

EFFECT OF SOCIO-DEMOGRAPHIC FACTORS ON THE ASSOCIATION BETWEEN MULTIMORBIDITY AND HEALTHCARE COSTS: A POPULATION-BASED, RETROSPECTIVE COHORT STUDY (PUBLICATION)



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CONTEXT

Multimorbidity, the presence of two or more coexisting conditions within a single person, is increasingly prevalent due to advances in life-extending medical treatments and increases in life expectancy. In Ontario, Canada, the prevalence of multimorbidity based on 16 selected conditions rose from 17.4% in 2003 to 24.3% in 2009 across all age groups. Higher levels of multimorbidity are associated with impaired physical function, poorer quality of life, more frequent use of health services, higher risk of death, faster disease progression and require more complex medical care. Consequently, these individuals may be at a higher risk of receiving suboptimal care, inappropriate prescriptions and experiencing potentially preventable hospitalisations. The relationship between multimorbidity and healthcare costs is well-documented and has been shown to be curvilinear or exponential across jurisdictions. Despite an abundance of research describing the relationship between multimorbidity and healthcare costs, existing studies have some important methodological and conceptual limitations.

OBJECTIVES

The study aimed to estimate the health system costs attributable to multimorbidity using a more rigorous and appropriate approach, and to assess the extent to which the relationship between the level of multimorbidity and health system costs varies according to socio-demographic characteristics in young (<65 years) and older (≥65 years) adults living in Ontario, Canada.

METHODS

This population-based, retrospective cohort study included all residents of the province of Ontario between 1 April 2001 and 31 March 2010 enrolled in the Ontario Health Insurance Plan, and were diagnosed with at least one of the 16 selected medical conditions on 1 April 2001. From the perspective of the publicly funded healthcare system, total annual healthcare costs were derived from linked provincial health administrative databases using a person-level costing method. Generalised linear models were used to examine the association between the level of multimorbidity and healthcare costs and the extent to which sociodemographic variables modified this association.

FINDINGS

Individuals living with multimorbidity accounted for 68% of total allocatable healthcare costs in Ontario in 2009 in both young and older cohorts. Attributable total costs of multimorbidity ranged from C\$377 to C\$2073 for young individuals and C\$1026 to C\$3831 for older adults. There is an exponential relationship between multimorbidity and incremental healthcare costs, suggesting that financial burden of multimorbidity to the healthcare system is not simply equal to the sum of costs incurred by each individual condition. There is a stronger association between healthcare costs and levels of multimorbidity in men than in women among young individuals. However, for older persons, the increase in healthcare costs was significantly greater among women than men. Lastly, there was a positive association between the level of multimorbidity and healthcare costs was significantly greater at lower levels of income and higher levels of marginalisation.

CONCLUSIONS

Health system costs increased significantly with increasing levels of multimorbidity in a publicly financed healthcare system. As the relationship between multimorbidity and healthcare costs varies according to socio-demographic factors, interventions addressing disparities in healthcare in individuals living with multimorbidity may have the potential to reduce total health system costs.

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