

Higher levels of education and higher income mean better health for older adults

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A new cross-national study comparing multimorbidity disease cluster patterns, prevalence and health risk factors across Ireland, England, The United States and Canada, reveal important findings that could have

health implications for public health policy.

The study led by TILDA: the Irish Longitudinal Study on Aging offers fresh insight to help [health authorities](#) better understand the complex nature of multimorbidity (a co-occurrence of two or more chronic diseases), and to identify and improve appropriate prevention and management strategies for treating these diseases across countries. All four countries ranked globally in the top 14 of the 2018 UN Human Development Index, allowing for suitable comparison across the range of public healthcare delivery systems of North America and Europe.

The study investigates lifetime prevalence of 10 common chronic, cardiovascular and mental health conditions among 62,111 older adults aged 52–85 years of age across the four countries, and uncovers how differences in demographics, socio-economic status and health behaviors affect the combination of diseases within and across four countries. The findings are a good news story for Ireland, who had the lowest prevalence for 6 out of 10 diseases compared to the other countries.

Multimorbidity is a term used to describe conditions that affect people living with two or more long-term or chronic diseases and is associated with poor health outcomes such as physical and functional decline, mortality, decreased quality of life and increased healthcare use and cost.

The study found that multimorbidity among those aged 52–85 years old was highest in the U.S. at 60.7% and lowest in Ireland at 38.6%. Five predominant multimorbidity patterns for each country were identified in the study, with researchers discovering that socio-economic disparity existed across all four countries, where those who had higher levels of education and higher income in general had better health. Elevated Body Mass Index (BMI) was also identified as a risk factor for high [disease](#) burden and multimorbidity across all countries.

Key findings

- The U.S. had significantly higher prevalence of hypertension, stroke, angina, heart attacks, arthritis, cancer, lung disease and psychiatric illnesses.
- Despite the U.S. spending more per capita on health care than Ireland, Canada, and England, and it had the highest prevalence for 9 out of 10 common chronic, cardiovascular, and [mental health conditions](#) when compared to Ireland.
- Ireland had the lowest prevalence for 6 out of 10 diseases compared to the other countries.
- The U.S. had a higher prevalence of multimorbidity even after adjustments for age, sex, BMI, income, employment status, education, alcohol consumption and smoking history.
- The odds of having diabetes in the U.S. was double that of Ireland or England even after controlling for factors such as age, sex, education, income, employment status, B.M.I., smoking and alcohol consumption.
- Ireland had the highest prevalence of osteoporosis of all four countries.
- The link between health and wealth was present across all four countries but was most pronounced in the U.S., with higher income and higher education levels associated with lower disease prevalence and lower probability associated with multimorbidity clusters.

As the world's population is aging and expanding rapidly, identifying early treatment and management of disease is a priority for healthcare policymakers and providers. While patients living with multimorbidity often have complex medical needs, this can result in challenges to health system capacity worldwide, requiring significant healthcare resources to meet cost, and provision of care. Preventing and improving how multimorbidity and age-related diseases are managed and treated is

crucial to enhance development of sustainable and safe models of care.

Dr. Belinda Hernandez, senior research fellow at TILDA, and lead author said, "Chronic illnesses are the leading cause of death worldwide. These conditions rarely happen in isolation and commonly occur together which is known as multimorbidity. This is a particularly important issue for our health care service and for public health policy in aging societies as multimorbid people tend to have more complex health care needs and poorer health outcomes such as reduced physical functioning and higher rates of mortality. The findings of this study can be used to better understand the complex nature of multimorbidity and identify appropriate prevention and management strategies for treating the unique patterns of non-communicable disease in these respective countries."

Professor Rose Anne Kenny, principal investigator of TILDA and co-author said, "The findings of this study clearly outline the health concerns that affect our aging population and are particularly relevant for those tasked with strengthening healthcare delivery in Ireland and further afield. Having an informed understanding of disease patterns for a given country can bring about a better understanding of the complex nature of multimorbidity and disease. Furthermore, research shows that preventing the development of [chronic diseases](#) may be beneficial in delaying or preventing dementia-related disease or cognitive impairment. We know that Ireland has the second highest rate of obesity in the EU, while dementia rates are estimated to more than double in the next 25 years, to over 150,000 by 2045. This research clearly outlines why targeted health interventions and campaigns are needed to encourage healthier habits and behaviors to help prevent or delay the development of disease, while supporting better [health](#) and longevity for those who age."

More information: Belinda Hernández et al, Comparisons of disease

cluster patterns, prevalence and health factors in the USA, Canada, England and Ireland, *BMC Public Health* (2021). [DOI: 10.1186/s12889-021-11706-8](#)

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