

Multimorbidity publications January-April 2021

1. Jiao D, Watanabe K, Sawada Y, et al. Multimorbidity and functional limitation: the role of social relationships. *Arch Gerontol Geriatr* 2021;92:104249. doi: 10.1016/j.archger.2020.104249
2. Head A, Fleming K, Kypridemos C, et al. Multimorbidity: the case for prevention. *J Epidemiol Community Health* 2021;75(3):242-44. doi: 10.1136/jech-2020-214301
3. Ingram E, Ledden S, Beardon S, et al. Household and area-level social determinants of multimorbidity: a systematic review. *J Epidemiol Community Health* 2021;75(3):232-41. doi: 10.1136/jech-2020-214691
4. Morsli S, Bellantuono I. The use of geroprotectors to prevent multimorbidity: Opportunities and challenges. *Mech Ageing Dev* 2021;193:111391. doi: 10.1016/j.mad.2020.111391
5. Soley-Bori M, Ashworth M, Bisquera A, et al. Impact of multimorbidity on healthcare costs and utilisation: a systematic review of the UK literature. *Br J Gen Pract* 2021;71(702):e39-e46. doi: 10.3399/bjgp20X713897
6. Corwin EJ, Brewster G, Dunbar SB, et al. The Metabolomic Underpinnings of Symptom Burden in Patients With Multiple Chronic Conditions. *Biol Res Nurs* 2021;23(2):270-79. doi: 10.1177/1099800420958196
7. Oh H, Glass J, Narita Z, et al. Discrimination and Multimorbidity Among Black Americans: Findings from the National Survey of American Life. *J Racial Ethn Health Disparities* 2021;8(1):210-19. doi: 10.1007/s40615-020-00773-z
8. Rodrigues M, Wiener JC, Stranges S, et al. The risk of physical multimorbidity in people with psychotic disorders: A systematic review and meta-analysis. *J Psychosom Res* 2021;140:110315. doi: 10.1016/j.jpsychores.2020.110315
9. Larkin J, Foley L, Smith SM, et al. The experience of financial burden for people with multimorbidity: A systematic review of qualitative research. *Health Expect* 2021;24(2):282-95. doi: 10.1111/hex.13166
10. Zhao Y, Zhang P, Oldenburg B, et al. The impact of mental and physical multimorbidity on healthcare utilization and health spending in China: A nationwide longitudinal population-based study. *Int J Geriatr Psychiatry* 2021;36(4):500-10. doi: 10.1002/gps.5445
11. San-Jose A, Perez-Bocanegra C, Agusti A, et al. Integrated health intervention on polypharmacy and inappropriate prescribing in elderly people with multimorbidity: Results at the end of the intervention and at 6 months after the intervention. *Med Clin (Barc)* 2021;156(6):263-69. doi: 10.1016/j.medcli.2020.04.030

12. Jungo KT, Streit S, Lauffenburger JC. Utilization and Spending on Potentially Inappropriate Medications by US Older Adults with Multiple Chronic Conditions using Multiple Medications. *Arch Gerontol Geriatr* 2021;93:104326. doi: 10.1016/j.archger.2020.104326
13. Walsh CA, Cahir C, Bennett KE. Longitudinal Medication Adherence in Older Adults With Multimorbidity and Association With Health Care Utilization: Results From the Irish Longitudinal Study on Ageing. *Ann Pharmacother* 2021;55(1):5-14. doi: 10.1177/1060028020937996
14. Zhang L, Sun F, Li Y, et al. Multimorbidity in Community-Dwelling Older Adults in Beijing: Prevalence and Trends, 2004-2017. *J Nutr Health Aging* 2021;25(1):116-19. doi: 10.1007/s12603-020-1467-4
15. Gonzalez-Gonzalez AI, Meid AD, Dinh TS, et al. A prognostic model predicted deterioration in health-related quality of life in older patients with multimorbidity and polypharmacy. *J Clin Epidemiol* 2021;130:1-12. doi: 10.1016/j.jclinepi.2020.10.006
16. Pengpid S, Peltzer K. Chronic conditions, multimorbidity, and quality of life among patients attending monk healers and primary care clinics in Thailand. *Health Qual Life Outcomes* 2021;19(1):61. doi: 10.1186/s12955-021-01707-x
17. Zheng DD, Loewenstein DA, Christ SL, et al. Multimorbidity patterns and their relationship to mortality in the US older adult population. *PLoS One* 2021;16(1):e0245053. doi: 10.1371/journal.pone.0245053
18. Forslund T, Carlsson AC, Ljunggren G, et al. Patterns of multimorbidity and pharmacotherapy: a total population cross-sectional study. *Fam Pract* 2021;38(2):132-40. doi: 10.1093/fampra/cmaa056
19. Grande G, Marengoni A, Vetrano DL, et al. Multimorbidity burden and dementia risk in older adults: The role of inflammation and genetics. *Alzheimers Dement* 2021;17(5):768-76. doi: 10.1002/alz.12237
20. Delgado J, Jones L, Bradley MC, et al. Potentially inappropriate prescribing in dementia, multi-morbidity and incidence of adverse health outcomes. *Age Ageing* 2021;50(2):457-64. doi: 10.1093/ageing/afaa147
21. Stafford M, Deeny SR, Dreyer K, et al. Multiple long-term conditions within households and use of health and social care: a retrospective cohort study. *BJGP Open* 2021;5(2) doi: 10.3399/BJGPO.2020.0134
22. Tsai J, King B, Elder J. Multimorbidity and Social Drivers of Homelessness and Health: Introduction to This Special Issue. *Med Care* 2021;59(Suppl 2):S101-S02. doi: 10.1097/MLR.0000000000001518

23. Bellantuono I, Marengoni A. What researchers on ageing should know about multimorbidity, geroprotectors and artificial intelligence. *Mech Ageing Dev* 2021;195:111453. doi: 10.1016/j.mad.2021.111453
24. Cohen-Stavi CJ, Giveon S, Key C, et al. Guideline deviation and its association with specific chronic diseases among patients with multimorbidity: a cross-sectional cohort study in a care management setting. *BMJ Open* 2021;11(1):e040961. doi: 10.1136/bmjopen-2020-040961
25. Bendayan R, Zhu Y, Federman AD, et al. Multimorbidity Patterns and Memory Trajectories in Older Adults: Evidence From the English Longitudinal Study of Aging. *J Gerontol A Biol Sci Med Sci* 2021;76(5):867-75. doi: 10.1093/gerona/ghab009
26. Boersma P, Cohen RA, Zelaya CE, et al. Multiple Chronic Conditions Among Veterans and Nonveterans: United States, 2015-2018. *Natl Health Stat Report* 2021(153):1-13.
27. Hajat C, Siegal Y, Adler-Waxman A. Clustering and Healthcare Costs With Multiple Chronic Conditions in a US Study. *Front Public Health* 2020;8:607528. doi: 10.3389/fpubh.2020.607528
28. Zhao YW, Haregu TN, He L, et al. The effect of multimorbidity on functional limitations and depression amongst middle-aged and older population in China: a nationwide longitudinal study. *Age Ageing* 2021;50(1):190-97. doi: 10.1093/ageing/afaa117
29. Mohamed SF, Haregu TN, Uthman OA, et al. Multimorbidity from Chronic Conditions among Adults in Urban Slums: The AWI-Gen Nairobi Site Study Findings. *Glob Heart* 2021;16(1):6. doi: 10.5334/gh.771
30. Steffler M, Li Y, Weir S, et al. Trends in prevalence of chronic disease and multimorbidity in Ontario, Canada. *CMAJ* 2021;193(8):E270-E77. doi: 10.1503/cmaj.201473
31. Tinetti ME, Costello DM, Naik AD, et al. Outcome Goals and Health Care Preferences of Older Adults With Multiple Chronic Conditions. *JAMA Netw Open* 2021;4(3):e211271. doi: 10.1001/jamanetworkopen.2021.1271
32. Pati S, Mahapatra P, Kanungo S, et al. Managing Multimorbidity (Multiple Chronic Diseases) Amid COVID-19 Pandemic: A Community Based Study From Odisha, India. *Front Public Health* 2020;8:584408. doi: 10.3389/fpubh.2020.584408
33. Yadav UN, Ghimire S, Mistry SK, et al. Prevalence of non-communicable chronic conditions, multimorbidity and its correlates among older adults in rural Nepal: a cross-sectional study. *BMJ Open* 2021;11(2):e041728. doi: 10.1136/bmjopen-2020-041728
34. Geda NR, Janzen B, Pahwa P. Chronic disease multimorbidity among the Canadian population: prevalence and associated lifestyle factors. *Arch Public Health* 2021;79(1):60. doi: 10.1186/s13690-021-00583-7

35. Nwadiugwu MC. Multi-Morbidity in the Older Person: An Examination of Polypharmacy and Socioeconomic Status. *Front Public Health* 2020;8:582234. doi: 10.3389/fpubh.2020.582234
36. Majnaric LT, Babic F, O'Sullivan S, et al. AI and Big Data in Healthcare: Towards a More Comprehensive Research Framework for Multimorbidity. *J Clin Med* 2021;10(4) doi: 10.3390/jcm10040766
37. McKenzie KJ, Pierce D, Mercer SW, et al. Do GPs use motivational interviewing skills in routine consultations with patients living with mental-physical multimorbidity? An observational study of primary care in Scotland. *Chronic Illn* 2021;17(1):29-40. doi: 10.1177/1742395318815960
38. Chua YP, Xie Y, Lee PSS, et al. Definitions and Prevalence of Multimorbidity in Large Database Studies: A Scoping Review. *Int J Environ Res Public Health* 2021;18(4) doi: 10.3390/ijerph18041673
39. Rocca WA, Grossardt BR, Boyd CM, et al. Multimorbidity, ageing and mortality: normative data and cohort study in an American population. *BMJ Open* 2021;11(3):e042633. doi: 10.1136/bmjopen-2020-042633
40. Foley L, Larkin J, Lombard-Vance R, et al. Prevalence and predictors of medication non-adherence among patients with multimorbidity: A systematic review protocol. *HRB Open Res* 2019;2:29. doi: 10.12688/hrbopenres.12961.2
41. Andersen H, Kankaanranta H, Tuomisto LE, et al. Multimorbidity in Finnish and Swedish speaking Finns; association with daily habits and socioeconomic status - Nordic EpiLung cross-sectional study. *Prev Med Rep* 2021;22:101338. doi: 10.1016/j.pmedr.2021.101338
42. Lyons J, Akbari A, Agrawal U, et al. Protocol for the development of the Wales Multimorbidity e-Cohort (WMC): data sources and methods to construct a population-based research platform to investigate multimorbidity. *BMJ Open* 2021;11(1):e047101. doi: 10.1136/bmjopen-2020-047101
43. Marengoni A, Tazzeo C, Calderon-Larranaga A, et al. Multimorbidity Patterns and 6-Year Risk of Institutionalization in Older Persons: The Role of Social Formal and Informal Care. *J Am Med Dir Assoc* 2021 doi: 10.1016/j.jamda.2020.12.040
44. Fortuna D, Berti E, Moro ML. Multimorbidity epidemiology and health care utilization through combined healthcare administrative databases. *Epidemiol Prev* 2021;45(1-2):62-71. doi: 10.19191/EP21.1-2.P062.040
45. Mariani N, Borsini A, Cecil CAM, et al. Identifying causative mechanisms linking early-life stress to psycho-cardio-metabolic multi-morbidity: The EarlyCause project. *PLoS One* 2021;16(1):e0245475. doi: 10.1371/journal.pone.0245475

46. Moin JS, Glazier RH, Kuluski K, et al. Impact of neighbourhood walkability on the onset of multimorbidity: a cohort study. *BMJ Open* 2021;11(4):e045890. doi: 10.1136/bmjopen-2020-045890
47. Allen A, Frederick L, Hovey SL. Using Palliative Care Nurses in a Supportive Care Program to Reduce Hospital Utilization for Patients With Multiple Chronic Conditions. *J Nurs Care Qual* 2021;36(1):79-83. doi: 10.1097/NCQ.0000000000000482
48. Glick M. Multimorbidity. *Br Dent J* 2021;230(6):324. doi: 10.1038/s41415-021-2854-x
49. Gopfert A, Deeny SR, Fisher R, et al. Primary care consultation length by deprivation and multimorbidity in England: an observational study using electronic patient records. *Br J Gen Pract* 2021;71(704):e185-e92. doi: 10.3399/bjgp20X714029
50. Qiao Y, Liu S, Zhang Y, et al. Bidirectional association between depression and multimorbidity in middle-aged and elderly Chinese adults: a longitudinal cohort study. *Aging Ment Health* 2021:1-7. doi: 10.1080/13607863.2021.1877609
51. Nicholson K, Griffith LE, Sohel N, et al. Examining early and late onset of multimorbidity in the Canadian Longitudinal Study on Aging. *J Am Geriatr Soc* 2021 doi: 10.1111/jgs.17096
52. Damarell RA, Morgan DD, Tieman JJ, et al. Multimorbidity through the lens of life-limiting illness: how helpful are Australian clinical practice guidelines to its management in primary care? *Aust J Prim Health* 2021 doi: 10.1071/PY20164
53. Pan T, Mercer SW, Zhao Y, et al. The association between mental-physical multimorbidity and disability, work productivity, and social participation in China: a panel data analysis. *BMC Public Health* 2021;21(1):376. doi: 10.1186/s12889-021-10414-7
54. Souza DLB, Oliveras-Fabregas A, Minobes-Molina E, et al. Trends of multimorbidity in 15 European countries: a population-based study in community-dwelling adults aged 50 and over. *BMC Public Health* 2021;21(1):76. doi: 10.1186/s12889-020-10084-x
55. Balogun SA, Aitken D, Wu F, et al. Linear and non-linear associations between physical activity, body composition and multimorbidity over 10 years among community-dwelling older adults. *J Gerontol A Biol Sci Med Sci* 2021 doi: 10.1093/gerona/glab086
56. Jin Y, Bratzke L, Baumann LC. Helping persons with multiple chronic conditions overcome barriers to self-management. *Nurse Pract* 2021;46(3):20-28. doi: 10.1097/01.NPR.0000733676.28520.db
57. Kivelitz L, Schafer J, Kanat M, et al. Patient-centeredness in older adults with multimorbidity: Results of an online expert Delphi study. *Gerontologist* 2021 doi: 10.1093/geront/gnaa223
58. Mucherino S, Gimeno-Miguel A, Carmona-Pirez J, et al. Changes in Multimorbidity and Polypharmacy Patterns in Young and Adult Population over a 4-Year Period: A 2011-2015

Comparison Using Real-World Data. *Int J Environ Res Public Health* 2021;18(9) doi: 10.3390/ijerph18094422

59. St Sauver JL, Chamberlain AM, Bobo WV, et al. Implementing the US Department of Health and Human Services definition of multimorbidity: a comparison between billing codes and medical record review in a population-based sample of persons 40-84 years old. *BMJ Open* 2021;11(4):e042870. doi: 10.1136/bmjopen-2020-042870

60. Gustafson DH, Sr., Mares ML, Johnston DC, et al. A Web-Based eHealth Intervention to Improve the Quality of Life of Older Adults With Multiple Chronic Conditions: Protocol for a Randomized Controlled Trial. *JMIR research protocols* 2021;10(2):e25175. doi: 10.2196/25175

61. Fisher KA, Griffith LE, Gruneir A, et al. Effect of socio-demographic and health factors on the association between multimorbidity and acute care service use: population-based survey linked to health administrative data. *BMC Health Serv Res* 2021;21(1):62. doi: 10.1186/s12913-020-06032-5

62. Tomita A, Leyna GH, Kim HY, et al. Patterns of multimorbidity and their association with hospitalisation: a population-based study of older adults in urban Tanzania. *Age Ageing* 2021 doi: 10.1093/ageing/afab046

63. Wang Z, Peng W, Li M, et al. Association between multimorbidity patterns and disability among older people covered by long-term care insurance in Shanghai, China. *BMC Public Health* 2021;21(1):418. doi: 10.1186/s12889-021-10463-y

64. Ma R, Romano E, Vancampfort D, et al. Physical multimorbidity and social participation in adults aged ≥ 65 years from six low- and middle-income countries. *J Gerontol B Psychol Sci Soc Sci* 2021 doi: 10.1093/geronb/gbab056

65. Ricci-Cabello I, Yanez-Juan AM, Fiol-deRoque MA, et al. Assessing the Impact of Multi-Morbidity and Related Constructs on Patient Reported Safety in Primary Care: Generalized Structural Equation Modelling of Observational Data. *J Clin Med* 2021;10(8) doi: 10.3390/jcm10081782

66. Pati S, Mahapatra P, Dwivedi R, et al. Multimorbidity and Its Outcomes Among Patients Attending Psychiatric Care Settings: An Observational Study From Odisha, India. *Front Public Health* 2020;8:616480. doi: 10.3389/fpubh.2020.616480

67. Johnson PJ, Mentzer KM, Jou J, et al. Unmet healthcare needs among midlife adults with mental distress and multiple chronic conditions. *Aging Ment Health* 2021:1-9. doi: 10.1080/13607863.2021.1904830

68. Maxwell CJ, Mondor L, Pefoyo Kone AJ, et al. Sex differences in multimorbidity and polypharmacy trends: A repeated cross-sectional study of older adults in Ontario, Canada. *PLoS One* 2021;16(4):e0250567. doi: 10.1371/journal.pone.0250567

69. Smith SM, Wallace E, O'Dowd T, et al. Interventions for improving outcomes in patients with multimorbidity in primary care and community settings. *Cochrane Database Syst Rev* (2):CD003638 2021;1:CD006560. doi: 10.1002/14651858.CD006560.pub4
70. Crocker AM, Kessler R, van Eeghen C, et al. Integrating Behavioral Health and Primary Care (IBH-PC) to improve patient-centered outcomes in adults with multiple chronic medical and behavioral health conditions: study protocol for a pragmatic cluster-randomized control trial. *Trials* 2021;22(1):200. doi: 10.1186/s13063-021-05133-8
71. Stokes J, Guthrie B, Mercer SW, et al. Multimorbidity combinations, costs of hospital care and potentially preventable emergency admissions in England: A cohort study. *PLoS Med* 2021;18(1):e1003514. doi: 10.1371/journal.pmed.1003514
72. Pintz C, Posey L, Farmer P, et al. Interprofessional care of people with multiple chronic conditions: An open-access resource for nursing educators. *Nurse Educ Pract* 2021;51:102990. doi: 10.1016/j.nepr.2021.102990
73. Cheng C, Inder K, Chan SW. The relationship between coping strategies and psychological distress in Chinese older adults with multiple chronic conditions. *Australas J Ageing* 2021 doi: 10.1111/ajag.12946
74. St John PD, Menec V, Tyas SL, et al. Multimorbidity in Canadians living in the community: Results from the Canadian Longitudinal Study of Aging. *Can Fam Physician* 2021;67(3):187-97. doi: 10.46747/cfp.6703187
75. Bezerra de Souza DL, Oliveras-Fabregas A, Espelt A, et al. Multimorbidity and its associated factors among adults aged 50 and over: A cross-sectional study in 17 European countries. *PLoS One* 2021;16(2):e0246623. doi: 10.1371/journal.pone.0246623
76. Xiong S, Liu S, Qiao Y, et al. Estimation of losses of quality-adjusted life expectancy attributed to the combination of cognitive impairment and multimorbidity among Chinese adults aged 45 years and older. *BMC Public Health* 2021;21(1):24. doi: 10.1186/s12889-020-10069-w
77. Shao J, Wang X, Zou P, et al. Associating modifiable lifestyle factors with multimorbidity in community dwelling individuals from mainland China. *Eur J Cardiovasc Nurs* 2021 doi: 10.1093/eurjcn/zvaa038
78. Pel-Littel RE, Snaterse M, Teppich NM, et al. Barriers and facilitators for shared decision making in older patients with multiple chronic conditions: a systematic review. *BMC Geriatr* 2021;21(1):112. doi: 10.1186/s12877-021-02050-y
79. Foscolou A, Chrysohoou C, Dimitriadis K, et al. The Association of Healthy Aging with Multimorbidity: IKARIA Study. *Nutrients* 2021;13(4) doi: 10.3390/nu13041386

80. Lee MR, Jung SM. A cross-sectional study investigating the relationship between handgrip strength with multimorbidity in Korean adults: Findings from the Korea National Health and Nutrition Examination Survey VI-VII (2014-2017). *Medicine (Baltimore)* 2021;100(1):e23994. doi: 10.1097/MD.00000000000023994
81. Alderman C. Multimorbidity, Consumer- Directed Care, and Drug-Related Harm. *Sr Care Pharm* 2021;36(3):125-26. doi: 10.4140/TCP.n.2021.126.
82. Nedzinskiene L, Jureviciene E, Visockiene Z, et al. Structure and Distribution of Health Care Costs across Age Groups of Patients with Multimorbidity in Lithuania. *Int J Environ Res Public Health* 2021;18(5) doi: 10.3390/ijerph18052767
83. Cairo Notari S, Sader J, Caire Fon N, et al. Understanding GPs' clinical reasoning processes involved in managing patients suffering from multimorbidity: A systematic review of qualitative and quantitative research. *Int J Clin Pract* 2021:e14187. doi: 10.1111/ijcp.14187
84. Williams K, Markwardt S, Kearney SM, et al. Addressing Implementation Challenges to Digital Care Delivery for Adults With Multiple Chronic Conditions: Stakeholder Feedback in a Randomized Controlled Trial. *JMIR Mhealth Uhealth* 2021;9(2):e23498. doi: 10.2196/23498
85. de Souza ACD, Barbosa IR, de Souza DLB. Prevalence of multimorbidity and associated factors in the Brazilian working population. *Rev Bras Med Trab* 2021;18(3):302-11. doi: 10.47626/1679-4435-2020-568
86. Sand CD, Rahbek K, Willadsen TG, et al. Prioritizing social identities: Patients' perspective on living with multimorbidity. *J Comorb* 2021;11:26335565211009375. doi: 10.1177/26335565211009375
87. Zhao Y, Atun R, Anindya K, et al. Medical costs and out-of-pocket expenditures associated with multimorbidity in China: quantile regression analysis. *BMJ Glob Health* 2021;6(2) doi: 10.1136/bmjgh-2020-004042
88. Sturmberg JP, Getz LO, Stange KC, et al. Beyond multimorbidity: What can we learn from complexity science? *J Eval Clin Pract* 2021 doi: 10.1111/jep.13521
89. Willadsen TG, Siersma V, Nicolaisdottir DR, et al. Symptom burden in multimorbidity: a population-based combined questionnaire and registry study from Denmark. *BMJ Open* 2021;11(4):e041877. doi: 10.1136/bmjopen-2020-041877
90. Muller M, Huembelin M, Baechli C, et al. Association of in-hospital multimorbidity with healthcare outcomes in Swiss medical inpatients. *Swiss Med Wkly* 2021;151:w20405. doi: 10.4414/smw.2021.20405

91. Jungo KT, Mantelli S, Rozsnyai Z, et al. General practitioners' deprescribing decisions in older adults with polypharmacy: a case vignette study in 31 countries. *BMC Geriatr* 2021;21(1):19. doi: 10.1186/s12877-020-01953-6
92. Coste J, Valderas JM, Carcaillon-Bentata L. Estimating and characterizing the burden of multimorbidity in the community: A comprehensive multistep analysis of two large nationwide representative surveys in France. *PLoS Med* 2021;18(4):e1003584. doi: 10.1371/journal.pmed.1003584
93. Kone AP, Mondor L, Maxwell C, et al. Rising burden of multimorbidity and related socio-demographic factors: a repeated cross-sectional study of Ontarians. *Can J Public Health* 2021 doi: 10.17269/s41997-021-00474-y
94. Lee SA, Joo S, Chai HW, et al. Patterns of multimorbidity trajectories and their correlates among Korean older adults. *Age Ageing* 2021 doi: 10.1093/ageing/afab002
95. Chen LK. Towards Appropriate Prescribing for Older Persons with Multiple Chronic Conditions. *Arch Gerontol Geriatr* 2021;94:104397. doi: 10.1016/j.archger.2021.104397
96. Mayr FB, Plowman JL, Blakowski S, et al. Feasibility of a Home-Based Palliative Care Intervention for Elderly Multimorbid Survivors of Critical Illness. *Am J Crit Care* 2021;30(1):e12-e31. doi: 10.4037/ajcc2021117
97. Botosaneanu A, Markwardt S, Nagel CL, et al. Multimorbidity Accumulation among Middle-Aged Americans: Differences by Race/Ethnicity and Body-Mass Index. *J Gerontol A Biol Sci Med Sci* 2021 doi: 10.1093/gerona/glab116
98. Whitehead L, Palamara P, Browning S, et al. Adults' experience of living with multimorbidity: a qualitative systematic review protocol. *JB I Evid Synth* 2021 doi: 10.11124/JBIES-20-00148
99. Audetat MC, Cairo Notari S, Sader J, et al. Understanding the clinical reasoning processes involved in the management of multimorbidity in an ambulatory setting: study protocol of a stimulated recall research. *BMC Med Educ* 2021;21(1):31. doi: 10.1186/s12909-020-02459-w
100. Pellet J, Weiss M, Zuniga F, et al. Implementation and preliminary testing of a theory-guided nursing discharge teaching intervention for adult inpatients aged 50 and over with multimorbidity: a pragmatic feasibility study protocol. *Pilot Feasibility Stud* 2021;7(1):71. doi: 10.1186/s40814-021-00812-4
101. Marengoni A, Akugizibwe R, Vetrano DL, et al. Patterns of multimorbidity and risk of disability in community-dwelling older persons. *Aging Clin Exp Res* 2021;33(2):457-62. doi: 10.1007/s40520-020-01773-z

102. Arias de la Torre J, Ronaldson A, Valderas JM, et al. Diagnostic promiscuity: the use of real-world data to study multimorbidity in mental health. *Br J Psychiatry* 2021;1-3. doi: 10.1192/bjp.2020.257
103. Chen N, Zhou L, Huang J, et al. Identifying multimorbidity patterns of non-communicable diseases in paediatric inpatients: a cross-sectional study in Shanghai, China. *BMJ Open* 2021;11(4):e042679. doi: 10.1136/bmjopen-2020-042679
104. Salive ME, Suls J, Farhat T, et al. National Institutes of Health Advancing Multimorbidity Research. *Med Care* 2021;59(7):622-24. doi: 10.1097/MLR.0000000000001565
105. Kiely B, Clyne B, Boland F, et al. Link workers providing social prescribing and health and social care coordination for people with multimorbidity in socially deprived areas (the LinkMM trial): protocol for a pragmatic randomised controlled trial. *BMJ Open* 2021;11(2):e041809. doi: 10.1136/bmjopen-2020-041809
106. Kordowicz M, Hack-Polay D. Community assets and multimorbidity: A qualitative scoping study. *PLoS One* 2021;16(2):e0246856. doi: 10.1371/journal.pone.0246856
107. Chau E, Rosella LC, Mondor L, et al. Association between continuity of care and subsequent diagnosis of multimorbidity in Ontario, Canada from 2001-2015: A retrospective cohort study. *PLoS One* 2021;16(3):e0245193. doi: 10.1371/journal.pone.0245193
108. Cheng S, Siddiqui TG, Gossop M, et al. The patterns and burden of multimorbidity in geriatric patients with prolonged use of addictive medications. *Aging Clin Exp Res* 2021 doi: 10.1007/s40520-021-01791-5
109. Moreno-Chico C, Roy C, Monforte-Royo C, et al. Effectiveness of a nurse-led, face-to-face health coaching intervention in enhancing activation and secondary outcomes of primary care users with chronic conditions. *Res Nurs Health* 2021;44(3):458-72. doi: 10.1002/nur.22132
110. Matesanz-Fernandez M, Seoane-Pillado T, Iniguez-Vazquez I, et al. Description of multimorbidity clusters of admitted patients in medical departments of a general hospital. *Postgrad Med J* 2021 doi: 10.1136/postgradmedj-2020-139361
111. Yan C, Liao H, Ma Y, et al. Association among multimorbidity, physical disability and depression trajectories: a study of urban-rural differences in China. *Qual Life Res* 2021 doi: 10.1007/s11136-021-02807-3
112. Nguyen H, Moreno-Agostino D, Chua KC, et al. Trajectories of healthy ageing among older adults with multimorbidity: A growth mixture model using harmonised data from eight ATHLOS cohorts. *PLoS One* 2021;16(4):e0248844. doi: 10.1371/journal.pone.0248844

113. Rafferty AP, Luo H, Winterbauer NL, et al. Health Literacy Among Adults With Multiple Chronic Health Conditions. *Journal of public health management and practice : JPHMP* 2021 doi: 10.1097/PHH.0000000000001352
114. Porter I, Davey A, Gangannagaripalli J, et al. Integrating Patient Reported Outcome Measures (PROMs) into routine nurse-led primary care for patients with multimorbidity: a feasibility and acceptability study. *Health Qual Life Outcomes* 2021;19(1):133. doi: 10.1186/s12955-021-01748-2
115. Jing Z, Li J, Fu PP, et al. Catastrophic health expenditure among single empty-nest elderly with multimorbidity in rural Shandong, China: the effect of co-occurrence of frailty. *Int J Equity Health* 2021;20(1):23. doi: 10.1186/s12939-020-01362-6
116. Stewart M, Fortin M, Brown JB, et al. Patient-centred innovation for multimorbidity care: a mixed-methods, randomised trial and qualitative study of the patients' experience. *Br J Gen Pract* 2021;71(705):e320-e30. doi: 10.3399/bjgp21X714293
117. Demirer I, Kuhhirt M, Karbach U, et al. Does positive affect mediate the association of multimorbidity on depressive symptoms? *Aging Ment Health* 2021:1-12. doi: 10.1080/13607863.2020.1870209
118. Marthias T, Anindya K, Ng N, et al. Impact of non-communicable disease multimorbidity on health service use, catastrophic health expenditure and productivity loss in Indonesia: a population-based panel data analysis study. *BMJ Open* 2021;11(2):e041870. doi: 10.1136/bmjopen-2020-041870
119. Mbuya-Bienge C, Simard M, Gaulin M, et al. Does socio-economic status influence the effect of multimorbidity on the frequent use of ambulatory care services in a universal healthcare system? A population-based cohort study. *BMC Health Serv Res* 2021;21(1):202. doi: 10.1186/s12913-021-06194-w
120. Kastner M, Makarski J, Hayden L, et al. Effectiveness of an eHealth self-management tool for older adults with multimorbidity (KeepWell): protocol for a hybrid effectiveness-implementation randomised controlled trial. *BMJ Open* 2021;11(2):e048350. doi: 10.1136/bmjopen-2020-048350
121. Tew GA, Bissell L, Corbacho B, et al. Yoga for older adults with multimorbidity (the Gentle Years Yoga Trial): study protocol for a randomised controlled trial. *Trials* 2021;22(1):269. doi: 10.1186/s13063-021-05217-5
122. Lee E, Cha S, Kim GM. Factors Affecting Health-Related Quality of Life in Multimorbidity. *Healthcare (Basel)* 2021;9(3) doi: 10.3390/healthcare9030334
123. Mann J, Thompson F, Quigley R, et al. Beyond multimorbidity: primary care and the older person with complex needs. *Aust J Prim Health* 2021 doi: 10.1071/PY20125

124. Jungo KT, Streit S, Lauffenburger JC. Patient factors associated with new prescribing of potentially inappropriate medications in multimorbid US older adults using multiple medications. *BMC Geriatr* 2021;21(1):163. doi: 10.1186/s12877-021-02089-x
125. Poon IO, Skelton F, Bean LR, et al. Building Community-Engaged Multidisciplinary Partnerships to Improve Medication Management in Elderly Patients With Multiple Chronic Conditions. *J Patient Cent Res Rev* 2021;8(2):113-20.
126. Morris JE, Roderick PJ, Harris S, et al. Treatment burden for patients with multimorbidity: cross-sectional study with exploration of a single-item measure. *Br J Gen Pract* 2021;71(706):e381-e90. doi: 10.3399/BJGP.2020.0883
127. Canca-Sanchez JC, Garcia-Mayor S, Morales-Asencio JM, et al. Predictors of health service use by family caregivers of persons with multimorbidity. *J Clin Nurs* 2021 doi: 10.1111/jocn.15814
128. Ecks S. Depression, Deprivation, and Dysbiosis: Polyiatrogenesis in Multiple Chronic Illnesses. *Cult Med Psychiatry* 2021 doi: 10.1007/s11013-020-09699-x
129. Li HW, Lee WJ, Lin MH, et al. Quality of Life among Community-Dwelling Middle-Aged and Older Adults: Function Matters More than Multimorbidity. *Arch Gerontol Geriatr* 2021;95:104423. doi: 10.1016/j.archger.2021.104423
130. Fortin M, Stewart M, Ngangue P, et al. Scaling Up Patient-Centered Interdisciplinary Care for Multimorbidity: A Pragmatic Mixed-Methods Randomized Controlled Trial. *Ann Fam Med* 2021;19(2):126-34. doi: 10.1370/afm.2650
131. Hasan Ibrahim AS, Barry HE, Hughes CM. A systematic review of general practice-based pharmacists' services to optimize medicines management in older people with multimorbidity and polypharmacy. *Fam Pract* 2021 doi: 10.1093/fampra/cmaa146
132. Looman W, Struckmann V, Koppen J, et al. Drivers of successful implementation of integrated care for multi-morbidity: Mechanisms identified in 17 case studies from 8 European countries. *Soc Sci Med* 2021;277:113728. doi: 10.1016/j.socscimed.2021.113728
133. Singh A, Contreras Suarez D, You E, et al. Role of social support in the relationship between financial hardship and multimorbidity-a causal mediation analysis. *Eur J Public Health* 2021 doi: 10.1093/eurpub/ckab015
134. O'Toole L, Connolly D, Boland F, et al. Effect of the OPTIMAL programme on self-management of multimorbidity in primary care: a randomised controlled trial. *Br J Gen Pract* 2021;71(705):e303-e11. doi: 10.3399/bjgp20X714185

135. Kuipers SJ, Nieboer AP, Cramm JM. Making care more patient centered; experiences of healthcare professionals and patients with multimorbidity in the primary care setting. *BMC Fam Pract* 2021;22(1):70. doi: 10.1186/s12875-021-01420-0
136. Sasseville M, Chouinard MC, Fortin M. Understanding patient outcomes to develop a multimorbidity adapted patient-reported outcomes measure: a qualitative description of patient and provider perspectives. *Health Qual Life Outcomes* 2021;19(1):43. doi: 10.1186/s12955-021-01689-w
137. Oksavik JD, Aarseth T, Solbjor M, et al. 'What matters to you?' Normative integration of an intervention to promote participation of older patients with multi-morbidity - a qualitative case study. *BMC Health Serv Res* 2021;21(1):117. doi: 10.1186/s12913-021-06106-y
138. Yang C, Hui Z, Zeng D, et al. A community-based nurse-led medication self-management intervention in the improvement of medication adherence in older patients with multimorbidity: protocol for a randomised controlled trial. *BMC Geriatr* 2021;21(1):152. doi: 10.1186/s12877-021-02097-x
139. Lee KP, Wong SYS, Yip BHK, et al. How common are Chinese patients with multimorbidity involved in decision-making and having a treatment plan? A cross-sectional study. *Int J Clin Pract* 2021:e14286. doi: 10.1111/ijcp.14286
140. Troncoso-Marino A, Roso-Llorach A, Lopez-Jimenez T, et al. Medication-Related Problems in Older People with Multimorbidity in Catalonia: A Real-World Data Study with 5 Years' Follow-Up. *J Clin Med* 2021;10(4) doi: 10.3390/jcm10040709
141. Wicke FS, Dinh TS, Riedel-Heller S, et al. Predictors of change in depressive symptoms in older and multimorbid patients: a longitudinal analysis of the multicare cohort. *Aging Ment Health* 2021:1-10. doi: 10.1080/13607863.2021.1902470
142. Demirer I, Bethge M, Spyra K, et al. Does social support mediate the effect of multimorbidity on mental wellbeing in the German working population? A longitudinal mediation analysis using structural equation modelling. *SSM Popul Health* 2021;13:100744. doi: 10.1016/j.ssmph.2021.100744
143. Markle-Reid M, Ganann R, Ploeg J, et al. Engagement of older adults with multimorbidity as patient research partners: Lessons from a patient-oriented research program. *J Comorb* 2021;11:2633556521999508. doi: 10.1177/2633556521999508
144. Helping persons with multiple chronic conditions overcome barriers to self-management. *Nurse Pract* 2021;46(3):28-29. doi: 10.1097/01.NPR.0000735708.76592.9f
145. McKenzie KJ, Fletcher SL, Pierce D, et al. Moving from "let's fix them" to "actually listen": the development of a primary care intervention for mental-physical multimorbidity. *BMC Health Serv Res* 2021;21(1):301. doi: 10.1186/s12913-021-06307-5

146. Oksavik JD, Solbjor M, Kirchhoff R, et al. Games of uncertainty: the participation of older patients with multimorbidity in care planning meetings - a qualitative study. *BMC Geriatr* 2021;21(1):242. doi: 10.1186/s12877-021-02184-z
147. Vasiliadis HM, Gontijo Guerra S, Berbiche D, et al. The Factors Associated with 3-Year Mortality Stratified by Physical and Mental Multimorbidity and Area of Residence Deprivation in Primary Care Community-Living Older Adults. *J Aging Health* 2021:898264321997715. doi: 10.1177/0898264321997715
148. Fortin M, Stewart M. Implementing patient-centred integrated care for multiple chronic conditions: Evidence-informed framework. *Can Fam Physician* 2021;67(4):235-38. doi: 10.46747/cfp.6704235
149. O'Mahony D. Optimization of Medication by Pharmacists in Older People With Multimorbidity for Improved Outcomes-Mirage or Reality? *JAMA Netw Open* 2021;4(4):e216392. doi: 10.1001/jamanetworkopen.2021.6392
150. Pati S, Sinha R, Mahapatra P, et al. Management of geriatric multimorbidity in old age home residents: An emerging issue in India. *Geriatr Gerontol Int* 2021;21(3):338-39. doi: 10.1111/ggi.14137
151. Harrison C, Fortin M, van den Akker M, et al. Comorbidity versus multimorbidity: Why it matters. *J Comorb* 2021;11:2633556521993993. doi: 10.1177/2633556521993993
152. Rosenbaum S, McKeon G, Stubbs B, et al. Redefining mental healthcare: going multidisciplinary to manage multimorbidity. *Br J Sports Med* 2021;55(1):7-8. doi: 10.1136/bjsports-2019-101691
153. Wei MY, Luster JE, Ratz D, et al. Development, Validation, and Performance of a New Physical Functioning-Weighted Multimorbidity Index for Use in Administrative Data. *J Gen Intern Med* 2021 doi: 10.1007/s11606-020-06486-7