Supplemental Digital Content 2. List of ICD-10 and ATC codes used to identify health conditions, the Healthcare Expenditures and Conditions Mapping

| **health conditions** | **ICD-10 (hospital discharge)** | **ICD-10 (long-term disease)** | **ATC codes (or other specific drugs)\*** |
| --- | --- | --- | --- |
|
| Acute coronary syndrome | I200+0, I21-I24 |   |   |
| Chronic coronary disease without acute event | I20-I25 |
| Acute stroke | I60-I64 |   |
| Sequelae of stroke | I60-I64, I67-I69 | I60-I64, I67-I69, G81 |
| Acute heart failure | I50, I11.0a, I13.0a, I13.2a, I13.9a, K76.1a, J81a |   |
| Chronic heart failure without acute event | I50, I11.0a, I13.0a, I13.2a, I13.9a, K76.1a, J81a | I50, I11, I13 |
| Peripheral vascular diseases | I70.2, I73.9, I74.0, I74.3-I74.5 | I70, I73, I74 |
| Heart arrhythmia or conduction disorders | I44, I45, I47-I49 |
| Valvular heart diseases | I05-I08, I34-I39 |
| Pulmonary embolism | I26 |   |
| Other cardiovascular diseases |   | I01, I09, I27, I28, I30-I33, I40-I43, I51, I52, I65, I68, I71, I72, I77-I83, I87, I95, I99, P29, Q20-Q28, K55, R00, T82, Z95  |
| Antihypertensive treatments (without specific diagnosis) |   |   | C02AB02, C02AC01, C02AC02, C02AC05, C02AC06, C02CA01, C02CA06, C02DC01, C02LA01, C03AA01, C03AA03, C03BA04, C03BA10, C03BA11, C03BX03, C03CA01, C03CA02, C03CA03, C03DA01, C03DB01, C03EA, C03EA01, C03EA04, C07AA02, C07AA03, C07AA05, C07AA06, C07AA12, C07AA15, C07AA16, C07AA23, C07AB02, C07AB03, C07AB04, C07AB05, C07AB07, C07AB08, C07AB12, C07AG01, C07BA02, C07BB02, C07BB03, C07BB07, C07BB12, C07CA03, C07DA06, C07FB02, C07FB03, C08CA01, C08CA02, C08CA03, C08CA04, C08CA05, C08CA08, C08CA09, C08CA11, C08CA13, C08CX01, C08DA01, C08DB01, C08GA02, C09AA01, C09AA02, C09AA03, C09AA04, C09AA05, C09AA06, C09AA07, C09AA08, C09AA09, C09AA10, C09AA13, C09AA15, C09AA16, C09BA01, C09BA02, C09BA03, C09BA04, C09BA05, C09BA06, C09BA07, C09BA09, C09BA15, C09BB02, C09BB04, C09BB07, C09BB10, C09BX02, C09CA01, C09CA02, C09CA03, C09CA04, C09CA06, C09CA07, C09CA08, C09DA01, C09DA02, C09DA03, C09DA04, C09DA06, C09DA07, C09DA08, C09DB01, C09DB02, C09DB04, C09XA02, C09XA52, C10BX03 |
| Lipid-lowering treatments (without specific diagnosis) |   |   | all 'C10' codes |
| Diabetes | E10-E14, G59.0b, G63.2b, G73.0b, G99.0b, H28.0b, H36.0b, I79.2b, L97b, M14.2b, M14.6b, N08.3b | E10-E14 | all 'A10' codes excepted A10BX06 (benfluorex) |
| Active female breast cancer | C50, D05 |   |
| Follow-up for female breast cancer |
| Active colorectal cancer | C18-C20, D01.0-D01.2 | C18-C20 |
| Follow-up for colorectal cancer |
| Active lung cancer | C33, C34, D02.1, D02.2 | C33, C34 |
| Follow-up for lung cancer |
| Active prostate cancer | C61, D07.5 | C61 | G03HA01, L01CD04, L01XX11, L02AA01, L02AA04, L02AE01, L02AE02, L02AE03, L02AE04, L02AE05, L02BB01, L02BB02, L02BB03, L02BB04, L02BX02, L02BX03, V10BX01, V10XX (combined with male sex and age>40) |
| Follow-up for prostate cancer |   |
| Other active cancers | all 'C' codes (excepted C50 in females, C18, C19, C20, C61, C33, C34) and D00-D09 codes (excepted D05 in females, D01.0, D01.1, D01.2, D07.5, D02.1, D02.2) | all 'C' codes (excepted C50 in females, C18, C19, C20, C61, C33, C34) and D00-D09 codes (excepted D05 in females) |   |
| Follow-up for other cancers |   |
| Psychotic disorders | F20-F25, F28, F29 | N05A codesc excepted N05AN01, N05AL06 and chlorproethazine |
| Neurotic and mood disorders | F30-F34, F38-F45, F48 | N06A codes, N05AN01, valproic acid, valpromide, excepted levotonine |
| Mental impairment | F70-F73, F78, F79 |   |
| Addictive disorders | F10-F19 |   |
| Psychiatric disorders having begun in childhood | F80-F84, F88-F95, F98 |   |
| Other psychiatric disorders | F04, F05 (excepted F05.1), F06, F07, F09, F50-F55, F59-F66, F68, F69, F99 |   |   |
| Antidepressant or mood-regulating treatments (without specific diagnosis) |   |   | N06A codes, N05AN01, valproic acid, valpromide, excepted levotonine |
| Neuroleptic treatments (without specific diagnosis) |   |   | N05A codesc excepted N05AN01, N05AL06 and chlorproethazine |
| Anxiolytic treatments (without specific diagnosis) |   |   | N05BA01, N05BA04, N05BA05, N05BA06, N05BA08, N05BA09, N05BA11, N05BA12, N05BA16, N05BA18, N05BA21, N05BA23, N05BB01, N05BB02, N05BC01, N05BE01, N05BX03 |
| Hypnotic treatments (without specific diagnosis) |   |   | N05BC51, N05CB02, N05CD02, N05CD03, N05CD04, N05CD05, N05CD06, N05CD07, N05CD11, N05CF01, N05CF02, N05CM11, N05CM16, N05CX |
| Dementia (including Alzheimer disease) | F00-F03, G30, F05.1 | F00-F03, G30, F05.1 | N06DA codes, N06DX01 |
| Parkinson disease |   |   | N04BA02, N04BA03, N04BC01, N04BC02, N04BC04 (only those with an indication in Parkinson Disease), N04BC07 (excepted apomorphine), N04BD01, N04BD02, N04BX01, N04BX02, lisuride. Anticholinergics and drugs indicated for neuroleptic-induced parkinsonian syndromes, lactation inhibition or restless legs syndrome are excluded. |
| Multiple sclerosis | G35 | L03AB07, L03AB08, L03AB13, L03AX13, L04AA23, L04AA27, L04AA31, N07XX07, N07XX09 |
| Paraplegia | G82 |   |
| Myopathy or myasthenia | G70-G73 |   |
| Epilepsy | G40, G41 |   |
| Other neurologic conditions |   | B91, Q04-Q07 or long term disease registration for a neurologic disease not identified by other algorithms |   |
| Chronic respiratory diseases (excluding cystic fibrosis) | J40-J47, J96 (excepted J96.0 and J96.9), J98 | J40-J47, J96, J98 | R03 codes |
| Inflammatory bowel diseases | K50, K51, M07.4, M07.5 |   |
| Rheumatoid arthritis and related diseases | M05, M06, M08 (excepted M08.1), M09 |   |
| Ankylosing spondylitis and related diseases | M07 (excepted M07.4 and M07.5), M08.1, M45, M46 |   |
| Other chronic inflammatory diseases | L93, L94, M30-M36 |   |
| Hereditary metabolic diseases or amyloidosis | E85, D51.0-D51.2, D55.2, D74.0, E07.1, E25.0, E70.0-E70.3, E71.0, E71.1, E71.3, E72.0-E72.5, E72.8, E73.0, E74.0-E74.4, E74.8, E75.0-E75.2, E75.4, E75.5, E76.0-E76.2, E77.0 ,E77.1, E77.8, E78.6, E80.0, E80.1, E80.3, E80.5, E80.6, E83.0-E83.2, G60.1, Q77.3, Q87.1 | E85 or long term disease registration for a hereditary metabolic disease |   |
| Cystic fibrosis | E84 |   |
| Hemophilia or severe hemostasis disorders | D66, D67 | D66-D69 |   |
| HIV infection | B20-B24, F02.4, Z21 | J05AF01, J05AF02, J05AF03, J05AF04, J05AF06, J05AF13, J05AG01, J05AG03, J05AG04, J05AG05, J05AG06, J05AR01, J05AR02, J05AR04, J05AE01, J05AE02, J05AE03, J05AE04, J05AE05, J05AE07, J05AE08, J05AE09, J05AE10, J05AR10, J05AR06, J05AR08, J05AR09, J05AR13, J05AR18, J05AR19, J05AR20, J05AR21, J05AR24, J05AX07, J05AX08, J05AX09, J05AX12 |
| Chronic dialysis | none |
| Kidney transplant |
| Follow-up for kidney transplant | Z94.0d | N18d | (L04AA06, L04AA10, L04AA18, L04AD01, L04AD02, L04AX01)d |
| Liver or pancreas diseases (excluding cystic fibrosis) | B18, I85, K70-K76, Z94.4, K85, K86 | J05AF08, J05AF10, J05AF11, lamivudine, J05AE11, J05AP02, J05AE12, J05AP03, J05AE14, J05AP05, J05AP51, J05AP55, J05AP56, J05AX, J05AX14, J05AX15, J05AP08, J05AX16, J05AP09, J05AX65, J05AX67, J05AP53, J05AX68, or (interferon (L03AB05, L03AB09, L03AB10, L03AB11) AND ribavirine (J05AB04, J05AP01) delivered the same day) |
| Other long term diseases |   | all long term diseases not elsewhere classified |   |
| Maternity | none |
| Analgesic or NSAI treatment (excl. diseases, other chronic treatments, maternity or hospitalization) |   | M01AA01, M01AB01, M01AB02, M01AB05, M01AB08, M01AB16, M01AB55, M01AC01, M01AC02, M01AC06, M01AE01, M01AE02, M01AE03, M01AE04, M01AE05, M01AE09, M01AE11, M01AE16, M01AG01, M01AH01, M01AH02, M01AH05, M01AX01, M01AX02, M01AX17, M01AX22, M01AB05, M01AE01, M01AE02, M01AE03, M01AE04, M01AG01, M01AX02, M01AX22, N02AA, N02AA01, N02AA03, N02AA05, N02AA08, N02AA59, N02AB02, N02AB03, N02AC01, N02AC04, N02AC54, N02AD01, N02AE01, N02AX02, N02AX52, N02BA01, N02BA10, N02BA15, N02BA51, N02BA71, N02BB02, N02BB52, N02BE01, N02BE05, N02BE51, N02BE71, N02BG04, N02BG06, N02CA01, N02CA04, N02CA07, N02CA52, N02CC01, N02CC02, N02CC03, N02CC04, N02CC05, N02CC06, N02CC07, N02CX01, N02CX06, H02AA02, H02AB01, H02AB02, H02AB04, H02AB05, H02AB06, H02AB07, H02AB08, H02AB09, H02AB10 |
| Abbreviations: ICD-10: 10th version of international classification of diseases; ATC: Anatomical Therapeutic Chemical \* at least three drugs dispensing during the year (six dispensing for "analgesics or non steroidal anti inflammatory drugs"), or two dispensing when at least one concerned the dispensing of a large pack size.a Complications of heart failure, must be associated with I50 as an associated diagnosis.b Complications of diabetes, must be associated with E10-E14 as an associated diagnosis.c must be associated with specific ICD-10 codesd drugs AND ICD-10 codeDifferences between hospital discharge and long term disease lists can be due to the fact that long-term disease are often coded on three digits (versus four or more in hospital discharge database), or to the fact that we know that long term diseases are always chronic, by definition. |