International Classification of Primary Care

Introduction

Policy-makers, funders and providers of healthcare need to have information about the epidemiology of their communities, and they need to understand what is happening within primary care to improve health services. For providers to effectively record information about this as part of routine clinical practice, easy to use classification tools are necessary.

The International Classification of Primary Care (ICPC) is the most widely used international classification for systematically capturing and ordering clinical information in primary care. It is developed and updated by the World Organization of Family Doctors' (WONCA) International Classification Committee (WICC). The most recent version is ICPC-2 which was revised in 2015.

ICPC is formally recognised by the World Health Organization's (WHO) Family of International Classifications (WHO-FIC) as a classification system for primary care. It is mapped to the International Classification of Diseases (ICD). This allows communication between the two classification systems and complementary usage. Ongoing cooperation between WONCA and the WHO-FIC network exists for the revision of ICD-10 to ICD-11 and harmonization with ICPC.

What are the unique characteristics of ICPC?

Body system chapters

ICPC is divided into 17 chapters by body systems representing the localisation of the problem and/or disease. This makes it easy to use for healthcare providers. As well as chapters for the different body systems, there is a chapter for general and unspecified issues, and a chapter for social problems. The ability to capture unspecified issues and social problems is extremely important to understand what happens in primary care.

The reason for encounter

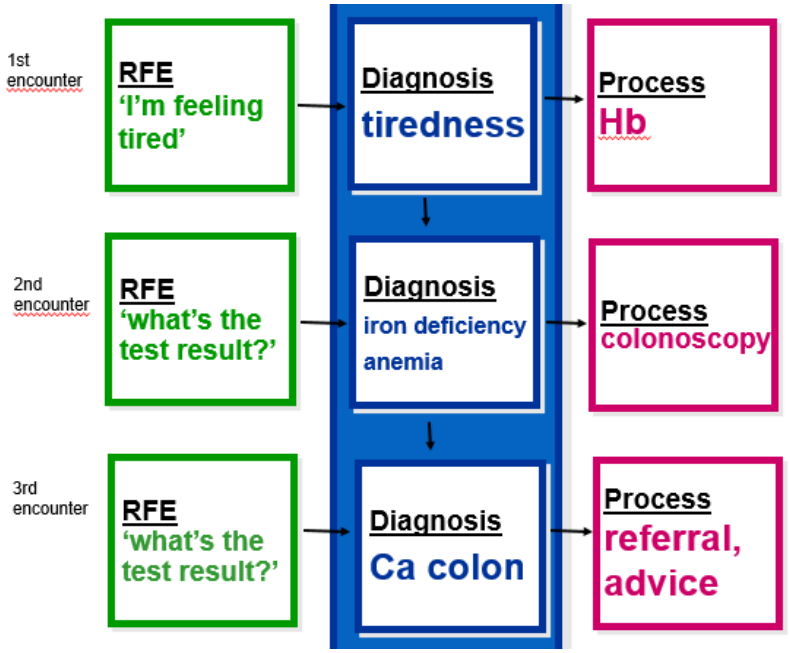
The chapters are divided into seven components. The components deal with (i) symptoms and complaints; (ii) diagnostics, screening and preventive procedures; (iii) medication, treatment and procedures; (iv) test results; (v) administration; (vi) referrals and other reasons for encounter; and (vii) diseases.

A great deal of attention is paid to the patient's symptoms and complaints in the first component of each chapter as the reason for encounter (RFE), which is not captured by ICD. Linkage of codes from the beginning of an encounter, with the RFE, to its conclusion is possible with ICPC.

Episodes of care

ICD is designed to serve the needs of hospital care where patients normally present for a single episode of care and mostly with one, often clearly differentiated, problem. In primary care, however, healthcare providers deal typically with multiple episodes of care over time, and deal with many, often undifferentiated, problems simultaneously.

Therefore, the benefit of ICPC is that it captures episodes of care (EoC) over time. It does so by allowing the simple recording of the first contact between patient and healthcare provider concerning a certain health problem, and ends with the last contact relating to this same problem.



Example of an 'Episode of Care'

The EoC allows for grouping of information over time. Healthcare providers can use this to improve continuity and coordination of care. The ability to collect data using the EoC also creates more insight into the processes related to certain conditions over time, and so a greater understanding of what is needed and the associated costs.

Reflects the content of primary care

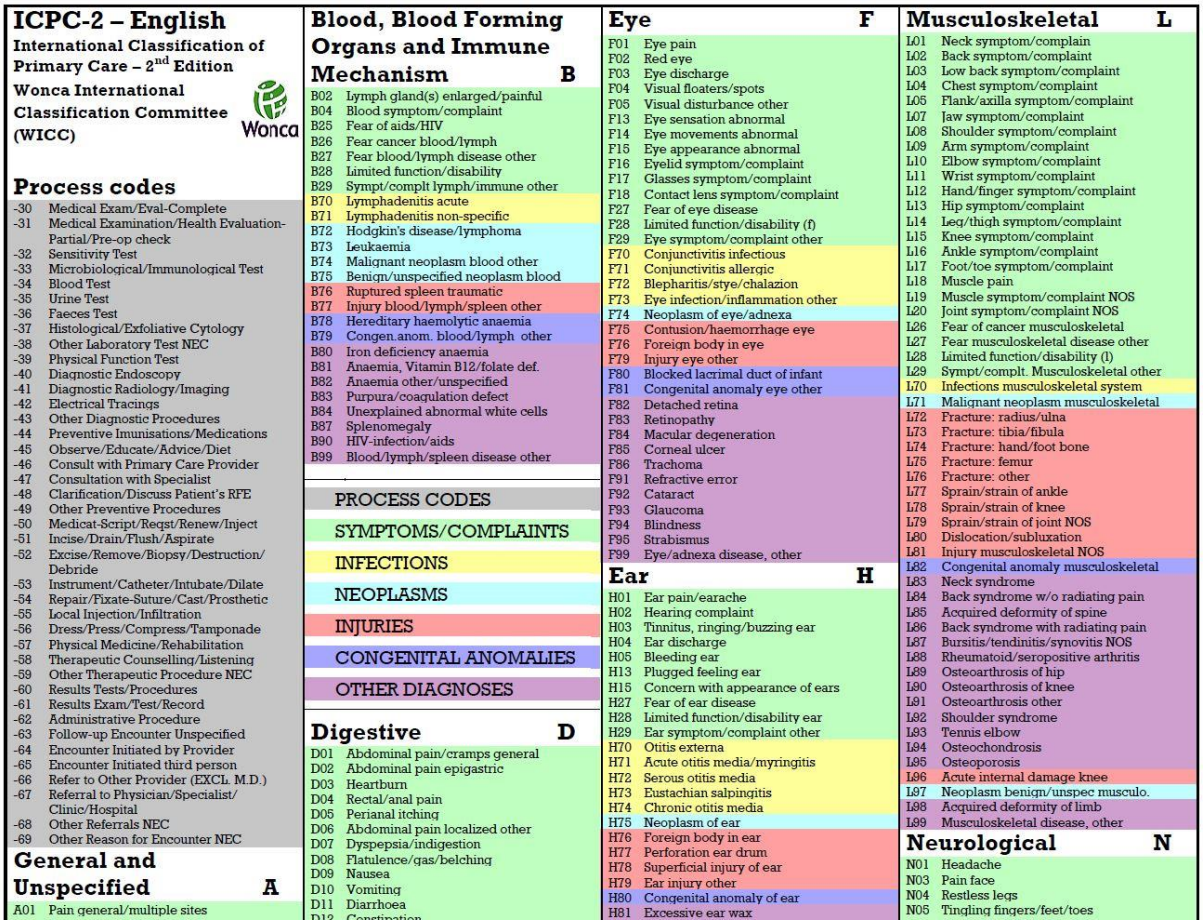
ICPC is a classification system which aims to reflect the content of primary care. The ICPC contains codes that are mainly based on the frequencies with which they are encountered in primary care and with a level of detail that is appropriate for primary care. It is possible to tailor ICPC to match local epidemiological needs.

Enables easy and consistent coding

The whole of ICPC, all codes, fit the front and back of one A4 sheet of paper. ICPC-2 has around 1,300 codes whereas ICD has between 14,000 – 140,000 codes with a complex coding system. The components that form part of each ICPC chapter permit considerable specificity for all three elements of the encounter, yet their symmetrical structure and largely uniform numbering across all chapters also facilitate usage even in manual recording systems.

ICPC is available in Catalan, Chinese, Croatian, Danish, Dutch, English, Finnish, French, German, Greek, Italian, Japanese, Norwegian, Portuguese, Romanian, Russian, Serbian, Slovenian and Spanish

Sample of ICPC-2



ICPC-2 – English

International Classification of Primary Care – 2nd Edition

Wonca International Classification Committee (WICC)

Process codes

-30 Medical Exam/Eval-Complete
-31 Medical Examination/Health Evaluation-Partial/Pre-op check
-32 Sensitivity Test
-33 Microbiological/Immunological Test
-34 Blood Test
-35 Urine Test
-36 Faeces Test
-37 Histological/Exfoliative Cytology
-38 Other Laboratory Test NEC
-39 Physical Function Test
-40 Diagnostic Endoscopy
-41 Diagnostic Radiology/Imaging
-42 Electrical Tracings
-43 Other Diagnostic Procedures
-44 Preventive Imunisations/Medications
-45 Observe/Educate/Advice/Diet
-46 Consult with Primary Care Provider
-47 Consultation with Specialist
-48 Clarification/Discuss Patient's RFE
-49 Other Preventive Procedures
-50 Medicat-Script/Reqst/Renew/Inject
-51 Incise/Drain/Flush/Aspirate
-52 Excise/Remove/Biopsy/Destruction/Debride
-53 Instrument/Catheter/Intubate/Dilate
-54 Repair/Fixate-Suture/Cast/Prosthetic
-55 Local Injection/Infiltration
-56 Dress/Press/Compress/Tamponade
-57 Physical Medicine/Rehabilitation
-58 Therapeutic Counselling/Listening
-59 Other Therapeutic Procedure NEC
-60 Results Tests/Procedures
-61 Results Exam/Test/Record
-62 Administrative Procedure
-63 Follow-up Encounter Unspecified
-64 Encounter Initiated by Provider
-65 Encounter Initiated third person
-66 Refer to Other Provider (EXCL M.D.)
-67 Referral to Physician/Specialist/Clinic/Hospital
-68 Other Referrals NEC
-69 Other Reason for Encounter NEC

General and Unspecified A

A01 Pain general/multiple sites

Blood, Blood Forming Organs and Immune Mechanism B

B02 Lymph gland(s) enlarged/painful
B04 Blood symptom/complaint
B25 Fear of aids/HIV
B26 Fear cancer blood/lymph
B27 Fear blood/lymph disease other
B28 Limited function/disability
B29 Sympt/complt lymph/immune other
B70 Lymphadenitis acute
B71 Lymphadenitis non-specific
B72 Hodgkin's disease/lymphoma
B73 Leukaemia
B74 Malignant neoplasm blood other
B75 Benign/unspecified neoplasm blood
B76 Ruptured spleen traumatic
B77 Injury blood/lymph/spleen other
B78 Hereditary haemolytic anaemia
B79 Congen.anom. blood/lymph other
B80 Iron deficiency anaemia
B81 Anaemia, Vitamin B12/folate def.
B82 Anaemia other/unspecified
B83 Purpura/coagulation defect
B84 Unexplained abnormal white cells
B87 Splenomegaly
B90 HIV-infection/aids
B99 Blood/lymph/spleen disease other

PROCESS CODES
SYMPTOMS/COMPLAINTS
INFECTIONS
NEOPLASMS
INJURIES
CONGENITAL ANOMALIES
OTHER DIAGNOSES

Digestive D

D01 Abdominal pain/cramps general
D02 Abdominal pain epigastric
D03 Heartburn
D04 Rectal/anal pain
D05 Perianal itching
D06 Abdominal pain localized other
D07 Dyspepsia/indigestion
D08 Flatulence/gas/belching
D09 Nausea
D10 Vomiting
D11 Diarrhoea

Eye F

F01 Eye pain
F02 Red eye
F03 Eye discharge
F04 Visual floaters/spots
F05 Visual disturbance other
F13 Eye sensation abnormal
F14 Eye movements abnormal
F15 Eye appearance abnormal
F16 Eyelid symptom/complaint
F17 Glasses symptom/complaint
F18 Contact lens symptom/complaint
F27 Fear of eye disease
F28 Limited function/disability (f)
F29 Eye symptom/complaint other
F70 Conjunctivitis infectious
F71 Conjunctivitis allergic
F72 Blepharitis/stye/chalazion
F73 Eye infection/inflammation other
F74 Neoplasm of eye/adnexa
F75 Contusion/haemorrhage eye
F76 Foreign body in eye
F79 Injury eye other
F80 Blocked lacrimal duct of infant
F81 Congenital anomaly eye other
F82 Detached retina
F83 Retinopathy
F84 Macular degeneration
F85 Corneal ulcer
F86 Trachoma
F91 Refractive error
F92 Cataract
F93 Glaucoma
F94 Blindness
F95 Strabismus
F99 Eye/adnexa disease, other

Ear H

H01 Ear pain/earache
H02 Hearing complaint
H03 Tinnitus, ringing/buzzing ear
H04 Ear discharge
H05 Bleeding ear
H13 Plugged feeling ear
H15 Concern with appearance of ears
H27 Fear of ear disease
H28 Limited function/disability ear
H29 Ear symptom/complaint other
H70 Otitis externa
H71 Acute otitis media/myringitis
H72 Serous otitis media
H73 Eustachian salpingitis
H74 Chronic otitis media
H75 Neoplasm of ear
H76 Foreign body in ear
H77 Perforation ear drum
H78 Superficial injury of ear
H79 Ear injury other
H80 Congenital anomaly of ear
H81 Excessive ear wax

Musculoskeletal L

L01 Neck symptom/complain
L02 Back symptom/complaint
L03 Low back symptom/complaint
L04 Chest symptom/complaint
L05 Flank/axilla symptom/complaint
L07 Jaw symptom/complaint
L08 Shoulder symptom/complaint
L09 Arm symptom/complaint
L10 Elbow symptom/complaint
L11 Wrist symptom/complaint
L12 Hand/finger symptom/complaint
L13 Hip symptom/complaint
L14 Leg/thigh symptom/complaint
L15 Knee symptom/complaint
L16 Ankle symptom/complaint
L17 Foot/toe symptom/complaint
L18 Muscle pain
L19 Muscle symptom/complaint NOS
L20 Joint symptom/complaint NOS
L26 Fear of cancer musculoskeletal
L27 Fear musculoskeletal disease other
L28 Limited function/disability (l)
L29 Sympt/complt. Musculoskeletal other
L70 Infections musculoskeletal system
L71 Malignant neoplasm musculoskeletal
L72 Fracture: radius/ulna
L73 Fracture: tibia/fibula
L74 Fracture: hand/foot bone
L75 Fracture: femur
L76 Fracture: other
L77 Sprain/strain of ankle
L78 Sprain/strain of knee
L79 Sprain/strain of joint NOS
L80 Dislocation/subluxation
L81 Injury musculoskeletal NOS
L82 Congenital anomaly musculoskeletal
L83 Neck syndrome
L84 Back syndrome w/o radiating pain
L85 Acquired deformity of spine
L86 Back syndrome with radiating pain
L87 Bursitis/tendinitis/synovitis NOS
L88 Rheumatoid/seropositive arthritis
L89 Osteoarthrosis of hip
L90 Osteoarthrosis of knee
L91 Osteoarthrosis other
L92 Shoulder syndrome
L93 Tennis elbow
L94 Osteochondrosis
L95 Osteoporosis
L96 Acute internal damage knee
L97 Neoplasm benign/unspec musculo.
L98 Acquired deformity of limb
L99 Musculoskeletal disease, other

Neurological N

N01 Headache
N03 Pain face
N04 Restless legs
N05 Tingling fingers/feet/toes

Why (also) use ICPC and not (only) ICD?

ICPC-2 was last revised in 2015, and was carefully mapped to ICD-10. Whilst ICPC is a full classification system in its own right, it is enhanced by being mapped to ICD. ICPC and ICD therefore are complementary rather than in competition.

A meaningful level of detail

This mapping allows ICPC to be used as the primary care lens into ICD. The reason for doing so is that the granularity of ICD is often too high and complex for its practical use in primary care. For example, for the single code of 'sinusitis' in ICPC, there are 16 concepts and subclasses in ICD. This level of detail is often unnecessary for primary care.

Similarly, in many cases ICD does not contain higher-level overarching codes or codes aggregated at a higher level which are often more meaningful for primary care. ICPC therefore provides the higher-level terms to ICD and by doing this allows for a more meaningful aggregation of ICD-data at primary care level. For example, in ICPC the most frequent cancers of the digestive system (colon cancer, stomach cancer and pancreatic cancer) have their own individual codes, and there is one code which captures other digestive cancers. This is not possible to do with ease with ICD, with 12 classes and sub-classes of digestives cancer and in the case of colon cancer ICD being split into many subclasses what is missing is the higher-level code of 'large bowel cancer'.

Users will sometimes want to separate out certain problems contained in a high-level overarching code or in aggregated codes into a more specific code. Expanded codes through ICPC-ICD mapping

allow such users to be more specific, for example enabling the recording of diseases of low prevalence but of high clinical importance.

A diagnosis is not always appropriate

Understanding the reasons for encounters across a primary care population is essential for the development of people-centred health services. ICD was designed to allow healthcare providers to code a patient's health problem in the form of a diagnosis. However, many symptoms and non-disease conditions that present in primary care are difficult to code with the ICD, which in principle has been designed for mortality and morbidity statistics with a disease-based structure and so a diagnosis represents the healthcare provider's view on a patient's illness – which it may not necessarily be correct or appropriate.

An example of this is the frequently encountered symptom of general 'weakness/tiredness' in primary care, which very often does not result in a clearly classifiable disease. ICPC allows such data elements from the patient's perspective to be included. In doing so it aims to be patient-oriented at the same time being able to capture the provider's diagnosis and classify diseases which can be mapped to ICD when appropriate.

How does it relate to clinical terminologies and other resources?

ICPC codes are most commonly used by family doctors as they provide a sufficiently detailed level for reporting, analysis, and payment of healthcare services. Linking ICPC to clinical terminologies, as for instance the Read codes or SNOMED, makes it easier without becoming too detailed or increasing the risk of coding inconsistencies, to collect data to classify morbidity data, for indexing of medical records, and health statistics. ICPC codes can also be linked to guidelines, prescription systems, laboratory tests, patient leaflets etc. on computerised records, this can enhance their use.

Conclusion: Why use ICPC?

- It allows patients' **health problems** to be **tracked over time** through the recording of episodes of care, and by allowing the coding of the reason for encounter through to a recognisable disease/problem and interventions.
- It **reflects the frequency and distribution of health problems commonly encountered in primary care**, and reflects the way in which primary care providers work to solve problems.
- It is **simple and easy to use** for primary care providers including doctors, nurses and other healthcare workers, therefore increasing the likelihood of consistent and accurate coding.
- It **complements other classification systems** such as ICD, and clinical terminology systems such as SNOMED CT and Read codes.
- It **enables meaningful feedback** to primary care, enables the exchange of information between primary and secondary care, as well as with policy-makers and funders to understand what is happening in primary care, and therefore improve the provision of care.

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