WHO methods and data sources for global burden of disease estimates 2000-2015

Department of Information, Evidence and Research WHO, Geneva

January 2017



Global Health Estimates Technical Paper WHO/HIS/IER/GHE/2017.1

WHO/HIS/IER GHE/2017.1

Annex Table A GHE cause categories and ICD-10 codes

10	I.					
	-		nmuni dition		, maternal, perinatal and nutritional	A00-B99, D50-D53, D64.9, E00-E02, E40-E46, E50-E64, G00-G04, G14, H65-H66, J00-J22, N70-N73, O00-O99, P00-P96, U04
20		A.	Infe	ctious	and parasitic diseases	A00-B99, G00-G04, G14, N70-N73, P37.3, P37.4
30			1.	Tub	erculosis	A15-A19, B90
40			2.	STE	Os excluding HIV	A50-A64, N70-N73
50				a.	Syphilis	A50-A53
60				b.	Chlamydia	A55-A56
70				C.	Gonorrhoea	A54
80				d.	Trichomoniasis	A59
85				e.	Genital herpes	A60
90				f.	Other STDs	A57-A58, A61-A64, N70-N73
100			3.	HIV	/AIDS	B20-B24
101				a.	HIV resulting in TB	B20.0
102				b.	HIV resulting in other diseases	B20-B24 (minus B20.0)
110			4.	Dia	rhoeal diseases ^b	A00, A01, A03, A04, A06-A09
120			5.	Chil	dhood-cluster diseases	A33-A37, B05
130				a.	Whooping cough	A37
140				b.	Diphtheria	A36
150				c.	Measles	B05
160				d.	Tetanus	A33-A35
170			6.	Mer	ningitis ^b	A39, G00, G03
180			7.		ephalitis ^b	A83-A86, B94.1, G04
185			8.	Hep	patitis	B15-B19 (minus B17.8)
186				a.	Acute hepatitis A	B15
190				b.	Acute hepatitis B	B16-B19 (minus B17.1, B17.2, B18.2, B18.8)
200				C.	Acute hepatitis C	B17.1, B18.2
205				d.	Acute hepatitis E	B17.2, B18.8
210			9.	Para	asitic and vector diseases	A71, A82, A90-A91, A95, B50-B57, B65, B67, B69, B73, B74.0-B74.2, P37.3-P37.4
220				a.	Malaria	B50-B54, P37.3, P37.4
230				b.	Trypanosomiasis	B56
240				c.	Chagas disease	B57
250				d.	Schistosomiasis	B65
260				e.	Leishmaniasis	B55
270				f.	Lymphatic filariasis	B74.0-B74.2
280				g.	Onchocerciasis	B73
285				h.	Cysticercosis	B69
295				i.	Echinococcosis	B67
300				j.	Dengue	A90-A91
310				k.	Trachoma	A71
315				l.	Yellow fever	A95
320				m.	Rabies	A82
330			10.		stinal nematode infections	B76-B81
340			10.	a.	Ascariasis	B77
350				a. b.	Trichuriasis	B79

GHE code	GHE ca	use n	ame	ICD-10 codes
360			c. Hookworm disease	B76
362			d. Food-bourne trematodes	B78, B80, B81
365		11.	Leprosy	A30
370		12.	Other infectious diseases	A02, A05, A20-A28, A31, A32, A38, A40-A49, A65-A70, A74-A79, A80-A81, A87-A89, A92-A99, B00-B04, B06-B09, B17.8, B25-B49, B58-B60, B64, B66, B68, B70-B72, B74.3-B74.9, B75, B82-B89, B91-B99 (minus B94.1), G14
380	В.	Res	piratory infectious ^b	H65-H66, J00-J22, P23, U04
390		1.	Lower respiratory infections	J09-J22, P23, U04
400		2.	Upper respiratory infections	J00-J06
410		3.	Otitis media	H65-H66
420	C.	Mate	ernal conditions	O00-O99
490	D.	Neo	natal conditions	P00-P96 (minus P23, P37.3, P37.4)
500		1.	Preterm birth complications ^b	P05, P07, P22, P27-P28
510		2.	Birth asphyxia and birth trauma ^b	P03, P10-P15, P20-P21, P24-P26, P29
520		3.	Neonatal sepsis and infections	P35-P39 (minus P37.3, P37.4)
530		4.	Other neonatal conditions	P00-P02, P04, P08, P50-P96
540	E.	Nuti	ritional deficiencies	D50-D53, D64.9, E00-E02, E40-E46, E50-E64
550		1.	Protein-energy malnutrition	E40-E46
560		2.	lodine deficiency	E00-E02
570		3.	Vitamin A deficiency	E50
580		4.	Iron-deficiency anaemia	D50, D64.9
590		5.	Other nutritional deficiencies	D51-D53, E51-E64
600	II. Noi	ncomn	nunicable diseases ^a	C00-C97, D00-D48, D55-D64 (minus D 64.9), D65-D89, E03- E07, E10-E34, E65-E88, F01-F99, G06-G98 (minus G14), H00-H61, H68-H93, I00-I99, J30-J98, K00-K92, L00-L98, M00-M99, N00-N64, N75-N98, Q00-Q99, X41-X42, X44, X45, R95
610	A.	Mali	gnant neoplasms	C00-C97
620		1.	Mouth and oropharynx cancers	C00-C14
621			a. Lip and oral cavity	C00-C08
622			b. Nasopharynx	C11
623			c. Other pharynx	C09-C10, C12-C14
630		2.	Oesophagus cancer	C15
640		3.	Stomach cancer	C16
650		4.	Colon and rectum cancers	C18-C21
660		5.	Liver cancer ^c	C22
670		6.	Pancreas cancer	C25
680		7.	Trachea, bronchus, lung cancers	C33-C34
690		8.	Melanoma and other skin cancers	C43-C44
691			a. Malignant skin melanoma	C43
692			b. Non-melanoma skin cancer	C44
700		9.	Breast cancer	C50
710		10.	Cervix uteri cancer	C53
720		11.	Corpus uteri cancer	C54-C55
730		12.	Ovary cancer	C56
740		13.	Prostate cancer	C61
742		14.	Testicular cancer	C62
745		15.	Kidney, renal pelvis and ureter cancer	C64-C66

GHE code	GHE car	use na	ame	ICD-10 codes	
750		16.	Bladder cancer	C67	
751		17.	Brain and nervous system cancers	C70-C72	
752		18.	Gallbladder and biliary tract cancer	C23-C24	
753		19.	Larynx cancer	C32	
754		20.	Thyroid cancer	C73	
755		21.	Mesothelioma	C45	
760		22.	Lymphomas, multiple myeloma	C81-C90, C96	
761			a. Hodgkin lymphoma	C81	
762			b. Non-Hodgkin lymphoma	C82-C86, C96	
763			c. Multiple myeloma	C88, C90	
770		23.	Leukaemia	C91-C95	
780		24.	Other malignant neoplasms ^d	C17, C26-C31, C37-C41, C46-C49, C51, C52, C57-C60, C63, C68, C69, C74-C80, C97	
790	В.	Othe	er neoplasms	D00-D48	
800	C.	Diab	petes mellitus	E10-E14 (minus E10.2-E10.29, E11.2-E11.29, E12.2, E13.2-E13.29, E14.2)	
810	D.		ocrine, blood, immune disorders	D55-D64 (minus D64.9), D65-D89, E03-E07, E15-E34, E65- E88	
811		1.	Thalassaemias	D56	
812		2.	Sickle cell disorders and trait	D57	
813		3.	Other haemoglobinopathies and haemolytic anaemias	D55, D58-D59	
814 820	E.	4. Man	Other endocrine, blood and immune disorders tal and substance use disorders	D60-D64 (minus D64.9), D65-D89, E03-E07, E15-E34, E65- E88 F04-F99, G72.1, Q86.0, X41-X42, X44, X45	
830	-	1.	Depressive disorders	F32-F33, F34.1	
831		٠.	a. Major depressive disorder	F32-F33	
832			b. Dysthymia	F34.1	
840		2.	Bipolar disorder	F30-F31	
850		3.	Schizophrenia	F20-F29	
860		4.	Alcohol use disorders	F10, G72.1, Q86.0, X45	
870		5.	Drug use disorders ^e	F11-F16, F18-F19 ^e , X41-X42, X44 ^e	
871			a. Opioid use disorders	F11, X42, X44 ^e	
872			b. Cocaine use disorders	F14	
873			c. Amphetamine use disorders	F15	
874			d. Cannabis use disorders	F12	
875			e. Other drug use disorders	F13, F16, F18, F19°, X41	
880		6.	Anxiety disorders	F40-F44	
890		7.	Eating disorders	F50	
900		8.	Autism and Asperger syndrome	F84	
910		9.	Childhood behavioural disorders	F90-F92	
911			a. Attention deficit/hyperactivity syndrome	F90	
912			b. Conduct disorder	F91-F92	
920		10.	Idiopathic intellectual disability	F70-F79	
930		11.	Other mental and behavioural disorders	F04-F09, F17, F34-F39 (minus F34.1), F45-F48, F51-F69, F80-F83, F88-F89, F93-F99	

GHE code	GHE cau	use n	ame	ICD-10 codes
940	F.	Neu	rological conditions	F01-F03, G06-G98 (minus G14, G72.1)
950		1.	Alzheimer disease and other dementias	F01-F03, G30-G31
960		2.	Parkinson disease	G20-G21
970		3.	Epilepsy	G40-G41
980		4.	Multiple sclerosis	G35
990		5.	Migraine	G43
1000		6.	Non-migraine headache	G44
1010		7.	Other neurological conditions	G06-G12, G23-G25, G36-G37, G45-G98 (minus G72.1)
1020	G.	Ser	se organ diseases	H00-H61, H68-H93
1030		1.	Glaucoma	H40
1040		2.	Cataracts	H25-H26
1050		3.	Uncorrected refractive errors	H49-H52
1060		4.	Macular degeneration	H35.3
1070		5.	Other vision loss	H30-H35 (minus H35.3), H53-H54
1080		6.	Other hearing loss	H90-H91
1090		7.	Other sense organ disorders	H00-H21, H27, H43-H47, H55-H61, H68-H83, H92-H93
1100	H.	Car	diovascular diseases	100-199
1110		1.	Rheumatic heart disease	101-109
1120		2.	Hypertensive heart disease	I10-I15
1130		3.	Ischaemic heart disease ^t	120-125
1140		4.	Stroke ^g	160-169
1150		5.	Cardiomyopathy, myocarditis, endocarditis	130-133, 138, 140, 142
1160		6.	Other circulatory diseases	100, 126-128, 134-137, 144-151, 170-199
1170	l.	Res	piratory diseases	J30-J98
1180		1.	Chronic obstructive pulmonary disease	J40-J44
1190		2.	Asthma	J45-J46
1200		3.	Other respiratory diseases	J30-J39, J47-J98
1210	J.	Dig	estive diseases	K20-K92
1220		1.	Peptic ulcer disease	K25-K27
1230		2.	Cirrhosis of the liver ^h	K70, K74
1240		3.	Appendicitis	K35-K37
1241		4.	Gastritis and duodenitis	K29
1242		5.	Paralytic ileus and intestinal obstruction	K56
1244		6.	Inflammatory bowel disease	K50-K52, K58.0
1246		7.	Gallbladder and biliary diseases	K80-K83
1248		8.	Pancreatitis	K85-K86
1250		9.	Other digestive diseases	K20-K22, K28, K30-K31, K38, K40-K46, K55, K57, K58.9, K59-K66, K71-K73, K75-K76, K90-K92
1260	K.	Ger	nitourinary diseases	E10.2-E10.29,E11.2-E11.29,E12.2,E13.2-E13.29,E14.2,
1270		1.	Kidney diseases	N00-N64, N75-N76, N80-N98 N00-N19, E10.2-E10.29,E11.2-E11.29,E12.2,E13.2- E13.29,E14.2
1271			a. Acute glomerulonephritis	N00-N01
1272			b. Chronic kidney disease due to diabetes	E10.2-E10.29, E11.2-E11.29, E12.2, E13.2-E13.29, E14.2
1273			c. Other chronic kidney disease	N02-N19

GHE code	GHI	E cau	ıse n	ame	ICD-10 codes	
1280			2.	Benign prostatic hyperplasia	N40	
1290			3.	Urolithiasis	N20-N23	
1300			4.	Other urinary diseases	N25-N39, N41-N45, N47-N51	
1310			5.	Infertility	N46, N97	
1320			6.	Gynecological diseases	N60-N64, N75-N76, N80-N96, N98	
1330		L.	Skir	n diseases	L00-L98	
1340		М.	Mus	sculoskeletal diseases	M00-M99	
1350			1.	Rheumatoid arthritis	M05-M06	
1360			2.	Osteoarthritis	M15-M19	
1370			3.	Gout	M10	
1380			4.	Back and neck pain	M45-M48, M50-M54	
1390			5.	Other musculoskeletal disorders	M00, M02, M08, M11-M13, M20-M43, M60-M99	
1400		N.	Con	genital anomalies	Q00-Q99 (minus Q86.0)	
1410			1.	Neural tube defects	Q00, Q05	
1420			2.	Cleft lip and cleft palate	Q35-Q37	
1430			3.	Down syndrome	Q90	
1440			4.	Congenital heart anomalies	Q20-Q28	
1450			5.	Other chromosomal anomalies	Q91-Q99	
1460			6.	Other congenital anomalies	Q01-Q04, Q06-Q18, Q30-Q34, Q38-Q89 (excluding Q86.0)	
1470		Ο.	Ora	l conditions	K00-K14	
1480			1.	Dental caries	K02	
1490			2.	Periodontal disease	K05	
1500			3.	Edentulism	-	
1502			4.	Other oral disorders	K00, K01, K03, K04, K06-K14	
1505		P.	Sud	den infant death syndrome	R95	
1510	III.	Inju	ries ⁱ		V01-Y89 (minus X41-X42, X44, X45)	
1520		A.	Unii	ntentional injuries	V01-X40, X43, X46-59, Y40-Y86, Y88, Y89	
1530			1.	Road injury ⁱ	V01-V04, V06, V09-V80, V87, V89, V99	
1540			2.	Poisonings ^e	X40, X43, X46-X48, X49 ^e	
1550			3.	Falls	W00-W19	
1560			4.	Fire, heat and hot substances	X00-X19	
1570			5.	Drowning	W65-W74	
1575			6.	Exposure to mechanical forces	W20-W38, W40-W43, W45, W46, W49-W52, W75, W76	
1580			7.	Natural disasters	X30-X39	
1590			8.	Other unintentional injuries	Rest of V, W39, W44, W53-W64, W77-W99, X20-X29, X50-X59, Y40-Y86, Y88, Y89	
1600		В.	Inte	ntional injuries	X60-Y09, Y35-Y36, Y870, Y871	
1610			1.	Self-harm	X60-X84, Y870	
1620			2.	Interpersonal violence	X85-Y09, Y871	
1630			3.	Collective violence and legal intervention	Y35-Y36	

^{—,} not available

^a Deaths coded to "Symptoms, signs and ill-defined conditions" (R00-R94. R96-R99) are distributed proportionately to all causes within Group I and Group II.

^b For deaths under age 5, refer to classification in Annex Table E.

 $^{^{\}circ}$ For liver cancer secondary to hepatitis B, hepatitis C, and alcohol use, proportions derived from GBD2013 analyses.

V01.1-V01.9, V02.1-V02.9, V03.1-V03.9, V04.1-V04.9, V06.1-V06.9, V09.2, V09.3, V10.3-V10.9, V11.3-V11.9, V12.3-V12.9, V13.3-V13.9, V14.3-V14.9, V15.4-V15.9, V16.4-V16.9, V17.4-V17.9, V18.4-V18.9, V19.4-V19.9, V20.3-V20.9, V21.3-V21.9, V22.3-V22.9, V23.3-V23.9, V24.3-V24.9, V25.3-V25.9, V26.3-V26.9, V27.3-V27.9, V28.3-V28.9, V29.4-V29.9, V30.4-V30.9, V31.4-V31.9, V32.4-V32.9, V33.4-V33.9, V34.4-V34.9, V35.4-V35.9, V36.4-V36.9, V37.4-V37.9, V38.4-V38.9, V39.4-V39.9, V40.4-V40.9, V41.4-V41.9, V42.4-V42.9, V43.4-V43.9, V44.4-V44.9, V45.4-V45.9, V46.4-V46.9, V47.4-V47.9, V48.4-V48.9, V49.4-V49.9, V50.4-V50.9, V51.4-V51.9, V52.4-V52.9, V53.4-V53.9, V54.4-V54.9, V55.4-V55.9, V56.4-V56.9, V57.4-V57.9, V58.4-V58.9, V59.4-V59.9, V60.4-V60.9, V61.4-V61.9, V62.4-V62.9, V63.4-V63.9, V64.4-V64.9, V65.4-V65.9, V66.4-V66.9, V67.4-V67.9, V68.4-V68.9, V69.4-V69.9, V70.4-V70.9, V71.4-V71.9, V72.4-V72.9, V73.4-V73.9, V74.4-V74.9, V75.4-V75.9, V76.4-V76.9, V77.4-V77.9, V78.4-V78.9, V79.4-V79.9, V80.3-V80.5, V81.1, V82.1, V82.8-V82.9, V83.0-V83.3, V84.0-V84.3, V85.0-V85.3, V86.0-V86.3, V87.0-V87.9, V89.2-V89.3, V89.9, V99 and Y850.

^d Cancer deaths coded to ICD categories for malignant neoplasms of other and unspecified sites including those whose point of origin cannot be determined, and secondary and unspecified neoplasms (C76, C80, C97) were redistributed pro-rata across malignant neoplasm categories within each age–sex group, so that the category "Other malignant neoplasms" includes only malignant neoplasms of other specified sites.

^e Deaths coded to F19 (Multiple and other drug use) and X44 (Accidental poisoning by other and unspecified drugs and medicines) have been redistributed to the GHE drug categories as described in Section 8.14. Deaths coded to X49 (Accidental poisoning by other and unspecified chemicals) have been redistributed to GHE accidental poisoning and GHE opioid use disorders categories as described in Section 8.14.

f Ischaemic heart disease deaths may be miscoded to a number of so-called cardiovascular "garbage" codes. These include heart failure, ventricular dysrhythmias, generalized atherosclerosis and ill-defined descriptions and complications of heart disease. Proportions of deaths coded to these causes were redistributed to ischaemic heart disease as described in Mathers CD, Lopez AD, Murray CJL, Ezzati M, Jamison DT. *The burden of disease and mortality by condition: data, methods and results for 2001. Global burden of disease and risk factors.* New York, Oxford University Press, 2006. p. 45–240. Relevant ICD-10 codes are I46, I47.2, I49.0, I50, I51.4, I51.5, I51.6, I51.9 and I70.9.

⁹ For ischaemic stroke and haemorrhagic stroke, proportions derived from GBD2013 analyses.

^h For cirrhosis due to hepatitis B, hepatitis C, and alcohol use, proportions derived from GBD2013 analyses.

ⁱ Injury deaths where the intent is not determined (Y10-Y34, Y872) are distributed proportionately to all causes below the group level for injuries.

^j For countries with 3-digit ICD10 data, for "Road injury" use: V01-V04, V06, V09-V80, V87, V89 and V99. For countries with 4-digit ICD10 data, for "Road injury" use: