

# Having more than one chronic disease amplifies costs of diseases, study finds

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Having two or more non-communicable diseases (multimorbidity) costs the country more than the sum of those individual diseases would cost, according to a new study published this week in *PLOS Medicine* by Tony Blakely from the University of Otago, New Zealand, and colleagues.

Few studies have estimated disease-specific health system expenditure

for many diseases simultaneously. In the new work, the researchers used nationally linked [health data](#) for all New Zealanders, including hospitalization, outpatient, pharmaceutical, laboratory and primary care from July 1, 2007 through June 30, 2014. These data include 18.9 million person-years and \$26.4 billion US in spending. The team calculated annual health expenditure per person and analyzed the association of this spending to whether a person had any of six non-communicable disease classes—cancer, [cardiovascular disease](#), diabetes, musculoskeletal, neurological, and lung/liver/kidney (LLK) diseases—or a combination of any of those diseases.

59% of publically-funded health expenditures in New Zealand were attributable to [non-communicable diseases](#). Nearly a quarter (23.8%) of this spending was attributable to the costs of having two or more diseases above and beyond what the diseases cost separately. Of the remaining spending, [heart disease](#) and stroke accounted for 18.7%, followed by musculoskeletal (16.2%), neurological (14.4%), cancer (14.1%), LLK disease (7.4%) and diabetes (5.5%). Expenditure was generally the highest in the year of diagnosis and the year of death.

"There is a surprising lack of disease-attributed costing studies involving multiple diseases at once," the authors say. "Governments and health systems managers and funders can improve planning and prioritisation knowing where the money goes."

**More information:** Blakely T, Kvizhinadze G, Atkinson J, Dieleman J, Clarke P (2019) Health system costs for individual and comorbid noncommunicable diseases: An analysis of publicly funded health events from New Zealand. *PLoS Med* 16(1): e1002716.  
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