Measuring multimorbidity to support chronic disease management and prevention

Multimorbidity, the co-occurrence of two or more disease conditions (2+), manifests itself in manifold challenges in the present-day health management of patients. Multimorbidity has been one of the most complex phenomena in health care systems around the world in recent times. It affects all age groups, but a geriatric focus in health research is prominent owing to higher prevalence among older adults.[1] Moreover, the co-occurrence of multiple diseases leads to greater chances of complications and greater severity compared to single diseases, and the combined burden of multimorbidity and the health care resources required to manage it may be much greater than the sum of single diseases.[2,3]

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Due to Canada's aging population, multimorbidity is increasingly becoming a key public health and primary care issue in the prevention and management of chronic diseases.[4] Canadian adults 20 years and older who were surveyed with a list of nine self-reported chronic conditions had a multimorbidity prevalence of 12.9% in 2011/12.[3] BCCDC's recent analysis of 16 chronic diseases, as defined in BC's chronic disease registries, showed nearly one third (28.6%) of BC residents 20 years or older had multimorbidity (2+) in 2014/15.[2] Another Canadian study using data for five conditions (cardiovascular disease, respiratory disease, mental illness, hypertension, and diabetes) with nationally validated case definitions revealed multimorbidity prevalence rates of 26.5% and 24.8% in Canada and BC, respectively, in 2011/12.[5] While these Canadian and BC prevalence rates are substantial, a fixed set of well-defined chronic conditions is needed, along with use of a standardized surveillance methodology to improve measurement of multimorbidity that would consistently inform practice, program, and policy planning.[4]

Recently we introduced an indicator measuring multimorbidity prevalence[2] in individuals living with two or more chronic conditions from a list of 16 chronic diseases listed in chronic disease registries. The indicator is intended for use in health surveillance on a periodic basis to support management and prevention of chronic diseases in BC. The chronic diseases with identified case definitions[5,6] selected for the multimorbidity indicator are:

- Asthma
- Chronic kidney disease
- Chronic obstructive pulmonary disease
- Dementia
- Diabetes
- Epilepsy
- Heart failure
- Hospitalized stroke
- Hypertension
- Ischemic heart disease
- Mood and anxiety disorders
- Multiple sclerosis
- Osteoarthritis
- Osteoporosis
- Parkinsonism
- Rheumatoid arthritis

The age-standardized prevalence rate of multimorbidity among individuals having two or more chronic diseases is calculated for the indicator. The measurement is expected to enhance our understanding of the epidemiology of multimorbidity to inform prevention efforts, reduce disease burden, and align health care services with holistic patient needs.[4] This also underscores the importance of monitoring multimorbidity to provide insights to broaden our mindset of single disease–centric approaches to management of chronic disease in the primary care setting and prevention as part of public health. Furthermore, the risk and protective factors and socioeconomic determinants of health associated with most chronic conditions individually are common but can be tackled considering multimorbidity as a composite disease entity for planning upstream prevention. ■

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