

Definition of the included indicators of health care quality and variables

Short name	Dimension	Numerator	Denominator	Codes used
Asthma: Prevalence	Morbidity, Individual characteristic	Persons with bronchial asthma	All persons	ICD-10-GM: J45.-
Medication: PRISCUS	Individual characteristic	Persons over 65 years with medication from PRISCUS list	Persons over 65 years	ATC: C01EB03M01AB01 M01AB51 M02AA23 M02AA73 S01BC01 M01AB11 M01AE03 M02AA10 M01AE53 M01AA01 M02AA01 M01AA51 R05XA10 M01BA01 M01AC01 M02AA07 S01BC06 M01AC06 M01AC56 M01AH05 (NSAID). N02AB02 N02AB52 N02AB72 N02AG03 (opiod analgetics); C08DA81 C01BA01 C01BA51 C01BA71 C01BC04 C07AA07 C07AA57 C07BA07 C01AA05 C01AA55 C01AA02 C01AA52 C01AA08 C01AA58 (antiarrythmic agents); J01XE01 J01XE51 (antibiotics); A03AA A03AB A03CA A03DA A03E N04A R03BB S01FA R03AL (anticholinergic agents); R06AB04 R06AB54 R06AX32 (if year <2015) R06AX07 R06AX57 G04BD04 G04BD04 G04BD07 D04AA14 R06AA04 R06AA54 N05BB01 N05BB51 R06AX33 D04AA13 R01AC09 R06AB03 R01AC08 N05BB52 (antihistamines); B01AC05 B01AC22 (anticoagulants); N06AA09 N06CA01 N06AA12 N06AA02 N06AA04 N06AA21 N06AA06 (antidepressives); N06AB03 (SSRI); N06CA03 N06CA07 N06AF04 (MAO-inhibitors). A04AB02 A04AB52 (antiemetics); C02CA04 G04CA05 C02CA01 C02LE01 C02CA08 G04CA03 (alpha-blockers); C02AC01 N02CX02 N07BB06 S01EA04 C02LC01 C02LC51 C02AA02 N05AX15 N05AX16 C02AA52 C02LA01 C02LA51 C02LA71 C02AB01 C02LB01 C02AB02 (cardio-vascular medication); C08CA05 (calcium-channel blockers); N05AC02 N05AB02 N05AA02 N05AB03 N05AD01 N05AH03 N05AH02 (neuroleptics); N02CA01 N02CA51 N02CA71 C06AA02 C06AA50 N02CA02 N02CA52 N02CA72 N04BC03 N06DX07 N06DX57 (ergotamin and derivates); A06AA01 A06AA51 (laxants); M03BX01 M03BX07 (muscle relexants); N05BA02 N05BA01 N05CD01 N05BA05 N05BA08 N05BA11 N05BA09 N05CD02 N05CD03 N05BA03 (long-acting benzodiazepines); N05BA12 N05CD07 N05CD05 N05BA06 N05BA56 N05BA04 N05CD06 N05CD09 N05CF02 N05CF01 N05CF03 (short- and medium-acting benzodiazepines and z-drugs); N05CM21 R06AA09 A04AB56 R06AA59 A04AB05 D04AA32

				N01BX06 N05CM20 R06AA02 S01Gx16 A04Ab55 D04AA82 N05CX07 R06AA52 (other sedatives); C04AD03 C04AX21 C04AE02 N06DX13 N06BX03 (antidementia, vasodilatives); N03AA02 N05CA24 (antiepileptics)
Medication: Polypharmacy	Individual characteristic	Persons over 65 years with at least 5 prescription medications	Persons over 65 years with prescription medication	
COPD: Prevalence	Morbidity, individual characteristic	Persons with diagnosed COPD	All persons	ICD-10-GM: J43.- J44.-
COPD: Inhaled medication	Process indicator	Persons with COPD and inhalative medication	Persons with COPD	ICD-10-GM: J43.- J44.-; ATC: R03A R03B (Inhalative medication)
COPD: Non-useful inhaled medication	Process indicator	Persons with COPD and non-useful inhaled medication	Persons with COPD	ICD-10-GM: J43.- J44.-; ATC: R03AK05
COPD: Acute inpatient treatment	Outcome indicator	Persons with acute inpatient treatment of COPD	Persons with COPD	ICD-10-GM: J43.- J44.- (hospital discharge diagnosis)
COPD: Respiratory therapy	Process indicator	Persons with COPD and respiratory therapy	Persons with COPD	ICD-10-GM: J43.- J44.-; POSNR: 302-304 501-503 601 6210 6301 6306 (respiratory therapy)
COPD: Influenza vaccination	Process indicator	Persons with COPD and influenza vaccination	Persons with COPD	ICD-10-GM: J43.- J44.- Z25.1
COPD: Specific beta-blocker therapy	Process indicator	Persons with COPD and specific beta-blocker therapy	Persons with COPD	ICD-10-GM: J43.- J44.-; ATC: R03AC12 R03AC13 (specific beta blocker)
COPD: Specific anticholinergic therapy	Process indicator	Persons with COPD and specific anticholinergic therapy	Persons with COPD	ICD-10-GM: J43.- J44.-; ATC: R03BB04 (specific anticholinergic)

COPD: Oral corticosteroids	Process indicator	Persons with COPD and oral corticosteroids	Persons with COPD	ICD-10-GM: J43.- J44.-; ATC: H02AB01 H02AB02 H02AB03 H02AB04 H02AB05 H02AB06 H02AB07 H02AB08 H02AB09 (corticosteroids)
Hypertension: Prevalence	Morbidity, individual characteristic	Persons with hypertension	All persons	ICD-10-GM: I10.- I11.- I12.- I13.- I15.-
Hypertension: Medication for hypertension	Process indicator	Persons with hypertension and pharmacotherapy	Persons with hypertension	ICD-10-GM: I10.- I11.- I12.- I13.- I15.- ATC: C02 (antihypertensives)
Heart failure: Prevalence	Morbidity, individual characteristic	Persons with heart failure	All persons	ICD-10-GM: I50.1
Heart failure: ACE-inhibitor upon heart failure	Process indicator	Persons with heart failure treated with ACE-inhibitor or AT1-blocker	Persons with heart failure	ICD-10-GM: I50.1; ATC: C09
Heart failure: Beta-blocker upon heart failure	Process indicator	Persons with heart failure and beta-blocker	Persons with heart failure	ICD-10-GM: I50.1; ATC: C07
Heart failure: Short acting calcium channel blockers upon heart failure	Process indicator	Persons with heart failure and short acting calcium channel blockers	Persons with heart failure	ICD-10-GM: I50.1; ATC: C08CA05
Heart failure: Acute inpatient treatment of heart failure	Outcome indicator	Persons with heart failure and acute inpatient treatment of heart failure	Persons with heart failure	ICD-10-GM: I50.1 (hospital discharge diagnosis)
Dementia: Prevalence	Morbidity, individual characteristic	Persons with dementia	All persons	ICD-10-GM: F00.- F01.- F02.- F03.-
T2D: Prevalence	Morbidity, individual characteristic	Persons with type 2 diabetes mellitus	All persons	ICD-10-GM: E11.-
T2D: HbA1c	Process indicator	Persons with type 2 diabetes mellitus and check of HbA1c	Persons with type 2 diabetes mellitus	ICD-10-GM: E11.-; GONR: 32094 90321 90310 90310A (HbA1c check)

T2D: Ophthalmological examination	Process indicator	Persons with type 2 diabetes mellitus and ophthalmological examination	Persons with type 2 diabetes mellitus	ICD-10-GM: E11.- GONR: 06210 06211 06212 (ophthalmological examination)
T2D: Fundus examination	Process indicator	Persons with type 2 diabetes mellitus and fundus examination	Persons with type 2 diabetes mellitus	ICD-10-GM: E11.-; GONR: 06331 06333 (fundus examination)
T2D: Triglycerides and cholesterol	Process indicator	Persons with type 2 diabetes mellitus and check of triglycerides, LDL- and HDL-cholesterol	Persons with type 2 diabetes mellitus	ICD-10-GM: E11.-; GONR: 32060 32061 32062 32063 (laboratory examinations)
T2D: Serum-creatinine	Process indicator	Persons with type 2 diabetes mellitus and check of serum creatinine	Persons with type 2 diabetes mellitus	ICD-10-GM: E11.-; GONR: 32066 32067
T2D: Acute inpatient treatment of T2D	Outcome indicator	Persons with diabetes mellitus and acute inpatient treatment of diabetes mellitus	Persons with diabetes mellitus	ICD-10-GM: E11.- (hospital discharge diagnosis)
TD2: Lower-limb amputation	Outcome indicator	Persons with type 2 diabetes mellitus and lower-limb amputation	Persons with type 2 diabetes mellitus	ICD-10-GM: E11.-; OPS: 5864 58690 5865
Osteoarthritis: Prevalence	Morbidity, individual characteristic	Persons with osteoarthritis	All persons	ICD-10-GM: M15.- M16.- M17.- M18.- M19.-
Osteoporosis: Prevalence	Morbidity, individual characteristic	Persons with osteoporosis	All persons	ICD-10-GM: M80.- M81.- M82.-
Depression: Prevalence	Morbidity, individual characteristic	Persons with diagnosed depression	All persons	ICD-10-GM: F32.- F33.- F34.1
Depression: Anti-depressive pharmacotherapy	Process indicator	Persons with diagnosed depression and anti-depressive pharmacotherapy	All persons with diagnosed depression	ICD-10-GM: F32.- F33.- F34.1; ATC: N06AA N06AB N06AF N06AG N06AX N05AN01 (anti-depressive pharmacotherapy)

Charlson comorbidity index	Individual characteristic	Codes according to Quan, H., et al., Coding algorithms for defining comorbidities in ICD-9-CM and ICD-10 administrative data. Med Care, 2005. 43(11): p. 1130-9.
Age in years	Individual characteristic	
Sex female (reference male)	Individual characteristic	
Level of care none (reference level of care 1)	Individual characteristic	
Level of care 2 (reference level of care 1)	Individual characteristic	
Level of care 3 (reference level of care 1)	Individual characteristic	
Number of prescribed drugs	Individual characteristic	
Social network living alone	Individual characteristic	

ICD-10-GM: International Statistical Classification of Diseases and Related Health Problems, 10th revision, German modification

ATC: Anatomical Therapeutic Chemical Classification System

OPS: German Operation and Procedure Classification System; official coding system for medical procedures in German hospitals

GONR: Item number (Gebührenordnungsposition) from the German Doctor's fee scale (Einheitlicher Bewertungsmaßstab, EBM)