

How can Europe approach the care of persons with multimorbidity?



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Why Multimorbidity?

- Defined as **≥ 2 chronic diseases**
- Prevalence \uparrow with age (>60% of people aged ≥ 65 y with multimorbidity - '**most common chronic condition**')
- Impact on **clinical outcomes** and health care **costs**
- Multimorbidity also affects processes of care and may result in complex care needs
- The **traditional single-disease approach inadequate** for multimorbidity

Care pathway for patients with multimorbidity or frailty

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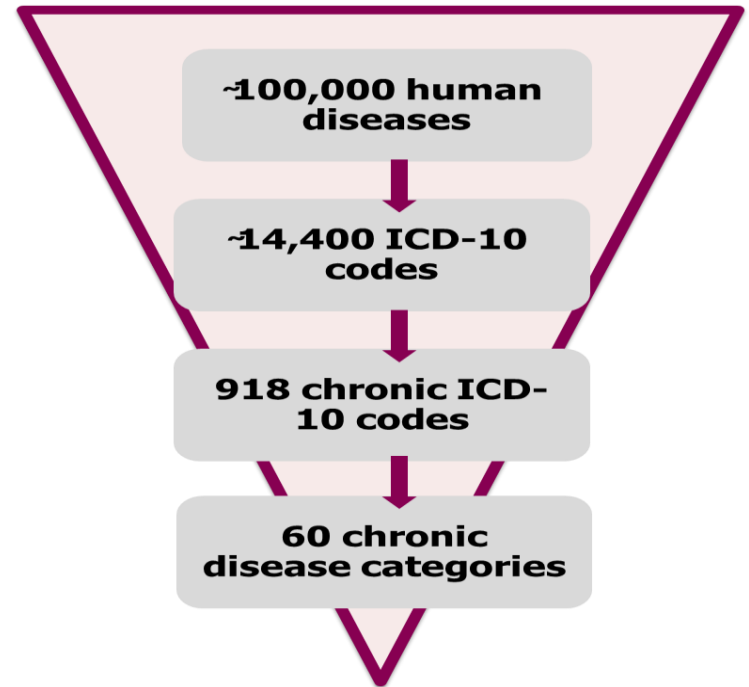
Measuring MM

Research Article

Assessing and Measuring Chronic Multimorbidity in the Older Population: A Proposal for Its Operationalization

Calderón-Larrañaga A, Vetrano DL, Onder G et al, 2016

1. Definition of chronic disease
2. Identification of chronic codes from the ICD-10
3. Grouping of ICD-10 codes into broader disease categories
4. Proof of concept on a cohort of older adults (SNAC-K)



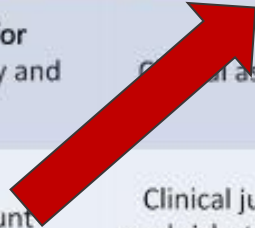
Measuring MM: Grouping

Table 1. List of ICD-10 and ATC codes comprising each chronic disease category.

Category	ICD-10 Codes	
1. Allergy	J30.1-J30.4; J45.0; K52.2; L20; L23; L50.0; Z51.6	
2. Anemia	D50-D53; D55-D59 (excl. D56.3; D59.0; D59.2; D59.3; D59.6); D60-	
3. Asthma	20. Deafness, hearing impairment	H80; H90; H91.1; H91.3; H91.9; Q16; Z45.3; Z46.1; Z96.2; Z97.4
4. Atrial fibrillation	21. Dementia	F00-F03; F05.1; G30; G31
5. Autoimmune diseases	22. Depression and mood diseases	F30-F34; F38; F39; F41.2
	23. Diabetes	E10; E11; E12; E14; E99.0
6. Blindness, visual impairment	24. Dorsopathies	43. Other digestive diseases
7. Blood and blood forming diseases	25. Dyslipidemia	44. Other eye diseases
	26. Ear, nose, throat diseases	K66.0; K90.0-K90.2; K91.1; K93; Q41-Q43; R15; Z90.4; Z98.0
8. Bradycardias and conduction diseases	27. Epilepsy	H02.2-H02.5; H04 (excl. H04.3); H05 (excl. H05.0); H10.4; H17; H18.4-H18.9; H19.3; H19.8; H20.1; H21; H31.0-H31.2; H31.8; H31.9; H33; H35.2-H35.5; H35.7-H35.9; H36; H47-H49 (excl. H47.0; H47.1; H48.1); H51; Q10-Q15 (excl. Q12); Z94.7
9. Cardiac valve diseases	28. Esophagus, stomach and duodenum diseases	45. Other genitourinary diseases
10. Cataract and other lens cataracts	29. Glaucoma	B90.1; N20.0; N20.2; N20.9; N21.0; N21.8; N21.9; N22; N30.1-N30.4; N31; N32.0; N32.3; N32.8; N32.9; N33; N35; N39.3; N39.4; N48.0; N48.4; N48.9; N70.1; N71.1; N73.1; N73.4; N73.6; N76.1; N76.3; N81; N88; N89.5; N90.5; N95.2; Q54; Q62.0-Q62.4; Q62.7; Q62.8; Q63.8; Q63.9; Q64.0; Q64.1; Q64.3-Q64.9; Z90.6; Z90.7; Z96.0
11. Cerebrovascular disease	30. Heart failure	46. Other metabolic diseases
12. Chromosomal abnormality	31. Hematological neoplasms	E20-E31 (excl. E23.1; E24.2; E24.4; E27.3; E30); E34 (excl. E34.3; E34.4); E35 (excl. E35.0); E40-E46 (excl. E44.1); E64; E70-E72; E74-E77; E79 (excl. E79.0); E80 (excl. E80.4); E83-E89 (excl. E86; E87; E88.3; E89.0; E89.1); K90.3; K90.4; K90.8; K90.9; K91.2; M83; M88; N25
13. Chronic infectious disease	32. Hypertension	47. Other musculoskeletal and joint diseases
14. Chronic kidney disease	33. Inflammatory arthropathies	B90.2; M21.2-M21.9; M22-M24; M25.2; M25.3; M35.7; M61; M65.2-M65.4; M70.0; M72.0; M72.2; M72.4; M75.0; M75.1; M75.3; M75.4; M79.7; M84.1; M89; M91; M93; M94; M96; M99; S38.2; S48; S58; S68; S78; S88; S98; T05; T09.6; T11.6; T13.6; T14.7; T90-T98; Q65; Q66; Q68; Q71-Q74; Q77; Q78; Q79.6; Q79.8; Q87; Z44.0; Z44.1; Z89.1-Z89.9; Z94.6; Z96.6; Z97.1
15. Chronic liver disease	34. Inflammatory bowel disease	48. Other neurological diseases
16. Chronic pancreas, biliary, gallbladder diseases	35. Ischemic heart disease	B90.0; D48.2; G04.1; G09-G13 (excl. G13.0; G13.1); G24-G26 (excl. G25.1; G25.4; G25.6); G32; G37; G51-G53 (excl. G51.0); G70; G71; G72.3-72.9; G73 (excl. G73.2-G73.4); G80-G83 (excl. G83.8); G90; G91; G93.8; G93.9; G95; G99; M47.1; Q00-Q07; Q76.0
17. Chronic ulcer of the skin	36. Migraine and facial pain syndromes	49. Other psychiatric and behavioral diseases
18. Colitis and related diseases	37. Multiple sclerosis	50. Other respiratory diseases
19. COPD, emphysema, chronic bronchitis	38. Neurotic, stress-related and somatoform diseases	51. Other skin diseases
	39. Obesity	52. Parkinson and parkinsonism
	40. Osteoarthritis and other degenerative joint diseases	
	41. Osteoporosis	
	42. Other cardiovascular diseases	
		53. Peripheral neuropathy
		54. Peripheral vascular disease
		55. Prostate diseases
		56. Schizophrenia and delusional diseases
		57. Sleep disorders
		58. Solid neoplasms
		59. Thyroid disease
		60. Venous and lymphatic diseases

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Time to face the challenge of multimorbidity. A European perspective from the joint action on chronic diseases and promoting healthy ageing across the life cycle (JA-CHRODIS)



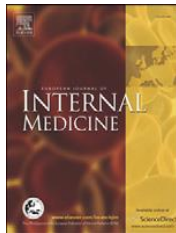
Graziano Onder ^{a,b,*}, Katie Palmer ^b, Rokas Navickas ^{c,d}, Elena Jurevičienė ^c, Federica Mammarella ^{a,b}, Mirela Strandzheva ^e, Piermannuccio Mannucci ^f, Sergio Pecorelli ^b, Alessandra Marengoni ^{b,g}, on behalf of the, Joint Action on Chronic Diseases and Promoting Healthy Ageing across the Life Cycle (JA-CHRODIS)

Patients with multimorbidity at high risk (target for intervention):

- Disease patterns
- Low socioeconomic status
 - Low income
 - Poor social support
- Poor physical function
- Mental health problems
 - Depression
 - Cognitive impairment

Need of comprehensive assessment and intervention

*Monographic issue
Eur J Intern Med 2015*



Original article

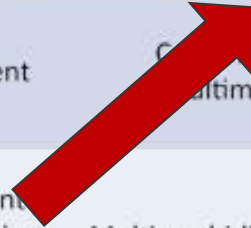
Global health care use by patients with type-2 diabetes: Does the type of comorbidity matter?

	Concordant ^a (ref. category)	Discordant ^b			Mental ^c		
		IRR	95% CI	IRR	95% CI	IRR	95% CI
Use of Primary Care							
Visits to GP	1	1.08**	1.06	1.11	1.17**	1.14	1.21
Visits to nurse	1	1.03*	1.00	1.06	1.01	0.97	1.04
Use of Specialised Care							
Total visits	1	1.38**	1.33	1.43	1.30**	1.25	1.35
Visits to different specialties	1	1.36**	1.32	1.39	1.27**	1.23	1.31
Use of Hospital Care							
Total admissions	1	1.17**	1.07	1.28	1.25**	1.12	1.39
Unplanned admissions	1	1.03	0.92	1.16	1.21*	1.06	1.39
Hospital days	1	1.13	0.99	1.29	1.47**	1.25	1.73
Use of Emergency Care							
Total visits	1	1.12*	1.05	1.19	1.26**	1.17	1.35
Priority visits	1	1.10*	1.02	1.19	1.30**	1.18	1.42

In patients with type-2 diabetes, the coexistence of **mental comorbidity** significantly increases the use of unplanned hospital services, and **discordant comorbidities** have an important effect on specialised care use

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Agenda

- Clinical Practices on multimorbidity (Rijken, NIVEL, NL)
- The Multimorbidity Care Model (Navickas, VULSK, LT)
- Applicability of the Multimorbidity Care Model (Forjaz, ISCIII, SP)
- Case Management training programmes (Mammarella, AIFA, IT)
- The patient perspective (Strammiello, EPF, BE)

The Joint Action on Chronic Diseases and Promoting Healthy Ageing across the Life Cycle (JA-CHRODIS)*



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the Health Programme
of the European Union

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