provincial and Territorial Ministry or Department of Health (or other appropriate National ICD-10/CCI Implementation Advisory Committee will be composed of a representative Ministry) who has the authority and knowledge to make implementation decisions for their jurisdiction. Membership will also include representatives from Statistics Canada and Health Canada and may include other relevant external stake holders. CIHI will provide a Chair and support to the committee.

The implementation of the new standards is a national initiative. Members of this Committee represent their jurisdiction for the implementation. The National ICD-10/CCI Implementation Advisory Committee, as represented in *The Management Framework for the Implementation of ICD-10/CCI in Canada and at CIHI*, is ultimately accountable to the CIHI Board of Directors and the Conference of Deputy Ministers of Health and Chief Statistician.

Responsibilities

The Committee will:

- assist CIHI to facilitate the development of plans for the implementation of ICD-10/CCI in each province/territory and at Statistics Canada and Health Canada;
- co-ordinate and integrate the implementation activities of the federal, provincial and territorial governments with those at CIHI;
- report on the implementation activities of the federal, provincial and territorial governments;
- provide advice about the interests and concerns of the federal, provincial and territorial governments; and
- assist CIHI to communicate information about implementation activities at CIHI to each jurisdiction.

Terms of Office

Representatives should be willing to serve through the duration of the implementation.

Meetings

Two meetings per year will be scheduled at the offices of CIHI. Additional meetings via teleconference will be arranged as required. Members will be responsible for their travel and meeting expenses.

Appendix G

Expert Advisory Panel

Expert Advisory Panel

This group was given the mandate to provide advise on the ICD-10 Canadian enhancement process, select clinical reviewers and to assist CIHI in the review, analysis and final decisions for enhancements. Working under very tight time constraints, these individuals command our gratitude for their practical guidance.

Robert Bernstein, M.D.	Family Medicine, Ottawa, ON
Ross Davies, M.D.	Cardiology, Ottawa, ON
Steven Edworthy, M.D.	Internal Medicine and Rheumatology, Calgary, AB
Bryan Garber, M.D.	General Surgery, Ottawa ON
Jean-Marie Moutquin, M.D.	Obstetrics and Gynecology, Sherbrooke, QC
Reginald Sauve, M.D.	Neonatology, Calgary, AB
John Shepherd, M.D.	Internal Medicine, Hematology, Oncology, Vancouver, BC
Carl van Walraven, M.D.	Internal Medicine, Ottawa ON

Terms of Reference

Purpose

To advise on initial enhancements to ICD-10 for use in Canada beginning April 1, 2001; as well as, the ongoing maintenance process.

Membership

The Expert Panel, which will be supported by CIHI staff, will be composed of 6 to 8 members made up of respected physicians with research, teaching and/or clinical responsibilities.

The Expert Panel should reflect the following expertise:

- knowledge of classifications, including ICD-10;
- knowledge of health information and its uses;
- expertise with standards setting development/implementation processes; and
- ability to evaluate the impact of changes to the classification for users.

Responsibilities

1. To review and modify, if necessary, the Phase I enhancement process of ICD-10 for use in Canada.
2. To identify appropriate consultative individuals/groups for the enhancement of ICD-10 for use in Canada beginning April 1, 2001.
3. To provide advice to CIHI on the development of enhancements to ICD-10 for use in Canada beginning April 1, 2001.
4. To provide advice on the ongoing maintenance process in Phase II.

Accountability

The Expert Panel will be accountable to CIHI. CIHI will be responsible for providing regular progress reports to the National ICD-10/CCI Implementation Advisory Committee on the work of the Expert Panel.

Appendix H

National ICD-10 Modification Advisory Task Force

National ICD-10 Modification Advisory Task Force

Terms of Reference

Purpose

To recommend initial enhancements, if necessary, to ICD-10 for use in Canada beginning April 1, 2000.

Membership

The Task Force, which will be supported by CIHI staff, will be composed of 6 to 8 members representing:

- selected geographical regions in Canada;
- selected experts from the field; and
- CIHI.

The Task Force should reflect the following expertise:

- knowledge of classifications, including ICD-10;
- knowledge of health information and its uses;
- knowledge of coding standards and guidelines;
- clinical expertise;
- expertise with standard setting development / implementation process; and
- ability to evaluate the impact of changes to the classification for users.

Responsibilities

1. To define the process, including criteria, for assessing the need for enhancements to ICD-10 for use in Canada.
2. To evaluate the findings of the study report titled, *Comparison of ICD-10, ICD-10-AM and ICD-10-CM*.
3. To conduct further evaluation of ICD-10, ICD-10-AM and ICD-10-CM as required.
4. To recommend whether ICD-10 needs to be enhanced for use in Canada and if so, recommend the changes for April 1, 2000.

Deliverable

A final report is to be submitted to the National ICD-10/CCI Implementation Advisory Committee by October 31, 1998.

Term of Office

Members will be asked to serve for approximately 2 months beginning in August, 1998.

National ICD-10 Modification Task Force Membership

- Sandra Cotton, Newfoundland & Labrador Centre for Health Information
- Dr. Steven Edworthy, Faculty of Medicine, University of Calgary, Alberta
- Christine Fitzgerald, Canadian Institute for Health Information
- Dr. David MacLean, Dept. of Community Health & Epidemiology, Dalhousie University
- Dr. Alan Thomson, Planning, Evaluation & Project Management Group, British Columbia Ministry of Health
- Dr. Pierre Tousignant, Direction de a sante publique
- Dr. Carl Vanwalraven, Department of Medicine, University of Ottawa, Clinical Epidemiology Unit, Loeb Research Institute and Institute for Clinical Evaluative Sciences, Ontario

Appendix I

Advisory Group—ICD-10 Evaluation

Advisory Group—ICD-10 Evaluation

Members

CIHI Board:	Ms. Sue Emmons (Chair) Assistant Administrator Hamilton Civic Hospitals Henderson General Division Hamilton, ON
British Columbia:	Dr. Alan Thomson Medical Consultant Ministry of Health Victoria, BC
Alberta:	Dr. Nandini Pillai Kuehn Project Director Acute Care Funding Plan Alberta Health Edmonton, AB
Manitoba:	Dr. Cam Mustard Research Associate Manitoba Centre for Health Policy & Evaluation Winnipeg, MB
Ontario:	Dr. Greg Robinson Metro Toronto DHC Toronto, ON
Nova Scotia:	Mr. Dan Rice Provincial Coordinator Strategic Technologies Department of Health Halifax, NS
Statistics Canada:	Ms. Janet Hagey Director, Health Statistics Division Statistics Canada Ottawa, ON

Advisory Group—ICD-10 Evaluation

Project Team Members & Roles

Christine Fitzgerald,
Director, New Product Development

- responsible for overall study
- directs study
- directs work of project team
- liaison to Senior Vice-President, Product & Service development
- ensures coordination with other related CIHI initiatives

Jennifer Zelmer,
Team Consultant

- develops draft work plan
- information gathering from provinces and other stakeholders
- develops provincial profiles (relevant to this project)
- prepares final report

Elizabeth Taylor,
Manager, Nosology Program

- manages work plan
- manages work of Team Consultant related to study
- provides subject matter input
- ensures relevant CIHI staff consulted and involved at key milestones
- international liaison

Joady Murry,
PCR Project Consultant

- provides subject matter input
- provides coordination with PCR Project

Terms of Reference

Membership: Chair (CIHI Board Member);
Individuals (5) from a variety of backgrounds representing several
Geographic regions across Canada;
Representation from Statistics Canada; and
CIHI staff

Meetings: Minimum of three meetings during 1995 either in person and/or via
teleconference. Advisory Group members will be reimbursed travel
and other related expenditures at cost and/or rates established by
CIHI.

Mandate: To advise the CIHI Board of Directors on the impact of introducing ICD-10.

Responsibilities:

1. Assess the implications of the implementation of ICD-10 by considering the following area (among others):
 - implications for research;
 - implications for grouping methodologies;
 - impact on provincial funding methodologies;
 - impact on the software / vendor community
 - implementation support requirements;
 - longitudinal issues;
 - need for re-engineering existing CIHI products;
 - impact on the acute care sector;
 - implementation timing considerations;
 - provincial information system redevelopment initiatives;
 - relevant identifiable costs;
 - international issues of relevance; and
 - needs in the non-acute care sector.
2. Provide advice on assessment approach.
3. Seek input from Provinces, Territories and other stakeholders.
4. Prepare a final report outlining findings and recommendations.

Deliverable: Final report to be presented at the Fall 1995 CIHI Board Meeting.

June 6, 1995

Appendix J

- **National Trauma Registry Advisory Committee (NTRAC)**
- **National Trauma Registry Coordinators/Contacts**

National Trauma Registry Advisory Committee (NTRAC)

Dr. George Assuras

Provincial Trauma Director, Manitoba
Health Sciences Centre

Dr. Darrell Boone

Director, Trauma Program
Health Science Centre
St. John's, NF

Dr. Robert Conn

Executive Director
SMARTRISK Foundation
Toronto, ON

Mr. Al Erlennbusch

Senior Management
Ministry of Health
Toronto, ON

Dr. Bryan Garber

Ottawa Hospital—General Site
Ottawa, ON

Dr. Mark Healey

Department Of General Surgery
University Of Saskatchewan
Saskatoon, SK

Dr. Ross Leighton

Director, Trauma Program
QEII Health Sciences Centre
Halifax, NS

Dr. Barry McLellan, CHAIR

Regional Coroner, Northeastern Region
Bracebridge, ON

Dr. Richard Moulton

St. Michael's Hospital
Toronto, ON

Dr. John Sampalis

Director, Provincial Trauma Registry,
Quebec
Montreal General Hospital
Montreal, PQ

Dr. Richard Simons

Medical Director, Trauma Services
Vancouver Hospital & Health Sciences
Centre
Vancouver, BC

Dr. Mary van Wijngaarden

Chair, Trauma Registry Committee
University of Alberta Hospitals
Edmonton, AB

National Trauma Registry Coordinators/Contacts

Dr. George Assuras

Provincial Trauma Director, Manitoba
Health Sciences Centre
Winnipeg, MB

Ms. Debbie Downe

Clinical Coordinator
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Appendix K

ICD-10 Review Recognition

- **Associations, Organizations and Institutions**
- **Classification Reviewers**
- **CIHI Staff**

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When approached by CIHI for assistance with this project, the following groups embraced the opportunity to influence the modification of ICD-10 for morbidity coding by enthusiastically recruiting volunteers to review selected portions of the classification.

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Calgary Regional Health Authority
Canadian Cardiovascular Society
Canadian Medical Association
Canadian Medical Protective Association, Ottawa
Cancer Care Manitoba
Capital Health Authority—Cardiac Sciences Program, Edmonton
Centenary Health Centre, Scarborough
Centre Hospitalier Anna-Laberge
Centre Hospitalier de Gatineau
Centre Hospitalier de l'Université du Montreal
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Centre hospitalier Université de Sherbrooke
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Children's Hospital of Eastern Ontario, Ottawa
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Hôpital Ste. Croix, Family & Community Medicine
Hôpital Ste. Justine, Montreal
IWK Grace Health Centre, Halifax
Kingston General Hospital
Langley Memorial Hospital, BC
Leukemia and Bone Marrow Transplant Program of BC
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McMaster University, Hamilton
Ministry of Health and Wellness, Edmonton
Misericordia General Hospital, Winnipeg
Montreal Children's Hospital
North York Branson Hospital
Northern & Central Alberta Perinatal Outreach Program
Northern Lights Regional Health Centre, Fort McMurray, AB
Nova Scotia Dept. of Health, Halifax
Ottawa Hospital—Civic, General and Riverside Sites, Eye and Heart Institutes
Peel Region Cancer Program, ON
Peter Lougheed Hospital, Health Records
Queen Elizabeth II Health Sciences Centre, Halifax
Red Deer Regional Hospital
Reproductive Care Program of Nova Scotia
Royal Alexandra Hospital, Edmonton
Royal University Hospital, Saskatoon
Royal Victoria Hospital—McGill University, Montreal
Saint John Regional Hospital, NB
St. Martha's Regional Hospital, Antigonish, NS
St. Mary's Memorial Hospital, Sherbrooke, NS
St. Paul's Hospital, Vancouver
Ste-Justine Hospital, Montreal
Sunnybrook & Women's College Health Science Centre, Toronto
The Nova Scotia Hospital, Dartmouth
The Toronto Hospital
University of Alberta—Centre for Injury Control & Research
University of Calgary Health Sciences Centre
University of Calgary Sport Medicine Centre, Orthopaedics
University of Manitoba, Biochemistry and Medical Genetics
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Appendix L

A Synopsis of the History of the International Classification of Diseases (ICD) 1893–1995

A Synopsis of the History of the International Classification of Diseases (ICD) 1893–1995

From the publication entitled *Medical Classification in Canada: Past, Present and Future* (April 1995)

The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) which was adopted by the World Health Assembly in 1990 is the most recent revision of an international classification which has its roots in the last century.

1893

The first International List of Causes of Death (at that time called the *Bertillon Classification of Causes of Death*) was adopted by the International Statistical Institute at a meeting in Chicago.

1898

At a meeting of the American Public Health Association in Ottawa, the International List of Causes of Death (Bertillon Classification) was recommended for use by registrars of Canada, Mexico, and the United States of America.

1900–1929

The Government of France convened the first International Conference for the Revision of the Bertillon or International List of Causes of Death in 1900. The desirability of decennial revisions was recognized and the Government of France called the succeeding conferences in 1910, 1920, 1929, and 1938.

Following the death of Jacques Bertillon in 1922, an international commission, known as the “Mixed Commission” was created with equal representation from the International Statistical Institute and the Health Organization of the League of Nations. This Commission drafted the proposals for the Fourth and Fifth revisions of the International List of Causes of Death.

1938

The need for a parallel classification of diseases that affect health as well as diseases that are fatal was recognized even before the first International Conference for the Revision of the International List of Causes of Death. A number of subdivisions or expansions of the International List were produced over the years but failed to receive general acceptance. A number of countries produced national lists in the intervening years, including the Standard Morbidity Code for Canada, accepted by the Dominion Council for Health in 1938.

A draft of the Canadian code was the only morbidity code presented at the Fifth International Conference for the Revision of the International List of Causes of Death.

Recognizing the growing need for a corresponding international list of diseases, the 1938 Conference adopted a resolution that included a recommendation that various national lists “should, as far as possible, be brought into line with the detailed International List of Causes of Death”. There was a belief that, in order to utilize fully both morbidity and mortality statistics, not only should the classification of diseases for both purposes be comparable, but if possible there should be a single list. Work by some members of a committee with representation from the United States, Canada, the United Kingdom, and the Health Section of the League of Nations produced a preliminary draft of a “Proposed Statistical Classification of Diseases, Injuries and Causes of Death”.

1948

The International Conference for the Sixth Revision of the International Lists of Diseases and Causes of Death was convened in Paris.

Later in the same year, the First World Health Assembly endorsed the report of the Revision Conference and the publication of the *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death* (more commonly referred to as ICD-6).

1955–1983

Succeeding decennial revision conferences (in 1955, 1965 and 1975) recognized the increasing use of ICD for the indexing of hospital medical records. As a result, non fatal diseases, symptoms, and other conditions necessitating contact with health services became more prominent in the classification structure in the Seventh, Eighth and Ninth revisions.

Other classification needs were also being recognized, beyond the scope of the ICD.

Based on the recommendations of the International Conference for the Ninth Revision (1975), the World Health Assembly approved the publication (for trial purposes) of two supplementary classifications: the *International Classification of Procedures in Medicine* (ICPM, published in two volumes in 1978); and the *International Classification of Impairments, Disabilities, and Handicaps* (ICIDH, published in 1980).

In 1976, another classification, an extension of the neoplasm chapter of the ICD-9 was also published by WHO: the *International Classification of Diseases for Oncology* (ICD-O).

Realizing that the ICD alone could not cover all the information required, at the first preparatory meeting for the Tenth revision, a new concept of a “family of disease and health-related classifications” was recommended.

US Developments — 1955–present

For morbidity purposes in the United States, beginning with the ICD-7, a series of adaptations/modifications of the WHO publication were developed, each containing a section for the classification of procedures. The first was the *International Classification of Diseases, Adapted for Indexing Hospital Records by Diseases and Operations*, referred to as the ICDA (or sometimes, ICDA-7). This was followed by the *Eighth Revision International Classification of Disease Adapted for Use in the United States* (ICDA-8). (The latter was translated into French and published by Statistics Canada as CIMA-8.) The current US morbidity standard is the *ICD-9-Clinical Modification* (ICD-9-CM) which was implemented in 1979.

Although the three classifications mentioned above were developed by or under the auspices of the US government, there were two successive modifications of the ICDA-8 produced by an independent organization, the Commission on Professional and Hospital Activities (CPHA) for use in its data abstracting system, the Professional Activity Study (PAS).

The current annual ICD-9-CM coordination and maintenance process is jointly controlled by two branches of the US government—the National Center for Health Statistics (NCHS) for the diagnosis component and the Health Care Financing Administration (HCFA) for the procedure component. The actual classification is published in a variety of formats by several independent publishing companies, each with its own unique features or variations.

The ICD-9-CM has been adopted by some users outside the United States. Few countries have adopted it as their national morbidity standard, however. One recent exception (in 1992–93) was Australia. An Australian version/adaptation of ICD-9-CM is being published for implementation July 1, 1995.

Appendix M

Achieving Standardization in Diagnosis and Intervention Classification: Future Directions For Canada (November 1995) Executive Summary

Achieving Standardization in Diagnosis and Intervention Classification: Future Directions For Canada (November 1995) Executive Summary

At the request of the Board of Directors of the Canadian Institute for Health Information (CIHI), an Advisory Group undertook an assessment of the implications of implementing the *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision* (ICD-10) and a new *Canadian Classification of Diagnostic, Therapeutic, and Surgical Procedures* (CCP) as the future diagnosis and intervention classifications for Canada.

The study began with an assessment of the proposed new standards in comparison with the mixture of classification standards in current use. The ICD-10 was considered superior to the current standards for diagnosis coding on the basis of scope, structure/presentation, specificity, currency, compatibility with international reporting requirements, and interpretational guidelines. With regard to procedure coding, the proposed CCP was also considered superior to the current standards based on its proposed scope and Canadian control over its ongoing development. Both the ICD-10 and a new CCP have applicability beyond the acute, institution focus of the current standards. As the core of an international family of health-related classifications, the ICD-10 promotes linkage across the continuum of health services.

Alternative options to implementing the proposed new standards, both short term and longer term, were considered. The four plausible options identified all created a reliance on classification standards from the United States where there is some uncertainty about future directions.

The implications of implementing the ICD-10 and a new CCP were then assessed in relation to:

- implementation support requirements;
- impact on information technology;
- CIHI new product development requirements;
- CIHI product redevelopment needs;
- research and international considerations;
- timing considerations; and
- identifiable implementation-related costs.

Based on a number of key assumptions, the total identifiable cost of moving to the new standards was estimated to be approximately \$6,657,000, shared between federal/provincial/territorial governments and CIHI. The provinces of Manitoba and Quebec have not yet provided cost estimates of the impact on information technology for inclusion in this total.

In addition to this report, several documents have been produced during the course of this study. These included:

- *Medical Classification in Canada: Past, Present, and Future*;
- *ICD-10 vs. ICD-9/ICD-9-CM: How Do They Compare?*;
- *A Primer on Crosswalks and Conversions in Medical Classification*;
- *Crosswalks to ICD-10: A Study Using Selected Case Mix Groups (CMG™)*; and
- *Implementation Considerations for Health Information Systems*.

Based on the results of the information gathered in relation to each of the study parameters, the Advisory Group made the following recommendations for review and consideration by the CIHI Board of Directors:

1. ICD-10 should be adopted as the future national diagnosis classification standard for morbidity and mortality.
2. A revised CCP should be adopted as the future national intervention classification standard.
3. CIHI should take the necessary steps to become operationally ready to accept the new standards by April 1, 1999* and should facilitate the implementation of the new standards in all provinces and territories within a window of two years from that operational date. CIHI should continue to support the current disease and procedure classification standards until the end of the two year window to enable a smooth and effective transition across Canada.
4. CIHI should continue to explore the role of natural language systems as part of the implementation strategy for the new standards.
5. CIHI should continue to explore the feasibility/advisability of the application of other members of the ICD family of classifications in Canada.

* Due to the decision to modify ICD-10 for use in Canada, implementation was postponed until 2001.

Appendix N

Comparison of International Versions of ICD-10: Summary of Findings (1998)

Comparison of International Versions of ICD-10: Summary of Findings (1998)

In this document the structure of the ICD-10 has been described and comparisons have been made between the ICD-10 and two national modifications, the ICD-10-AM and the ICD-10-CM. Key findings have been highlighted and discussed and additional detail on a chapter-by-chapter basis is available in the appendices.

The findings, based on each of the criteria, can be summarized as follows:

1. Structure/Presentation

- 1.1. The basic ICD structure has been maintained in the two modifications reviewed although each has expanded the ICD-10 codes to increase its specificity.
- 1.2. ICD-10-CM has made modifications to existing three-digit categories and four-digit categories which modifies the meaning of some areas of the classification e.g. diabetes.
- 1.3. The dual classification by etiology/manifestation, or dagger/asterisk classification, found in ICD-10 has been fully adopted in ICD-10-AM while ICD-10-CM has modified this dual classification concept through a variety of approaches, such as:
 - 1.3.1 the use of fifth characters at the etiology code to provide detail or specificity regarding the manifestation;
 - 1.3.2 the use of dual codes, unaccompanied by the †/* symbols, that are similar or identical to the ICD-10 codes, the etiology code would be used first in the same manner as in ICD-10;
 - 1.3.3 a combination of the two approaches, in relation to the same etiology and/or the same manifestation;
 - 1.3.4 creation of some new etiology/manifestation combinations not identified in ICD-10 or ICD-10-AM; and
 - 1.3.5 elimination of the etiology/manifestation concept for some conditions.
- 1.4. There appears to be some inconsistency between the three classifications in the use of combination categories and multiple coding. This may result in the emphasis for "main condition" coding changing from one chapter to another such as sequelae of subarachnoid hemorrhage, or agranulocytosis secondary to cancer chemotherapy.

2. Specificity

- 2.1. Both the ICD-10-AM and ICD-10-CM have increased the specificity of many categories and subcategories found in ICD-10. They have, however, sometimes taken different directions in this regard.
- 2.2. Some of the ICD-10-CM gains in specificity are actually related to the approach to the coding of etiology and manifestation and to the introduction of specificity regarding laterality, status or gender.
- 2.3. Canadian data collection tools routinely include a data element for "gender", thus enabling the capture of the same level of specificity. Similarly the aspect of

laterality, status and extent may be captured through the systematic collection of attributes attached to Canadian procedure codes if an intervention is reported. This could be extended to apply to ICD-10 codes.

- 2.4. Some of the specificity found in ICD-10 and maintained in ICD-10-AM has been removed or resequenced in the ICD-10-CM in areas where:
 - 2.4.1 codes were appropriate to mortality coding only;
 - 2.4.2 conditions could be classified elsewhere;
 - 2.4.3 the use of the code has historically been so rare, that its inclusion was not felt to be justified;
 - 2.4.4 codes reflected procedures which could be captured through the application of a procedure code in an intervention is reported; and
 - 2.4.5 codes were felt to be redundant as in the case of HIV and Tuberculosis subcategories.

3. Scope

- 3.1. Neither modification appears to have significantly increased the scope from that achieved by ICD-10.
- 3.2. Some of the ICD-10 codes have been omitted from the ICD-10-CM that reflect reasons for encounter with health services. These codes would be useful in a variety of health service settings, particularly if a separate classification of procedures is not used.

4. Flexibility for expansion

- 4.1. All three classifications have flexibility for future expansion although some of the expansion already introduced in ICD-10-AM and ICD-10-CM may impact the logic of future WHO ICD-10 expansions.

5. Control/ownership

- 5.1. WHO is the official publisher of ICD-10 (in English and French) and holds the international copyright.
- 5.2. While individual countries or national organizations may apply for a copyright waiver in order to produce national versions of ICD-10, the copyright ensures that no modifications may be made which will alter the meaning of the categories and subcategories as published by WHO.
- 5.3. With the approval of Health Canada, CIHI has applied for a copyright waiver for Canada. This will allow CIHI to use, reproduce and distribute ICD-10 in English and French within Canada. CIHI will also have permission to amend the classification to meet Canadian needs within the guidelines established by WHO.
- 5.4. Under the copyright agreement for ICD-10-AM, use of the classification and input to the updating process are both currently limited to Australia and New Zealand. Australia has applied to WHO for an extension of the license to cover international distribution.
- 5.5. Under the copyright agreement for ICD-10-CM, use of the classification and input to the updating process are both currently limited to the United States.

6. Comparability

- 6.1. The ICD-10-AM has maintained its comparability with the ICD-10.
- 6.2. Based on the draft available for review, there are significant breaks in comparability between ICD-10-CM and ICD-10. These breaks are caused by deletions, additions, relocations and modifications at the category and subcategory level as well as by movement of codes between chapters.

7. Use in case mix grouping methodologies

- 7.1. There is potential in each of the classifications to modify and/or enhance existing grouping methodologies.
- 7.2. Both the ICD-10-AM and the ICD-10-CM have introduced some changes which may impact grouping methodologies and/or logic.
- 7.3. International comparisons based on the DRG methodology will become increasingly limited as national modifications to ICD-10 are implemented.