Publications on multimorbidity
(Updated on March 29, 2021)

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1. THEORETICAL & REVIEW ARTICLES AND PROTOCOLS


Measuring multimorbidity beyond counting diseases: systematic review of community and population studies and guide to index choice. BMJ 2020;370:m3668. doi: 10.1136/bmj.m3668


Fitzgerald SP, Bean NG, Ruberu RP. A method of decision analysis quantifying the effects of age and comorbidities on the probability of deriving significant benefit from medical treatments. Journal of Comorbidity 2017;7:50–63.


Lupari M, Coates V, Adamson G, Crealey GE. We're just not getting it right'--how should we provide care to the older person with multi-morbid chronic conditions? J Clin Nurs 2011;20.


Iezzoni LI. Multiple Chronic Conditions and Disabilities: Implications for Health Services Research and Data Demands. Health Serv Res. 2010;45(5 Pt 2):1523-40.


2. DEFINITION / CONCEPTUALISATION


3. CLINICAL AND EPIDEMIOLOGICAL STUDIES

3.1 Prevalence


Corallo B, Proser M, Nocon R. Comparing Rates of Multiple Chronic Conditions at Primary Care and Mental Health Visits to Community Health Centers Versus Private Practice Providers. J Ambul Care Manage 2020;43(2):136-47. doi: 10.1097/JAC.0000000000000324


3.2 Aetiology


3.3 Correlation with biological markers


3.4 Interactions and patterns


Ng SK: A two-way clustering framework to identify disparities in multimorbidity patterns of mental and physical health conditions among Australians. Stat Med. 2015;34(26):3444-3460


Wee, H.L., et al., The impact of diabetes mellitus and other chronic medical conditions on health-related Quality of Life: is the whole greater than the sum of its parts? Health & Quality of Life Outcomes, 2005. 3(1): p. 2.

3.5 Socio-demographic, socio-economic, and psychosocial variables.  Lifestyle factors


Hassan Soubhi, Martin Fortin and Catherine Hudon. Perceived conflict in the couple and chronic illness management: Preliminary analyses from the Quebec Health Survey. *BMC Family Practice* 2006;**7**:59.


3.6 Variables related to hospitalization


Tran VT, Diard E, Ravaud P. Priorities to improve the care for chronic conditions and multimorbidity: a survey of patients and stakeholders nested within the ComPaRe e-cohort. BMJ Qual Saf 2020 doi: 10.1136/bmjqs-2020-011219


3.7 Resource utilisation


van den Bussche, H., et al., Patterns of ambulatory medical care utilization in elderly patients with special reference to chronic diseases and multimorbidity - Results from a claims data based observational study in Germany. BMC Geriatrics, 2011. 11: p. 54.


3.8 Quality of life and functional level


Wang L, Palmer AJ, Cocker F, Sanderson K. Multimorbidity and health-related quality of life (HRQoL) in a nationally representative population sample: implications of count


Ramond-Roquin A, Haggerty J, Lambert M, Almirall J, Fortin M. Different Multimorbidity Measures Result in Varying Estimated Levels of Physical Quality of Life in Individuals with


Hodek JM, Ruhe AK, Greiner W. Relationship Between Health-Related Quality of Life and Multimorbidity. *Gesundheitswesen.* 2009 Sep 29. [Epub ahead of print]


3.9 Psychological distress, depression, and cognition


Thomeer MB. Multiple Chronic Conditions, Spouse's Depressive Symptoms, and Gender within Marriage. J Health Soc Behav. 2016;57:59-76.


Gallo JJ, Hwang S, Joo JH, Bogner HR, Morales KH, Bruce ML et al: Multimorbidity, Depression, and Mortality in Primary Care: Randomized Clinical Trial of an Evidence-Based Depression Care Management Program on Mortality Risk. J Gen Intern Med. 2015.


### 3.10 Medication


Richardson, K., et al., Variation over time in the association between polypharmacy and mortality in the older population. Drugs Aging, 2011. 28: p.:547-60.


### 3.11 Social support


De Maria M, Tagliabue S, Ausili D, et al. Perceived social support and health-related quality of life in older adults who have multiple chronic conditions and their caregivers:


3.12 Other clinical variables


Helbig AK, Stockl D, Heier M, et al. Relationship between sleep disturbances and multimorbidity among community-dwelling men and women aged 65-93 years: results


Woo J, Leung J. Multi-morbidity, dependency, and frailty singly or in combination have different impact on health outcomes. *Age (Dordr).* Apr 2014;36(2):923-931.


Landi F et al. Disability, more than multimorbidity, was predictive of mortality among older persons aged 80 years and older. J Clin Epidemiol. 2010. 63(7):752-9.


3.13 Generalisation of clinical trials / Guidelines


Rothwell, P.M., External validity of randomised controlled trials: "to whom do the results of this trial apply?" Lancet., 2005. 365: p. 82-93.


3.14 Other subjects


Troelstra SA, Straker L, Harris M, et al. Multimorbidity is common among young workers and related to increased work absenteeism and presenteeism: results from the


Carvalho JN, de Camargo Cancela M, de Souza DLB. Lifestyle factors and high body mass index are associated with different multimorbidity clusters in the Brazilian population. PLoS One 2018;13(11):e0207649. doi: 10.1371/journal.pone.0207649


Adams ML. Differences Between Younger and Older US Adults With Multiple Chronic Conditions. *Prev Chronic Dis.* 2017;14:E76.


Le Reste JY, Nabbe P, Billot Grasset A, et al. Multimorbid outpatients: A high frequency of FP appointments and/or family difficulties, should alert FPs to the possibility of death.


Galvan-Banqueri M, de la Higuera-Vila L, Vega-Coca MD, Nieto Martin MD, Perez-Guerrero C, Santos-Ramos B. Reliability of a questionnaire for pharmacological


Chan CL, You HJ, Huang HT, Ting HW. Using an integrated COC index and multilevel measurements to verify the care outcome of patients with multiple chronic conditions. *BMC Health Serv Res.* 2012;12:405.


Wong A, Boshuizen HC, Schellevis FG, Kommer GJ, Polder JJ. Longitudinal administrative data can be used to examine multimorbidity, provided false discoveries are controlled for. J Clin Epidemiol 2011;64(10):1109-17.


4. ECONOMIC STUDIES


5. METHODS TO MEASURE MULTIMORBIDITY AND COMORBIDITY


Holzhausen M, Fuchs J, Busch M, et al. Operationalizing multimorbidity and autonomy for health services research in aging populations--the OMAHA study. BMC Health Serv Res 2011;11:47.


Charlson, M., et al., Validation of a combined comorbidity index.


Inouye SK, Bogardus STJ, Vitagliano G, Desai MM, Williams CS, Grady JN et al. Burden of illness score for elderly persons. Risk adjustment incorporating the cumulative impact


Katz, J.N., et al., Can comorbidity be measured by questionnaire rather than medical record review? Medical Care., 1996. 34: p. 73-84.


Ware JE, Bayliss MS, Rogers WH, Kosinski M, Tarlov AR. Differences in 4-year health outcomes for elderly and poor, chronically ill patients treated in HMO and fee-for-service systems. Results from the Medical Outcomes Study. JAMA 1996; 276(13):1039-1047.

6. EDITORIALS / OPINION ARTICLES

Selby K, Chabloz YM, Schwarz J, et al. The multimorbidity dead end: how we got here and possible ways out. Br J Gen Pract 2020;70(701):607-08. doi: 10.3399/bjgp20X713825


Mathew R. Rammya Mathew: Learning to manage multimorbidity. BMJ 2020;368:m871. doi: 10.1136/bmj.m871


Duncan H. Managing multimorbidity: all doctors started as generalists. BMJ 2020;368:m733. doi: 10.1136/bmj.m733

Coughlan C, Watson M. Managing multimorbidity: listening to patients and integrated care. BMJ 2020;368:m713. doi: 10.1136/bmj.m713

Sharpe M. Time to transcend "physical" and "mental" health. BMJ 2020;368:m609. doi: 10.1136/bmj.m609

Whitty CJM, Watt FM. Map clusters of diseases to tackle multimorbidity. Nature 2020;579(7800):494-96. doi: 10.1038/d41586-020-00837-4


Sutherland I, Samadian S. Managing multimorbidity needs time and thought. BMJ 2020;368:m711. doi: 10.1136/bmj.m711


Fortin M. "It-that-must-not-be-named": Addressing patient discomfort with the term multimorbidity. Can Fam Physician 2018;64(12):881-82.


Oliver D. David Oliver: A manifesto for multimorbidity. *BMJ* 2018;360:k1044. doi: 10.1136/bmj.k1044


Wise J. Patients with multimorbidity need longer GP consultations, says RCGP. BMJ. 2016;355:i5961.


Tinetti ME, Basu J. Research on multiple chronic conditions: where we are and where we need to go. Med Care. Mar 2014;52 Suppl 3:S3-6.


Roland M, Paddison C. Better management of patients with multimorbidity. *BMJ.* 2013;**346**:f2510


Haggerty JL. Ordering the chaos for patients with multimorbidity. *BMJ.* 2012;345:e5915.


Hawkes N. Better training is needed to deal with increasing multimorbidity. *BMJ.* 2012;344:e3336.


Shepherd DJ. We need a system that accounts for multimorbidity at practice level. *BMJ*. 2012;**345**:e5464.

Kamerow D. How can we treat multiple chronic conditions? *BMJ*. 2012;**344**:e1487.


Valderas JM, Mercer SW, Fortin M. Research on patients with multiple health conditions: different constructs, different views, one voice. *Journal of Comorbidity*. 2011;**1**:1-3.


7. QUALITATIVE RESEARCH


Ngangue PA, Forgues C, Nguyen T, et al. Patients, caregivers and health-care professionals' experience with an interdisciplinary intervention for people with


Prazeres F, Simoes JA. Key Factors to Consider in Team Meetings when Dealing with Multimorbidity in Primary Care: Results from a Delphi Panel. Cureus 2019;11(6):e4990. doi: 10.7759/cureus.4990


van Dongen JJ, de Wit M, Smeets HW, Stoffers E, van Bokhoven MA, Daniels R. "They Are Talking About Me, but Not with Me": A Focus Group Study to Explore the Patient Perspective on Interprofessional Team Meetings in Primary Care. Patient. 2017.


Slightam CA, Brandt K, Jenchura EC, Lewis ET, Asch SM, Zulman DM. "I had to change so much in my life to live with my new limitations": Multimorbid patients' descriptions of their most bothersome chronic conditions. Chronic Illn. 2017:1742395317699448.


de Vos A, Cramm JM, van Wijngaarden JD, Bakker TJ, Mackenbach JP, Nieboer AP. Understanding implementation of comprehensive geriatric care programs: a multiple perspective approach is preferred. *Int J Health Plann Manage.* 2016.


8. INTERVENTION IDEAS


Prados-Torres A, Cura-Gonzalez ID, Prados-Torres JD, et al. MULTIPAP Study: Improving healthcare for patients with multimorbidity. Br J Gen Pract 2020;70(suppl 1) doi: 10.3399/bjgp20X711257


Braithwaite RS, Fiellin D, Justice AC. The payoff time: a flexible framework to help clinicians decide when patients with comorbid disease are not likely to benefit from practice guidelines. Med Care. 2009 Jun;47(6):610-7.


9. OTHERS

9.1 Physical activity


Loprinzi PD. Multimorbidity, cognitive function, and physical activity. *Age (Dordr)*. 2016;38:8.


Loprinzi PD. Sedentary behavior and medical multimorbidity. Physiol Behav. Nov 1 2015;151:395-397.


9.2 Continuity of care


DuGoff EH. Continuity of Care in Older Adults With Multiple Chronic Conditions: How Well Do Administrative Measures Correspond With Patient Experiences? J Healthc Qual. 2017.


9.3 Self-care


9.4 Medical errors / Medical Education


