Chapter 3: Classification and coding

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The *Cancer Incidence in Five Continents* (CI5) series has followed the evolution of the *International Classification of Diseases* (ICD) through four revisions, from the seventh revision (ICD-7) to the 10th (ICD-10), and the creation of a coding scheme for oncology: the *International Classification of Diseases for Oncology* (ICD-O) (WHO, 1976), now in its third edition (ICD-O-3) (Fritz et al., 2000). CI5 Volumes I (Doll et al., 1966) and II (Doll et al., 1970) presented data on cancer incidence coded to ICD-7 (WHO, 1957). Volume III (Waterhouse et al., 1976) published data using both ICD-7 and ICD-8 (WHO, 1967). ICD-8, which came into effect in 1968, was also used in Volume IV (Waterhouse et al., 1982). ICD-9 (WHO, 1977) was used for Volumes V (Muir et al., 1987), VI (Parkin et al., 1992), and VII (Parkin et al., 1997). ICD-10 (WHO, 1992) was used for Volumes VIII (Parkin et al., 2002), IX (Curado et al., 2007), X (Forman et al., 2014), and XI (Bray et al., 2017).

The updates to ICD-10 (2010 version; WHO, 2010) and the 2011 revision of ICD-O-3 (WHO, 2013) were considered in this volume, which presents data for the 5-year period of 2013–2017. The data are published at the level of the three-character ICD-10 codes in the individual registry tables. The groupings of ICD codes adopted in the previous four volumes of CI5 have been used again in this volume to maintain comparability over time. Table 3.1 presents the individual ICD-10 site codes, the full ICD-10 titles, the Volume XII groupings, and the short titles used in the incidence tables.

UPDATES OF ICD-10 AND ICD-O-3

The update of ICD-10 introduced in 2010 resulted in changes for the neoplasm chapter that affected the "Malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (C81–C96)" group. Mainly, a new three-digit category C86 "Other specified types of T/NK-cell lymphoma" and several new four-digit codes were added to the existing ones, in particular the new code C88.4 "Extranodal marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue [MALT-lymphoma], Lymphoma of skin-associated lymphoid tissue (SALT-lymphoma), and Lymphoma of bronchial-associated lymphoid tissue (BALT-lymphoma)". These diagnoses were previously included within the ICD-10 (1990) category C82.7 in CI5 Volume X. The 2011 revision of ICD-O-3 affected the morphology numerical list only, introducing new terms that have appeared in the recent literature, particularly in the "Lymphoma and leukaemia" group. Therefore, a new conversion table from the first (2011) revision of ICD-O-3 to ICD-10 (2010 version) for the ICD-O-3 morphology codes 9590/3 to 9992/3 had to be developed (see Table 3.2). In 2019, the second revision of the ICD-O-3 morphology codes was published online on the IACR website (http://www.iacr.com.fr/). The fourth edition (ICD-O-4) is currently in preparation and is planned for publication in 2025. ICD-11 (WHO, 2019) was endorsed in 2019 and came into effect in 2022. Therefore, these classification updates are not applicable to the data period presented in this volume.

CLASSIFICATIONS USED IN THE CANCER REGISTRY

Data submitted for the first four volumes of CI5 were sent in tabular format – organized by sex, site, and 5-year age group – on tape, diskette, or (most commonly) forms specifically designed for the purpose. The only verification possible was to tally the columns and rows. For Volume V, registries were given the option of sending data in the form of a case listing coded to ICD-9 topography only, or to ICD-9 or ICD-O topography plus ICD-O morphology. Only a very small minority of registries sent data coded to ICD-O. Contributors to Volume VI were encouraged to send data as a listing of individual cases, but 24% still sent tabulated data. Starting from Volume VII, data had to be sent as a listing of individual cases. Since the publication in 1976 of the first edition of ICD-O – which clearly defined axes of anatomical location, histology, and behaviour – international conformity to standard classification systems and coding rules has increased steadily. For data published in Volume IV (1973–1977), 90% of registries recorded histological diagnosis. For coding, just more than one third of the registries used the American Cancer Society's *Manual of Tumor Nomenclature and Coding* (MOTNAC) (ACS, 1951, 1968), one third had started to use ICD-O, and 12% used the *Systematized Nomenclature of Pathology* (SNOP) (CAP, 1965). About 75% of contributors to Volume V used ICD-O to code histology, and that proportion rose to more than 90% for Volumes VI and VII. A total of 182 of the 186 contributors to Volume VIII, 224 of the 225 contributors to Volume IX, 288 of the 290 contributors to Volume X, and all of the contributors to Volume XI and the present volume coded their histological data to ICD-O. Although most of the data submitted for this volume had been coded or converted to ICD-O-3 (see Chapter 6), registries were also asked what classification systems were used for coding data in the registry during the period. Of the 460 registries that contributed, almost all coded to ICD-O-3 topography and morphology.

COMPARABILITY

All data supplied for this volume either were already coded to ICD-O-3 when submitted or were converted by IARC to ICD-O-3 for checking and were then converted to ICD-10 for presentation (see Chapter 6). This process ensures that the same validity checks and multiple primary rules are applied to all data, and that the final ICD-10 codes used in this publication follow a standard ICD-O-3 to ICD-10 (2010 version) conversion. When a dataset included an ICD-10 code, this was ignored in the tabulations. The ICD-O-3 to ICD-10 conversion program was written at IARC using the rules of the ICD-O-2 to ICD-10 conversion program developed by Percy (1998). The conversions strictly follow the ICD-10 coding rules, as expressed in the instruction manual of ICD-10 Volume 2 (Percy et al., 1990) or in the alphabetical index of ICD-10 Volume 3.

Theoretically, the use of a standard, well-designed coding system such as ICD should make the analysis and tabulation of comparable results a simple matter. But in practice, it has been a continual exercise in detection for the editors of CI5 to establish exactly how registries code various cancers. For the present volume, registries were asked whether any malignant diagnoses were excluded from their data, and how they coded intraductal carcinoma of breast, NOS; ductal and lobular carcinoma in situ of breast; ovarian cystadenoma of borderline malignancy; borderline tumour of ovary; benign tumours of brain and nervous system; and in situ and unspecified carcinoma of bladder (see Table 3.3).

Non-melanoma skin cancer

The incidence of non-melanoma skin cancer (NMSC) is difficult to assess. These cancers are very common and are rarely fatal, and the completeness of their registration varies widely depending on access to outpatient and general practitioners' records. Most NMSCs are basal cell carcinomas (BCCs) or squamous cell carcinomas (SCCs); other skin cancers are rare. Although some registries record the first occurrence of all NMSC, others register SCC only, and many do not collect data on either SCC or BCC.

Bladder cancer

The issue of coding non-invasive tumours (taking into account the recorded level of invasion and grade) – and which to include in the tables as "cancer of the bladder" – has long been a subject of debate. In CI5 Volume VI, it was decided, for the sake of geographical comparability, to exclude tumours of benign, in situ, and unspecified behaviour. In principle, the availability of data as individual case listings with histological type and behaviour should make it possible to publish only data on malignant cancer, by excluding diagnoses with any behaviour code other than /3. But when registries were asked about the behaviour codes they used for non-invasive and unspecified diagnoses of malignant bladder cancer for Volume VII, many of them reported that they assigned the behaviour code /3 to both in situ and unspecified diagnoses, making it impossible to distinguish such cases. As a result, the editors decided to accept that non-invasive diagnoses of bladder cancer are generally considered malignant by pathologists; therefore, since Volume VII, the bladder cancer rubric (ICD-10 C67) has included the in situ (ICD-10 D09.0) and unspecified (ICD-10 D41.4) categories. In this volume, whenever possible, the inclusion of neoplasms of uncertain or unknown behaviour together with invasive cancers is indicated by a dagger symbol (†) beside C67 in the tables, and a note under the heading "Notes on the data" in the accompanying text. A few registries preferred not to include such cases in their dataset, even when available in the registry, for the sake of continuity over time.

Breast cancer

Intraductal carcinoma, ductal carcinoma in situ (DCIS), and lobular carcinoma in situ of breast are classified in ICD-O-3 as in situ cancers (behaviour code /2).

Ovarian cancer

The registries contributing to this volume were asked how they coded ovarian cystadenoma of borderline malignancy and borderline tumour of ovary. Borderline ovarian diagnoses are classified as non-malignant tumours in ICD-O-3 (behaviour code /1) and are excluded from the tabulations, but a few registries still code them as malignant neoplasms.

Brain and central nervous system

Many registries choose to include benign and unspecified tumours of the brain and central nervous system in their data, because of the potentially serious clinical consequences of these tumours. Before Volume VII, such tumours may therefore have been included in the tables along with cancers of the brain and nervous system. However, the proportion of such cases varies widely between registries, so since Volume VII they are no longer included.

Myeloproliferative disorders and myelodysplastic syndromes

These include records with the ICD-O-3 morphological codes 9950/3, 996_/3, 9971/3, 9975/3, 998_/3, and 999_/3. Only registries that originally coded their data to ICD-O-3 can report such diagnoses, because they were not considered malignant tumours in ICD-O-2 (behaviour code /1). These codes are converted to the ICD-10 codes D45, D46_, and D47_ by the IARC ICD-O-3 to ICD-10 conversion program (except M9966/3, M9967/3, and M9984/3, which are converted to ICD-10 C92.7, C96.7, and C92.0, respectively; see Table 3.2) and are presented in two separate categories in the tables – "Myeloproliferative disorders (MPD)" and "Myelodysplastic syndromes (MDS)" – and also included in the "All sites (C00–96)" category (see Table 3.1).

Table 3.1. Classifications used in the incidence tables in CI5 Volume XII

ICD-10 (2010 version) site code	Full ICD-10 title	Grouping used in tables	Short title used in tables
C00	Malignant neoplasm of lip	–	Lip
C01	Malignant neoplasm of base of tongue	C01–C02 are grouped	Tongue
C02	Malignant neoplasm of other and unspecified parts of tongue		
C03	Malignant neoplasm of gum	C03–C06 are grouped	Mouth
C04	Malignant neoplasm of floor of mouth		
C05	Malignant neoplasm of palate		
C06	Malignant neoplasm of other and unspecified parts of mouth		
C07	Malignant neoplasm of parotid gland	C07–C08 are grouped	Salivary glands
C08	Malignant neoplasm of other and unspecified major salivary glands		
C09	Malignant neoplasm of tonsil	–	Tonsil
C10	Malignant neoplasm of oropharynx	–	Other oropharynx
C11	Malignant neoplasm of nasopharynx	–	Nasopharynx
C12	Malignant neoplasm of pyriform sinus	C12–C13 are grouped	Hypopharynx
C13	Malignant neoplasm of hypopharynx		
C14	Malignant neoplasm of other and ill-defined sites in the lip, oral cavity and pharynx	–	Pharynx unspecified
C15	Malignant neoplasm of oesophagus	–	Oesophagus
C16	Malignant neoplasm of stomach	–	Stomach
C17	Malignant neoplasm of small intestine	–	Small intestine
C18	Malignant neoplasm of colon	–	Colon
C19	Malignant neoplasm of rectosigmoid junction	C19–C20 are grouped	Rectum
C20	Malignant neoplasm of rectum		
C21	Malignant neoplasm of anus and anal canal	–	Anus
C22	Malignant neoplasm of liver and intrahepatic bile ducts	–	Liver
C23	Malignant neoplasm of gallbladder	C23–C24 are grouped	Gallbladder etc.
C24	Malignant neoplasm of other and unspecified parts of biliary tract		
C25	Malignant neoplasm of pancreas	–	Pancreas
C26	Malignant neoplasm of other and ill-defined digestive organs	C26 is included in other and unspecified	
C30	Malignant neoplasm of nasal cavity and middle ear	C30–C31 are grouped	Nose, sinuses etc.
C31	Malignant neoplasm of accessory sinuses		
C32	Malignant neoplasm of larynx	–	Larynx
C33	Malignant neoplasm of trachea	C33–C34 are grouped	Trachea, bronchus, and lung
C34	Malignant neoplasm of bronchus and lung		
C37	Malignant neoplasm of thymus	C37–C38 are grouped	Other thoracic organs
C38	Malignant neoplasm of heart, mediastinum and pleura		
C39	Malignant neoplasm of other and ill-defined sites in the respiratory system and intrathoracic organs	C39 is included in other and unspecified	
C40	Malignant neoplasm of bone and articular cartilage of limbs	C40–C41 are grouped	Bone
C41	Malignant neoplasm of bone and articular cartilage of other and unspecified sites		
C43	Malignant melanoma of skin	–	Melanoma of skin
C44	Other malignant neoplasms of skin	–	Other skin
C45	Mesothelioma	–	Mesothelioma
C46	Kaposi sarcoma	–	Kaposi sarcoma
C47	Malignant neoplasm of peripheral nerves and autonomic nervous system	C47 is grouped with C49	Connective and soft tissue
C48	Malignant neoplasm of retroperitoneum and peritoneum	C48 is included in other and unspecified	
C49	Malignant neoplasm of other connective and soft tissue	C49 is grouped with C47	
C50	Malignant neoplasm of breast	–	Breast
C51	Malignant neoplasm of vulva	–	Vulva
C52	Malignant neoplasm of vagina	–	Vagina

Table 3.1. (Contd) Classifications used in the incidence tables in CI5 Volume XII

ICD-10 (2010 version) site code	Full ICD-10 title	Grouping used in tables	Short title used in tables
C53	Malignant neoplasm of cervix uteri	–	Cervix uteri
C54	Malignant neoplasm of corpus uteri	–	Corpus uteri
C55	Malignant neoplasm of uterus, part unspecified	–	Uterus unspecified
C56	Malignant neoplasm of ovary	–	Ovary
C57	Malignant neoplasm of other and unspecified female genital organs	–	Other female genital organs
C58	Malignant neoplasm of placenta	–	Placenta
C60	Malignant neoplasm of penis	–	Penis
C61	Malignant neoplasm of prostate	–	Prostate
C62	Malignant neoplasm of testis	–	Testis
C63	Malignant neoplasm of other and unspecified male genital organs	–	Other male genital organs
C64	Malignant neoplasm of kidney, except renal pelvis	–	Kidney
C65	Malignant neoplasm of renal pelvis	–	Renal pelvis
C66	Malignant neoplasm of ureter	–	Ureter
C67	Malignant neoplasm of bladder	–	Bladder
C68	Malignant neoplasm of other and unspecified urinary organs	–	Other urinary organs
C69	Malignant neoplasm of eye and adnexa	–	Eye
C70	Malignant neoplasm of meninges	C70–C72 are grouped	Brain and nervous system
C71	Malignant neoplasm of brain		
C72	Malignant neoplasm of spinal cord, cranial nerves and other parts of central nervous system		
C73	Malignant neoplasm of thyroid gland	–	Thyroid
C74	Malignant neoplasm of adrenal gland	–	Adrenal gland
C75	Malignant neoplasm of other endocrine glands and related structures	–	Other endocrine
C76	Malignant neoplasm of other and ill-defined sites	C76 is included in other and unspecified	
C80	Malignant neoplasm without specification of site	C80 is included in other and unspecified	
C81	Hodgkin lymphoma	–	Hodgkin lymphoma
C82	Follicular lymphoma	C82–C86 and C96 are grouped	Non-Hodgkin lymphoma
C83	Non-follicular lymphoma		
C84	Mature T/NK-cell lymphomas		
C85	Other and unspecified types of non-Hodgkin lymphoma		
C86	Other specified types of T/NK-cell lymphoma		
C88	Malignant immunoproliferative diseases	–	Immunoproliferative diseases
C90	Multiple myeloma and malignant plasma cell neoplasms	–	Multiple myeloma
C91	Lymphoid leukaemia	–	Lymphoid leukaemia
C92	Myeloid leukaemia	C92–C94 are grouped (following ICD-O-3)	Myeloid leukaemia
C93	Monocytic leukaemia		
C94	Other leukaemias of specified cell type		
C95	Leukaemia of unspecified cell type	–	Leukaemia unspecified
C96	Other and unspecified malignant neoplasms of lymphoid, haematopoietic and related tissue	C96 is grouped with C82–C86	
O&U	Other and unspecified	Includes C26, C39, C48, C76, and C80	Other and unspecified
MPD	Myeloproliferative disorders	Includes ICD-O-3 M9950/3, M9960–9965/3, M9971/3, and M9975/3	Myeloproliferative disorders
MDS	Myelodysplastic syndromes	Includes ICD-O-3 M9980–9983/3, M9985–9989/3, M9991/3, and M9992/3	Myelodysplastic syndromes
C00–96*			All sites
C00–96* exc. C44			All sites except C44

*Includes O&U, MPD, and MDS site codes

Table 3.2. Conversion of lymphoid and haematopoietic diseases (ICD-O-3 M9590–M9992)

ICD-O-3 (first revision) code	Full ICD-O-3 title	ICD-10 (2010 version) site code
9590/3	Malignant lymphoma, NOS	C85.9
9591/3	Malignant lymphoma, non-Hodgkin, NOS	C85.9
9596/3	Composite Hodgkin and non-Hodgkin lymphoma	C85.1
9597/3	Primary cutaneous follicle centre lymphoma	C82.6
9650/3	Hodgkin lymphoma, NOS	C81.9
9651/3	Hodgkin lymphoma, lymphocyte-rich	C81.4
9652/3	Hodgkin lymphoma, mixed cellularity, NOS	C81.2
9653/3	Hodgkin lymphoma, lymphocyte depletion, NOS	C81.3
9654/3	Hodgkin lymphoma, lymphocyte depletion, diffuse fibrosis	C81.3
9655/3	Hodgkin lymphoma, lymphocyte depletion, reticular	C81.3
9659/3	Hodgkin lymphoma, nodular lymphocyte predominance	C81.0
9661/3	Hodgkin granuloma	C81.9
9662/3	Hodgkin sarcoma	C81.3
9663/3	Hodgkin lymphoma, nodular sclerosis, NOS	C81.1
9664/3	Hodgkin lymphoma, nodular sclerosis, cellular phase	C81.1
9665/3	Hodgkin lymphoma, nodular sclerosis, grade 1	C81.1
9667/3	Hodgkin lymphoma, nodular sclerosis, grade 2	C81.1
9670/3	Malignant lymphoma, small B lymphocytic, NOS	C83.0
9671/3	Malignant lymphoma, lymphoplasmacytic	C83.0
9673/3	Mantle cell lymphoma	C83.1
9675/3	Malignant lymphoma, mixed small and large cell, diffuse	C85.9
9678/3	Primary effusion lymphoma	C83.8
9679/3	Mediastinal large B-cell lymphoma (C38.3)	C85.2
9680/3	Malignant lymphoma, large B-cell, diffuse, NOS	C83.3
9684/3	Malignant lymphoma, large B-cell, diffuse, immunoblastic, NOS	C83.3
9687/3	Burkitt lymphoma, NOS	C83.7
9688/3	T-cell/histiocyte-rich large B-cell lymphoma	C83.3
9689/3	Splenic marginal zone B-cell lymphoma (C42.2)	C83.0
9690/3	Follicular lymphoma, NOS	C82.9
9691/3	Follicular lymphoma, grade 2	C82.1
9695/3	Follicular lymphoma, grade 1	C82.0
9698/3	Follicular lymphoma, grade 3	C82.2
9699/3	Marginal zone B-cell lymphoma, NOS	C83.0 (C42.0, C42.1, C42.4, C77._) C88.4 (other topography)
9700/3	Mycosis fungoides (C44._)	C84.0
9701/3	Sezary syndrome	C84.1
9702/3	Mature T-cell lymphoma, NOS	C84.4
9705/3	Angioimmunoblastic T-cell lymphoma	C86.5
9708/3	Subcutaneous panniculitis-like T-cell lymphoma	C86.3
9709/3	Cutaneous T-cell lymphoma, NOS (C44._)	C84.8
9712/3	Intravascular large B-cell lymphoma (C49.9)	C83.8
9714/3	Anaplastic large cell lymphoma, T-cell and Null cell type	C84.6
9716/3	Hepatosplenic T-cell lymphoma	C86.1
9717/3	Intestinal T-cell lymphoma	C86.2
9718/3	Primary cutaneous CD30+ T-cell lymphoproliferative disorder (C44._)	C86.6
9719/3	NK/T-cell lymphoma, nasal and nasal-type	C86.0
9724/3	Systemic EBV positive T-cell lymphoproliferative disease of childhood	C84.5
9725/3	Hydroa vacciniforme-like lymphoma	C84.5
9726/3	Primary cutaneous gamma-delta T-cell lymphoma	C84.5
9727/3	Precursor cell lymphoblastic lymphoma, NOS	C83.5*
9728/3	Precursor B-cell lymphoblastic lymphoma	C83.5
9729/3	Precursor T-cell lymphoblastic lymphoma	C83.5
9731/3	Plasmacytoma, NOS	C90.3
9732/3	Multiple myeloma (C42.1)	C90.0
9733/3	Plasma cell leukemia (C42.1)	C90.1
9734/3	Plasmacytoma, extramedullary	C90.2
9735/3	Plasmablastic lymphoma	C83.3

Table 3.2. (Contd) Conversion of lymphoid and haematopoietic diseases (ICD-O-3 M9590–M9992)

ICD-O-3 (first revision) code	Full ICD-O-3 title	ICD-10 (2010 version) site code
9737/3	ALK positive large B-cell lymphoma	C83.3
9738/3	Large B-cell lymphoma arising in HHV8-associated multicentric Castleman disease	C83.3
9740/3	Mast cell sarcoma	C96.2
9741/3	Malignant mastocytosis	C96.2
9742/3	Mast cell leukemia (C42.1)	C94.3
9750/3	Malignant histiocytosis	C96.8
9751/3	Langerhans cell histiocytosis, NOS	C96.6
9755/3	Histiocytic sarcoma	C96.8
9756/3	Langerhans cell sarcoma	C96.4
9757/3	Interdigitating dendritic cell sarcoma	C96.4
9758/3	Follicular dendritic cell sarcoma	C96.4
9759/3	Fibroblastic reticular cell tumor	C96.4
9760/3	Immunoproliferative disease, NOS	C88.9
9761/3	Waldenstrom macroglobulinemia (C42.0)	C88.0
9762/3	Heavy chain disease, NOS	C88.2
9764/3	Immunoproliferative small intestinal disease (C17._)	C88.3
9766/3#	Angiocentric immunoproliferative lesion	C83.8
9767/3#	Angioimmunoblastic lymphadenopathy (AIC)	C86.5
9800/3	Leukemia, NOS	C95.9
9801/3	Acute leukemia, NOS	C95.0
9805/3	Acute biphenotypic leukemia	C95.0
9806/3	Mixed phenotype acute leukemia with t(9;22)(q34;q11.2); BCR-ABL1	C95.0
9807/3	Mixed phenotype acute leukemia with t(v;11q23); MLL rearranged	C95.0
9808/3	Mixed phenotype acute leukemia, B/myeloid, NOS	C95.0
9809/3	Mixed phenotype acute leukemia, T/myeloid, NOS	C95.0
9811/3	B lymphoblastic leukemia/lymphoma, NOS	C91.0
9812/3	B lymphoblastic leukemia/lymphoma with t(9;22)(q34;q11.2); BCR-ABL1	C91.0
9813/3	B lymphoblastic leukemia/lymphoma with t(v;11q23); MLL rearranged	C91.0
9814/3	B lymphoblastic leukemia/lymphoma with t(12;21)(p13;q22); TEL-AML1 (ETV6-RUNX1)	C91.0
9815/3	B lymphoblastic leukemia/lymphoma with hyperdiploidy	C91.0
9816/3	B lymphoblastic leukemia/lymphoma with hypodiploidy (Hypodiploid ALL)	C91.0
9817/3	B lymphoblastic leukemia/lymphoma with t(5;14)(q31;q32); IL3-IGH	C91.0
9818/3	B lymphoblastic leukemia/lymphoma with t(1;19)(q23;p13.3); E2A-PBX1 (TCF3-PBX1)	C91.0
9820/3	Lymphoid leukemia, NOS	C91.9
9823/3	B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma	C91.1
9826/3	Burkitt cell leukemia	C91.8
9827/3	Adult T-cell leukemia/lymphoma (HTLV-1 positive)	C91.5
9831/3	T-cell large granular lymphocytic leukemia	C91.7
9832/3	Prolymphocytic leukemia, NOS	C91.3
9833/3	Prolymphocytic leukemia, B-cell type	C91.3
9834/3	Prolymphocytic leukemia, T-cell type	C91.6
9835/3	Precursor cell lymphoblastic leukemia, NOS	C91.0
9836/3	Precursor B-cell lymphoblastic leukemia	C91.0
9837/3	T lymphoblastic leukemia/lymphoma	C91.0
9840/3	Acute myeloid leukemia, M6 type	C94.0
9860/3	Myeloid leukemia, NOS	C92.9
9861/3	Acute myeloid leukemia, NOS	C92.0
9863/3	Chronic myeloid leukemia, NOS	C92.1
9865/3	Acute myeloid leukemia with t(6;9)(p23;q34); DEK-NUP214	C92.0
9866/3	Acute promyelocytic leukemia, t(15;17)(q22;q11–12)	C92.4
9867/3	Acute myelomonocytic leukemia	C92.5
9869/3	Acute myeloid leukemia with inv(3)(q21;q26.2) or t(3;3)(q21;q26.2); RPN1-EVI1	C92.0
9870/3	Acute basophilic leukemia	C94.7
9871/3	Acute myeloid leukemia with abnormal marrow eosinophils	C92.5

Table 3.2. (Contd) Conversion of lymphoid and haematopoietic diseases (ICD-O-3 M9590–M9992)

ICD-O-3 (first revision) code	Full ICD-O-3 title	ICD-10 (2010 version) site code
9872/3	Acute myeloid leukemia, minimal differentiation	C92.0
9873/3	Acute myeloid leukemia without maturation	C92.0
9874/3	Acute myeloid leukemia with maturation	C92.0
9875/3	Chronic myelogenous leukemia, BCR/ABL positive	C92.1
9876/3	Atypical chronic myeloid leukemia, BCR/ABL negative	C92.2
9891/3	Acute monocytic leukemia	C93.0
9895/3	Acute myeloid leukemia with myelodysplasia-related changes	C92.8
9896/3	Acute myeloid leukemia, t(8;21)(q22;q22)	C92.0
9897/3	Acute myeloid leukemia, 11q23 abnormalities	C92.6
9898/3	Myeloid leukemia associated with Down Syndrome	C92.7
9910/3	Acute megakaryoblastic leukemia	C94.2
9911/3	Acute myeloid leukemia (megakaryoblastic) with t(1;22)(p13;q13); RBM15-MKL1	C94.2
9920/3	Therapy-related myeloid neoplasm	C94.6
9930/3	Myeloid sarcoma	C92.3
9931/3	Acute panmyelosis with myelofibrosis (C42.1)	C94.4
9940/3	Hairy cell leukemia (C42.1)	C91.4
9945/3	Chronic myelomonocytic leukemia, NOS	C93.1
9946/3	Juvenile myelomonocytic leukemia	C93.3
9948/3	Aggressive NK-cell leukemia	C94.7
9950/3	Polycythemia vera	D45/MPD
9960/3	Myeloproliferative neoplasm, NOS	D47.1/MPD
9961/3	Primary myelofibrosis	D47.4/MPD
9962/3	Essential thrombocythemia	D47.3/MPD
9963/3	Chronic neutrophilic leukemia	D47.1/MPD
9964/3	Chronic eosinophilic leukemia, NOS	D47.5/MPD
9965/3	Myeloid and lymphoid neoplasms with PDGFRA rearrangement	D47.5/MPD
9966/3	Myeloid neoplasms with PDGFRB rearrangement	C92.7
9967/3	Myeloid and lymphoid neoplasms with FGFR1 abnormalities	C96.7
9971/3	Polymorphic post-transplant lymphoproliferative disorder	D47.7/MPD
9975/3	Myeloproliferative neoplasm, unclassifiable	D47.1/MPD
9980/3	Refractory anemia	D46.4/MDS
9982/3	Refractory anemia with sideroblasts	D46.1/MDS
9983/3	Refractory anemia with excess blasts	D46.2/MDS
9984/3	Refractory anemia with excess blasts in transformation	C92.0
9985/3	Refractory cytopenia with multilineage dysplasia	D46.5/MDS
9986/3	Myelodysplastic syndrome with 5q deletion (5q-) syndrome	D46.6/MDS
9987/3	Therapy-related myelodysplastic syndrome, NOS	D46.7/MDS
9989/3	Myelodysplastic syndrome, NOS	D46.9/MDS
9991/3	Refractory neutropenia	D46.7/MDS
9992/3	Refractory thrombocytopenia	D46.7/MDS

§If used for “Blastic plasmacytoid dendritic cell neoplasm”, then convert to C86.4
#Normally coded with behaviour code /1, but a few cases were reported with behaviour code /3

Table 3.3. Coding practices of the registries included in CI5 Volume XII

Registry	Behaviour codes							
	Benign tumours of brain and nervous system	Carcinoma of bladder, in situ	Carcinoma of bladder, not otherwise specified	Ovarian cystadenoma of borderline malignancy	Borderline tumour of ovary	Ductal carcinoma of breast, in situ	Intraductal carcinoma of breast, not otherwise specified	Lobular carcinoma of breast, in situ
Africa								
Algeria, Batna	–	–	–	–	–	–	–	–
Algeria, Tizi Ouzou	0	3	3	3	3	3	3	3
Benin, Cotonou	0	2	3	1	1	2	3	3
France, La Réunion	0	2	1	1	1	2	2	2
Kenya, Eldoret	0	2	3	1	1	2	2	2
Kenya, Nairobi	0	2	3	1	1	2	3	2
Mauritius	3	2	3	3	3	2	2	2
Morocco, Casablanca	0	2	3	1	1	2	3	2
Seychelles	2	2	2	2	2	2	2	2
South Africa, Eastern Cape	0	2	3	1	1	2	3	2
Uganda, Gulu	0	2	3	1	1	2	2	2
Uganda, Kyadondo County	3	–	3	3	–	–	3	–
Zimbabwe, Bulawayo: African	0	2	3	1	1	2	2	2
Zimbabwe, Harare: African	0	2	3	1	1	2	2	2
Central and South America and the Caribbean								
Argentina, Entre Ríos Province	3	2	3	1	1	2	2	2
Argentina, Mendoza	0	2	9	1	1	2	2	2
Brazil, Aracaju	0	2	3	1	1	2	2	2
Brazil, Barretos	9	2	3	1	1	2	2	2
Brazil, Belo Horizonte	–	–	–	–	–	–	–	–
Brazil, Campinas	–	–	–	–	–	–	–	–
Brazil, Curitiba	–	2	3	1	1	2	2	2
Brazil, Goiânia	3	2	3	3	2	2	2	2
Brazil, Jaú	0	2	3	1	1	2	2	2
Brazil, João Pessoa	–	–	–	–	–	–	–	–
Brazil, Recife	–	–	–	–	–	–	–	–
Chile, Region of Antofagasta	0	–	3	–	–	2	2	2
Chile, Valdivia	0	2	3	2	2	2	2	2
Colombia, Bucaramanga	0	2	3	1	1	2	2	2
Colombia, Cali	0	–	–	–	–	2	2	2
Colombia, Manizales	1	2	3	–	–	–	3	–
Colombia, Pasto	1	2	3	1	1	2	3	2
Costa Rica	0	2	3	1	1	2	2	2
Ecuador, Guayaquil	1	2	3	1	1	2	3	2
Ecuador, Manabí	0	2	3	1	1	2	2	2
Ecuador, Quito	0	2	3	–	–	2	2	2
France, Guadeloupe	0	2	3	1	1	2	2	2
France, Martinique	0	2	3	1	1	2	2	2
Peru, Lima	0	2	3	1	1	2	2	2
Trinidad and Tobago	0	2	3	1	1	2	2	2
USA, Puerto Rico	0	2	2	1	1	2	2	2
Uruguay	0	2	3	1	1	2	2	2
North America								
Canada, Alberta	0	2	3	1	1	2	2	2
Canada, British Columbia	0	2	3	1	1	2	3	2
Canada, Manitoba	0	2	3	1	1	2	2	2
Canada, New Brunswick	0	2	3	1	1	2	2	2
Canada, Newfoundland and Labrador	0	2	2	0	1	2	2	2

Table 3.3. (Contd) Coding practices of the registries included in CI5 Volume XII

Registry	Behaviour codes							
	Benign tumours of brain and nervous system	Carcinoma of bladder, in situ	Carcinoma of bladder, not otherwise specified	Ovarian cystadenoma of borderline malignancy	Borderline tumour of ovary	Ductal carcinoma of breast, in situ	Intraductal carcinoma of breast, not otherwise specified	Lobular carcinoma of breast, in situ
Canada, Ontario	0	2	3	0	0	2	2	2
Canada, Prince Edward Island	0	2	2	1	1	2	2	2
Canada, Quebec	0	2	3	1	1	2	2	2
Canada, Saskatchewan	0	2	3	1	1	2	2	2
Canada, Yukon	0	2	3	1	1	2	3	2
+USA	–	–	–	–	–	–	–	–
+USA, NPCR	0	3	3	1	1	2	2	2
+§USA, SEER (18 registries)	0	2	3	1	1	2	3	2
+USA, SEER (9 registries)	–	–	–	–	–	–	–	–
§USA, Alabama	0	2	3	1	1	2	2	2
USA, Alaska	0	2	3	1	1	2	3	2
§USA, Arizona	0	2	3	1	1	2	2	2
§USA, Arkansas	0	2	3	1	1	2	2	2
§USA, California	0	2	3	1	1	2	2	2
§USA, California, Los Angeles County	1	2	3	1	1	2	2	2
§USA, California, San Francisco Bay Area	0	2	3	1	1	2	2	2
§USA, Colorado	0	2	3	3	1	2	2	2
USA, Connecticut	0	2	3	1	1	2	2	2
§USA, District of Columbia	0	2	3	1	1	2	2	2
§USA, Florida	0	2	3	1	1	2	2	2
§USA, Georgia	0	2	3	1	1	2	2	2
§USA, Georgia, Atlanta	0	2	3	1	1	2	2	2
USA, Idaho	0	2	3	1	1	2	2	2
§USA, Indiana	0,1	2	2	1	1	2	2	2
USA, Iowa	0	2	3	–	–	2	2	2
§USA, Kentucky	0	2	3	1	1	2	2	2
USA, Louisiana	0	2	3	1	1	2	2	2
§USA, Louisiana, New Orleans	0	2	3	1	1	2	2	2
§USA, Maine	0	2	3	1	1	2	2	2
§USA, Maryland	1	2	3	1	1	2	3	2
§USA, Massachusetts	0	2	3	1	1	0	3	0
§USA, Michigan	0	2	3	1	1	2	2	2
§USA, Michigan, Detroit	0	2	2	1	1	2	2	2
§USA, Minnesota	0	2	–	1	1	2	2	2
§USA, Mississippi	0	2	3	1	1	2	2	2
§USA, Missouri	0	2	3	1	1	2	2	2
§USA, Montana	0	2	3	1	1	2	2	2
§USA, Nebraska	0	2	2	1	1	2	2	2
§USA, Nevada	0	2	3	1	1	2	2	2
USA, New Jersey	0	2	3	1	1	2	2	2
§USA, New Mexico	0	2	3	1	1	2	2	2
§USA, New York State	0	2	3	1	1	2	2	2
§USA, North Carolina	0	2	3	1	1	2	2	2
§USA, North Dakota	0	2	3	1	1	2	2	2
§USA, Ohio	0	2	1	1	1	2	1	2
§USA, Oklahoma	0	2	3	1	1	2	2	2
§USA, Oregon	0,1	2	3	1	1	2	2	2
§USA, Rhode Island	0	2	3	1	1	2	3	2
§USA, South Carolina	0	2	3	1	1	2	2	2
§USA, South Dakota	0	2	3	0	1	2	3	2
§USA, Tennessee	0	2	3	1	1	2	3	2

Table 3.3. (Contd) Coding practices of the registries included in CI5 Volume XII

Registry	Behaviour codes							
	Benign tumours of brain and nervous system	Carcinoma of bladder, in situ	Carcinoma of bladder, not otherwise specified	Ovarian cystadenoma of borderline malignancy	Borderline tumour of ovary	Ductal carcinoma of breast, in situ	Intraductal carcinoma of breast, not otherwise specified	Lobular carcinoma of breast, in situ
§USA, Texas	0,1	2	3	1	1	2	2	2
§USA, Utah	0	2	3	1	1	2	2	2
§USA, Vermont	0	2	3	1	1	2	2	2
§USA, Washington State	0	2	2	1	1	2	2	2
§USA, Washington, Seattle	0	2	3	1	1	2	2	2
§USA, West Virginia	0	2	3	1	1	2	2	2
§USA, Wyoming	0	2	–	1	1	2	2	2
Asia								
Bahrain: Bahrainis	–	–	–	–	–	–	–	–
Brunei Darussalam	1	2	3	1	1	2	3	2
China, Anfu County	0	2	3	3	3	2	3	2
China, Anguo City	0	2	3	1	1	2	3	2
China, Anshan City	0	2	1	3	1	2	1	2
China, Aohan Banner, Chifeng City	0	2	3	1	1	2	2	2
China, Arongqi	0	2	3	1	1	2	2	2
China, Baoding City	0	2	3	1	1	2	3	2
China, Beijing City	0	2	3	1	1	2	2	2
China, Binhai County	0	2	3	1	1	2	2	2
China, Cangzhou City	0	2	3	1	1	2	3	2
China, Changfeng County	0	2	3	3	1	2	3	2
China, Changzhou City	0	2	3	1	1	2	2	2
China, Chengdu City	0	2	3	1	1	2	2	2
China, Ci Xian County	0	2	3	1	1	2	3	2
China, Cixi City	0	2	3	1	1	2	2	2
China, Dafeng District, Yancheng City	0	2	3	1	1	2	3	2
China, Dalian City	0	2	3	3	3	2	3	2
China, Dancheng County	0	2	3	3	1	2	2	2
China, Dangtu County	0	2	3	1	1	2	2	2
China, Danyang City	–	–	–	–	–	–	–	–
China, Dawukou District, Shizuishan City	0	2	3	1	1	2	2	2
§China, Dehui City	0	2	3	1	2	2	3	2
China, Donggang County	3	3	3	3	3	3	3	3
China, Dongguan City	0	2	3	1	1	2	2	2
China, Donghai County	0	2	3	1	1	2	3	2
China, Dongtai City	0	2	3	3	1	2	3	2
China, Duanzhou District, Zhaoqing City	0	2	3	1	1	2	2	2
China, Evenki Autonomous Banner	0	2	3	1	1	2	2	2
China, Faku County	0	2	3	3	1	2	3	2
China, Fangcheng County	0	2	3	3	3	2	3	2
China, Feicheng City	0	2	3	1	1	2	2	2
China, Feixi County	0	2	3	3	1	2	3	2
China, Fuqing City	0	2	3	3	3	2	3	2
China, Ganyu District, Lianyungang City	0	2	3	1	1	2	2	2
§China, Ganzhou District, Zhangye City	–	–	–	–	–	–	–	–
China, Gaocheng City	0	2	3	1	1	2	3	2
China, Gaomi City	0	2	3	1	1	2	2	2

Table 3.3. (Contd) Coding practices of the registries included in CI5 Volume XII

Registry	Behaviour codes							
	Benign tumours of brain and nervous system	Carcinoma of bladder, in situ	Carcinoma of bladder, not otherwise specified	Ovarian cystadenoma of borderline malignancy	Borderline tumour of ovary	Ductal carcinoma of breast, in situ	Intraductal carcinoma of breast, not otherwise specified	Lobular carcinoma of breast, in situ
China, Gong'an County	0	2	3	3	1	2	2	2
China, Guang'an District, Guang'an City	0	2	3	1	1	2	2	2
China, Guanghan City	0	2	2	1	1	2	1	2
China, Guangzhou City	0	2	3	1	1	2	2	2
§China, Guanyun County	0	2	3	1	1	2	3	2
China, Guilin City	0	2	1	1	1	2	1	2
China, Hai'an City	–	–	–	–	–	–	–	–
China, Hailar District, Hulun Buir City	0	2	3	1	1	2	2	2
China, Haimen District, Nantong City	0	2	3	3	1	2	2	2
China, Haining City	0	2	3	1	1	2	2	2
China, Hangzhou City	0	2	3	1	1	2	2	2
China, Hebi City	0	2	3	1	1	2	2	2
China, Hefei City	0	2	3	1	1	2	2	2
China, Hengdong County	0	2	3	1	1	2	2	2
China, Hengfeng County	0	2	3	3	3	2	3	2
§China, Hepu County	0	2	3	1	1	2	2	2
China, Honghu City	0	2	3	3	1	2	2	2
China, Hongshan District, Chifeng City	0	2	3	1	1	2	2	2
China, Hongta District, Yuxi City	–	–	–	–	–	–	–	–
China, Huaiyin District, Huai'an City	0	2	3	1	1	2	2	2
China, Jiange County	0	2	3	1	1	2	2	2
China, Jiangmen City	0	2	3	3	1	2	2	2
China, Jiangyin City	0	2	3	1	1	2	2	2
China, Jiashan County	0	2	3	1	1	2	2	2
China, Jiayu County	0	2	3	3	1	2	2	2
China, Jinan City	0	2	1	1	1	2	9	2
§China, Jingtai County	3	2	3	3	1	2	2	2
China, Jingxian County	0	2	3	1	1	2	3	2
China, Jintan District, Changzhou City	–	–	–	–	–	–	–	–
China, Jiulongpo District, Chongqing City	0	2	3	1	1	2	3	2
China, Jiyuan City	0	2	3	3	3	2	3	2
China, Kaihua County	0	2	3	1	1	2	2	2
China, Kunshan City	0	2	3	1	1	2	2	2
China, Langzhong City	0	2	3	3	1	2	3	2
China, Liangshan County	–	–	–	–	–	–	–	–
China, Lianshui County	0	2	3	1	1	2	3	2
China, Lianyungang City	0	2	3	1	1	2	3	2
China, Linhe District, Bayannur City	0	2	3	1	1	2	2	2
China, Linqu County	0	2	3	1	1	2	2	2
§China, Linzhou City	3	2	3	3	3	2	1	2
China, Liuzhou City	0	2	1	1	1	2	1	2
China, Liyang City	0	2	3	1	1	2	2	2
China, Longquan City	0	2	3	1	0	2	2	2
China, Lucheng District, Wenzhou City	0	2	3	1	1	2	2	2
China, Luoding City	0	2	3	1	1	2	2	2
China, Luohe City	0	2	3	3	1	2	3	2

Table 3.3. (Contd) Coding practices of the registries included in CI5 Volume XII

Registry	Behaviour codes							
	Benign tumours of brain and nervous system	Carcinoma of bladder, in situ	Carcinoma of bladder, not otherwise specified	Ovarian cystadenoma of borderline malignancy	Borderline tumour of ovary	Ductal carcinoma of breast, in situ	Intraductal carcinoma of breast, not otherwise specified	Lobular carcinoma of breast, in situ
China, Luoyang City	0	2	3	3	3	2	3	2
China, Luquan City	0	2	3	1	1	2	3	2
China, Ma'anshan City	0	2	3	1	1	2	2	2
China, Macheng City	0	2	3	3	1	2	2	2
China, Meihekou City	0	2	3	1	1	2	2	2
China, Mengjin County	0	0	3	3	2	2	3	2
China, Nangang District, Harbin City	0	1	3	3	1	1	1	1
China, Nanhai District, Foshan City	0	2	3	1	1	2	2	2
China, Nanhu District, Jiaxing City	0	2	3	1	1	2	2	2
China, Nantong City	–	–	–	–	–	–	–	–
China, Nanxiong City	0	2	3	1	1	2	2	2
China, Neixiang County	0	2	3	3	1	2	2	2
China, Qianxi County	0	2	3	1	1	2	3	2
China, Qidong City	0	2	3	1	1	2	2	2
China, Qingzhou City	0	2	3	1	1	2	2	2
China, Rudong County	0	2	3	3	1	2	2	2
China, Rugao City	–	–	–	–	–	–	–	–
China, Rural areas of Shanghai City	–	–	–	–	–	–	–	–
China, Ruyang County	0	2	3	3	3	2	3	2
China, Shan County	0	2	9	3	1	2	9	2
China, Shanghai City	0	2	3	1	1	2	2	2
China, Shangyu District, Shaoxing City	0	2	3	1	1	2	2	2
China, Shapingba District, Chongqing City	0	2	3	1	1	2	3	2
China, She Xian County	3	2	3	1	1	2	2	2
China, Sheyang County	0	2	3	1	1	2	2	2
China, Shijiazhuang City	0	2	3	1	1	2	3	2
China, Shunde District, Foshan City	0	2	3	3	1	2	2	2
China, Song County	0	2	3	3	3	2	3	2
China, Suzhou City	0	2	3	1	1	2	2	2
China, Tengzhou City	0	2	3	3	1	2	2	2
China, Wangdu County	0	2	3	1	1	2	3	2
China, Wanzai County	0	2	3	3	3	2	3	2
China, Wu'an City	0	2	3	1	1	2	3	2
China, Wuhan City	3	2	3	1	1	2	2	2
China, Wuhu City	0	2	1	1	1	2	2	2
China, Wuxi City	0	2	3	1	1	2	2	2
China, Wuzhou City	0	2	3	3	1	2	3	2
China, Xiangfu District, Kaifeng City	0	2	3	3	1	2	2	2
China, Xianju County	0	2	3	1	1	2	2	2
China, Xin'an County	0	0	0	3	3	2	3	2
§China, Xining City	0	2	3	3	0	2	3	2
China, Xinji City	0	2	3	1	1	2	3	2
China, Xinluo District, Longyan City	0	2	3	3	3	2	3	2
China, Xinzhou District, Shangrao City	0	2	3	3	3	2	3	2
China, Xiping County	0	2	3	3	1	2	3	2

Table 3.3. (Contd) Coding practices of the registries included in CI5 Volume XII

Registry	Behaviour codes							
	Benign tumours of brain and nervous system	Carcinoma of bladder, in situ	Carcinoma of bladder, not otherwise specified	Ovarian cystadenoma of borderline malignancy	Borderline tumour of ovary	Ductal carcinoma of breast, in situ	Intraductal carcinoma of breast, not otherwise specified	Lobular carcinoma of breast, in situ
China, Xishan District, Kunming City	–	–	–	–	–	–	–	–
China, Xuyi County	0	2	3	1	1	2	2	2
China, Ya'an City	0	2	3	1	1	2	2	2
China, Yakeshi City	0	2	3	1	1	2	2	2
China, Yancheng City	0	2	3	1	1	2	2	2
China, Yangquan City	–	–	–	–	–	–	–	–
China, Yangzhong City	0	1	0	0	0	2	0	2
§China, Yanji City	0	2	3	1	1	2	2	2
China, Yanshi City	0	2	3	3	3	2	3	2
China, Yanting County	3	3	3	3	3	3	3	3
China, Yi'an District, Tongling City	0	2	3	1	1	2	2	2
China, Yingdong District, Fuyang City	0	2	3	1	1	2	2	2
China, Yinzhou District, Ningbo City	–	–	–	–	–	–	–	–
China, Yiyuan County	–	–	–	–	–	–	–	–
China, Yong'an City	0	2	3	3	3	2	3	2
China, Yongding District, Longyan City	–	–	–	–	–	–	–	–
China, Yongkang City	0	2	3	1	1	2	2	2
China, Yucheng County	0	2	3	3	3	2	3	2
China, Yueyanglou District, Yueyang City	0	2	3	3	0	2	2	2
China, Yunmeng County	0	2	3	3	3	2	3	2
China, Yunyang District, Shiyan City	0	2	3	3	1	2	2	2
China, Yuzhong District, Chongqing City	0	2	3	1	1	2	3	2
China, Zanhuang County	0	2	3	1	1	2	3	2
China, Zhangjiagang City	–	–	–	–	–	–	–	–
China, Zhaoyuan City	0	2	3	1	1	2	2	2
China, Zhengding County	0	2	3	1	1	2	3	2
China, Zhongshan City	0	2	3	1	1	2	2	2
China, Zhongxiang City	0	2	3	3	1	2	3	2
China, Zhuanghe City	–	–	–	–	–	–	–	–
China, Zhuhai City	0	2	3	1	1	2	2	2
India, Ahmedabad, Urban	0	2	3	1	1	2	3	2
India, Aurangabad	0	2	3	1	1	2	3	2
India, Bangalore	0	2	3	1	1	2	3	2
India, Barshi, Paranda, and Bhum	0	2	3	1	1	2	3	2
India, Bhopal	0	2	3	1	1	2	3	2
India, Chandigarh	–	–	–	–	–	–	–	–
India, Chennai	0	2	3	1	1	2	3	2
India, Dibrugarh	0	2	3	1	1	2	3	2
India, Dindigul, Ambilikkai	0	2	9	1	1	2	2	2
India, Kamrup Urban District	0	2	3	1	1	2	3	2
India, Kollam	0	2	3	1	1	2	3	2
India, Manipur	0	2	3	1	1	2	3	2
India, Meghalaya	0	2	3	1	1	2	3	2
India, Mizoram	0	2	3	1	1	2	3	2
India, Mumbai	0	2	3	1	1	2	3	2
India, New Delhi	0	2	3	1	1	2	3	2

Table 3.3. (Contd) Coding practices of the registries included in CI5 Volume XII

Registry	Behaviour codes							
	Benign tumours of brain and nervous system	Carcinoma of bladder, in situ	Carcinoma of bladder, not otherwise specified	Ovarian cystadenoma of borderline malignancy	Borderline tumour of ovary	Ductal carcinoma of breast, in situ	Intraductal carcinoma of breast, not otherwise specified	Lobular carcinoma of breast, in situ
India, Poona	0	2	3	1	1	2	3	2
India, Sangrur District	–	–	–	–	–	–	–	–
India, SAS Nagar	–	–	–	–	–	–	–	–
India, Tamil Nadu	–	–	–	–	–	–	–	–
India, Tripura	0	2	3	1	1	2	3	2
India, Trivandrum	0	2	3	1	1	2	3	2
India, Wardha	0	2	3	1	1	2	3	2
India, West Arunachal	–	–	–	–	–	–	–	–
Iran (Islamic Republic of), Ardabil Province	–	–	–	–	–	–	–	–
Iran (Islamic Republic of), Golestan Province	0	2	3	1	1	2	2	2
Israel	0	2	3	1	1	2	2	2
Japan	0	2	3	1	1	2	3	2
Japan, Aichi Prefecture	0	2	3	1	1	2	2	2
Japan, Akita Prefecture	–	–	–	–	–	–	–	–
Japan, Aomori Prefecture	0	2	3	1	1	2	2	2
Japan, Gunma Prefecture	0	2	3	1	1	2	2	2
Japan, Hiroshima Prefecture	0	2	3	1	1	2	2	2
Japan, Miyagi Prefecture	0	2	3	1	1	2	2	2
Japan, Osaka Prefecture	0	2	3	1	1	2	3	2
Kuwait	–	–	–	–	–	–	–	–
Philippines, Manila	1	2	3	1	1	2	2	2
Qatar: Qatari	0	2	3	1	1	2	2	2
Republic of Korea	0	2	3	1	1	2	2	2
§Republic of Korea, Busan	0	2	3	1	1	2	2	2
§Republic of Korea, Daegu	0	2	3	1	1	2	2	2
§Republic of Korea, Daejeon	0	2	3	1	1	2	2	2
§Republic of Korea, Gwangju	0	2	3	1	1	2	3	2
Republic of Korea, Incheon	0	2	3	1	1	2	2	2
Republic of Korea, Jeju	0	2	3	1	1	2	2	2
Republic of Korea, Seoul	0	2	3	1	1	2	2	2
Republic of Korea, Ulsan	0	2	3	1	1	2	2	2
Singapore	0	2	3	1	1	2	2	2
Thailand, Bangkok	0	2	3	3	1	2	3	2
Thailand, Chiang Mai	0	2	3	1	1	2	2	2
Thailand, Khon Kaen	0	2	3	1	1	2	2	2
Thailand, Lampang	0	2	3	1	1	2	2	2
Thailand, Lopburi Province	0	2	3	1	1	2	2	2
Thailand, Songkhla	0	2	3	1	1	2	2	2
Turkey, Antalya	–	–	–	–	–	–	–	–
Turkey, Bursa	0	2	3	1	1	2	3	2
Turkey, Edirne	0	2	3	1	1	2	3	2
Turkey, Erzurum	0	2	3	1	1	2	3	2
Turkey, Eskişehir	0	2	3	1	1	2	2	2
Turkey, Gaziantep	0	2	3	1	1	2	3	2
Turkey, Izmir	0	2	3	1	1	2	3	2
Turkey, Malatya	0	2	3	1	1	2	3	2
Turkey, Samsun	0	2	3	1	1	2	3	2
Turkey, Trabzon	0	2	3	1	1	2	2	2

Table 3.3. (Contd) Coding practices of the registries included in CI5 Volume XII

Registry	Behaviour codes							
	Benign tumours of brain and nervous system	Carcinoma of bladder, in situ	Carcinoma of bladder, not otherwise specified	Ovarian cystadenoma of borderline malignancy	Borderline tumour of ovary	Ductal carcinoma of breast, in situ	Intraductal carcinoma of breast, not otherwise specified	Lobular carcinoma of breast, in situ
Europe								
Austria	0	2	3	1	1	2	3	2
Austria, Carinthia	0	2	1	1	1	2	2	2
Austria, Tyrol	0	2	3	1	1	2	2	2
Austria, Vorarlberg	0	2	3	1	1	2	2	2
Belarus	3	2	3	3	3	2	3	2
Belgium	1	2	3	1	1	2	2	2
Croatia	0	2	3	1	1	2	2	2
Cyprus	0	2	3	1	1	2	2	2
§Czech Republic	0	2	3	2	1	2	3	2
Denmark	0	2	1	1	1	2	1	2
Estonia	0	2	3	1	1	2	2	2
Finland	1	2	3	1	1	2	2	2
§France, Bas-Rhin	0	2	3	1	1	2	2	2
France, Calvados	0	2	2	1	1	2	2	2
France, Doubs	0	2	3	1	1	2	2	2
France, Gironde	1	2	3	1	2	2	2	2
France, Haut-Rhin	0	2	3	1	1	2	2	2
France, Hérault	0	2	1	1	1	2	2	2
§France, Isère	0,1	2	1,3	1	1	2	2	2
France, Lille-Métropole	0	2	1	1	1	2	2	2
France, Limousin	1	2	3	1	1	2	2	2
France, Loire-Atlantique	9	2	9	1	1	2	2	2
France, Manche	0	2	1	1	1	2	2	2
France, Poitou-Charentes	0	2	1	1	1	2	2	2
France, Somme	1	2	1	1	1	2	2	2
France, Tarn	0	2	1	1	1	2	2	2
France, Territoire de Belfort	0	2	3	1	1	2	2	2
France, Vendée	9	2	9	1	1	2	2	2
Germany, Baden-Württemberg	0	2	3	1	1	2	3	2
Germany, Bavaria	0	2	3	1	1	2	3	2
Germany, Bremen	0	2	3	1	1	2	2	2
Germany, Hamburg	0	2	3	1	1	2	2	2
Germany, Lower Saxony	0	2	3	1	1	2	2	2
Germany, North Rhine-Westphalia	0	2	3	1	1	2	3	2
Germany, Rhineland-Palatinate	0	2	3	1	1	2	2	2
Germany, Saarland	0	2	3	3	1	2	3	2
Germany, Schleswig-Holstein	0	2	3	1	1	2	2	2
Iceland	1	2	3	1	1	2	2	2
Ireland	0	2	1	1	1	2	2	2
Italy, Aosta Valley	0	2	3	1	1	2	2	2
Italy, Avellino	0	2	1	1	1	2	2	2
Italy, Basilicata	0	2	3	1	2	2	2	2
Italy, Benevento	0	2	1	1	1	2	2	2
Italy, Bergamo	0	2	1	1	1	2	2	2
Italy, Brescia	0	2	1	1	1	2	2	2
Italy, Brianza (Lecco and Monza e Brianza)	0	2	1	1	1	2	2	2
Italy, Calabria	0	2	3	1	1	2	2	2
Italy, Caserta	0	2	1	1	1	2	2	2
Italy, Catania, Messina, and Enna	0	2	3	1	1	2	2	2

Table 3.3. (Contd) Coding practices of the registries included in CI5 Volume XII

Registry	Behaviour codes							
	Benign tumours of brain and nervous system	Carcinoma of bladder, in situ	Carcinoma of bladder, not otherwise specified	Ovarian cystadenoma of borderline malignancy	Borderline tumour of ovary	Ductal carcinoma of breast, in situ	Intraductal carcinoma of breast, not otherwise specified	Lobular carcinoma of breast, in situ
Italy, Emilia-Romagna	0	2	3	1	1	2	3	2
Italy, Friuli-Venezia Giulia	0	2	1	1	1	2	1	2
Italy, Genova	0	2	3	1	1	2	2	2
Italy, Lombardy, South, Pavia	0	2	3	1	1	2	2	2
Italy, Mantova and Cremona	0	2	3	1	1	2	2	2
Italy, Marche	0	2	2	1	1	2	2	2
Italy, Milan	0	2	3	1	1	2	2	2
Italy, Molise	0	2	3	1	1	2	2	2
Italy, Naples Centre	0	2	3	1	1	2	2	2
Italy, Naples North	0	2	1	1	1	2	2	2
Italy, Naples South	0	2	1	1	1	2	2	2
§Italy, Nuoro	0	2	1	1	1	2	2	2
Italy, Palermo	0	2	1	1	1	2	2	2
Italy, Puglia	0	2	3	1	1	2	2	2
Italy, Ragusa and Caltanissetta	0	2	1	1	1	2	2	2
Italy, Salerno	0	2	2	1	1	2	2	2
Italy, Sassari	0	2	1	1	1	2	2	2
§Italy, Sondrio	0	2	3	3	3	2	2	2
Italy, South Tyrol	0	2	3	1	1	2	2	2
Italy, Syracuse	0	2	3	1	1	2	2	2
Italy, Trento	0	2	3	1	1	2	2	2
Italy, Turin	0	2	1	1	1	2	2	2
Italy, Tuscany	0	2	2	1	1	2	2	2
Italy, Umbria	0	2	3	1	1	2	2	2
Italy, Varese	0	2	1	0	0	2	2	2
Italy, Veneto	–	2	1	–	–	–	–	–
Latvia	0	2	3	3	3	2	3	2
Liechtenstein	0	2	3	1	1	2	3	2
Lithuania	0	2	3	1	1	2	2	2
Malta	0	2	3	1	1	2	3	2
Norway	1	2	2	1	1	2	2	2
Poland, Kielce	0	2	3	1	1	2	2	2
Portugal, Azores	0	2	3	1	1	2	2	2
Russian Federation, Arkhangelsk	0	2	3	3	3	2	3	2
Russian Federation, Kaliningrad	0	2	3	3	3	2	3	2
Russian Federation, Karelia	0	2	3	3	3	2	3	2
Russian Federation, Komi Republic	–	–	–	–	–	–	–	–
Russian Federation, Murmansk	0	2	3	3	3	2	3	2
Russian Federation, Orenburg	0	2	3	3	3	2	3	2
Russian Federation, Pskov	0	2	3	3	3	2	3	2
Russian Federation, Samara	0	2	3	3	3	2	3	2
Russian Federation, Vologda Region	0	2	3	3	3	2	3	2
Slovenia	0	2	3	1	1	2	2	2
Spain, Asturias	0	2	3	1	1	2	2	2
Spain, Basque Country	0	2	3	1	1	2	2	2
Spain, Canary Islands	0	2	1	1	1	2	2	2
Spain, Castellón	0	2	3	1	1	2	2	2
Spain, Girona	0	2	1	1	1	2	2	2
Spain, Granada	0	2	2	1	1	2	2	2
Spain, La Rioja	0	2	3	1	1	2	2	2

Table 3.3. (Contd) Coding practices of the registries included in CI5 Volume XII

Registry	Behaviour codes							
	Benign tumours of brain and nervous system	Carcinoma of bladder, in situ	Carcinoma of bladder, not otherwise specified	Ovarian cystadenoma of borderline malignancy	Borderline tumour of ovary	Ductal carcinoma of breast, in situ	Intraductal carcinoma of breast, not otherwise specified	Lobular carcinoma of breast, in situ
Spain, Murcia	0	2	3	1	1	2	2	2
Spain, Navarra	0	2	3	1	1	2	2	2
Spain, Salamanca	9	9	3	9	9	9	9	9
Spain, Tarragona	0	2	3	1	1	2	2	2
Sweden	1	2	1	1	3	2	2	2
Switzerland, Aargau	0	2	3	1	1	2	3	2
Switzerland, Basel	0	2	3	1	1	2	2	2
Switzerland, Berne Solothurn	0	2	3	1	1	2	2	2
Switzerland, East	0	2	3	1	1	2	3	2
Switzerland, Fribourg	0	2	3	1	1	2	2	2
Switzerland, Geneva	0	2	3	1	1	2	3	2
Switzerland, Graubünden and Glarus	0	2	3	1	1	2	3	2
Switzerland, Lucerne	–	–	–	–	–	–	–	–
Switzerland, Neuchâtel and Jura	0	2	3	1	1	2	2	2
Switzerland, Ticino	0	2	3	1	1	2	2	2
Switzerland, Valais	0	2	3	1	1	2	2	2
Switzerland, Vaud	0	2	3	1	1	2	2	2
Switzerland, Zurich and Zug	0	2	3	–	–	2	2	2
The Netherlands	0	2	3	1	1	2	2	2
UK, England	0	2	3	1	1	2	2	2
UK, Northern Ireland	0	2	3	1	1	2	3	2
UK, Scotland	0	2	3	1	1	2	3	2
UK, Wales	9	9	9	1	1	9	9	9
Ukraine	0	2	3	3	1	2	3	2
Oceania								
Australia, NSW/ACT	0	2	2	1	1	2	2	2
Australia, Northern Territory	0	2	3	1	1	2	2	2
Australia, Queensland	0	2	3	1	1	2	2	2
Australia, South Australia	0	2	1	1	1	2	2	2
Australia, Tasmania	–	2	–	1	1	2	2	2
Australia, Victoria	0	2	3	1	1	2	2	2
Australia, Western Australia	0	2	3	1	1	2	3	2
France, New Caledonia	0	2	1	1	1	2	2	2
New Zealand	–	2	3	–	–	2	3	2
USA, Hawaii	0	2	3	1	1	2	2	2

§Information comes from CI5 Volume XI.

+A combination of registries used in statistical analyses – not included in the count of registries included in this volume (Table 1.1).

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Chapter 4: Histological groups

Ariana Znaor, Jacques Ferlay, and Brian Rous

BACKGROUND

The data presented in this volume of *Cancer Incidence in Five Continents* (CI5) cover the period 2013–2017 and are mainly organized by the predominantly site-based categories of Chapter II (Neoplasms) of the 10th revision of the *International Classification of Diseases* (ICD-10, 2010 version; WHO, 2010) (see Chapter 3 of this volume). However, for some sites of cancer, the histological type is particularly relevant clinically and/or epidemiologically. In the present volume, the data are grouped according to the same histological types as used in CI5 Volume XI (Bray et al., 2017) and listed in this chapter.

GENERAL STRUCTURE

The main structure of the histological grouping is that specific types of malignant neoplasms are listed, as well as the category "Unspecified malignant neoplasm" (i.e. malignant tumours that are so poorly differentiated that we are unable to classify them into major groups such as carcinoma or sarcoma, or for which the registry does not have specific information on the tumour). Neoplasms that have a specific morphology but are too rare to be listed among the major histological groups are grouped together in the category "Other specified malignant neoplasm". Similarly, in the category "Carcinoma", specific subtypes, such as "Squamous cell carcinoma" and "Adenocarcinoma", are listed, as well as "Unspecified carcinoma" (i.e. carcinomas that are so poorly differentiated that we are unable to classify them according to histological subtype, although it is still possible to distinguish them from non-epithelial malignant neoplasms, such as sarcoma). Morphological codes are listed for the specific types of neoplasm (or carcinoma), and for "Unspecified malignant neoplasm" (or carcinoma). The remaining codes of neoplasia (or carcinoma) are then automatically assigned to the "Other specified malignant neoplasm" (or carcinoma) category.

SITES

For inclusion in CI5 as a distinct histological type within a site group, a type must be both sufficiently common at the site and clinically epidemiologically relevant. The following 15 organ sites are included in this chapter, with accompanying histological type information: oesophagus, anus, liver, lung, bone, skin, cervix uteri, corpus uteri, ovary, testis, kidney and renal pelvis, urinary bladder, eye, brain and central nervous system, and thyroid, as well as haematological malignancies. Some major cancer sites, such as breast and prostate, are not included, because most malignant neoplasms at these sites are adenocarcinomas, and the coding of adenocarcinoma subtypes is not consistent. Kidney was combined with renal pelvis because some urothelial carcinomas originating from the renal pelvis are site coded as kidney cancers, whereas others are coded as renal pelvis cancers. Hodgkin lymphoma and leukaemias are combined together in the haematological group.

TYPES OF NEOPLASMS INCLUDED

The CI5 Volume XII data include all invasive malignant neoplasms and some non-invasive malignant neoplasms (see Chapter 3). For most morphology codes, a fifth digit of /1 or /2 automatically excludes data entry. Carcinoma in situ is reported by many cancer registries but is not generally dealt with in this volume, with the exception of urothelial carcinoma in situ. A few lesions of borderline malignancy are included, such as low-grade non-invasive papillary transitional cell tumours, which are now designated as papillary urothelial neoplasia of low malignant potential (PUNLMP) (8130/1). Flat carcinoma in situ of the urothelium (8120/2) and PUNLMP (8130/1, 8130/2) have been grouped with transitional cell carcinoma in this volume. Because skin has been included, basal cell carcinoma is reported as a separate group, although many cancer registries do not have statistics on these tumours. Within the 15 organ sites presented, there are no cases of mesothelioma (ICD-O M905_), Kaposi sarcoma (9140), lymphoma, or leukaemia (9590–9992), because these cancers have their own specific ICD-10 codes and are presented separately in this volume.

MORPHOLOGY CODES

The grouping of morphology codes presents several difficulties. The ICD-O system is based on separate site (topography) and morphology (histology) codes that can be combined. Inevitably, in cancer registry data, morphology codes are sometimes mistakenly combined with codes for sites where these entities do not occur or have not been reported. Some morphology codes are redundant (i.e. multiple codes can be applied for the same tumour). Other codes are obsolete (i.e. the entities have been renamed or deleted in later revisions of tumour classifications). A major difficulty is the variation in coding precision (specific codes for