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SPEAKERS' CORNER

Bringing chronic disease epidemiology and infectious disease epidemiology back together

When modern epidemiology first took shape, there was only one kind of epidemiology – epidemiology, period. Over time has come specialisation into chronic and infectious disease epidemiology. Does this segregation into chronic and infectious disease epidemiologies benefit public health?

Dividing epidemiology into chronic disease and infectious disease “camps” is, in itself, problematic, in that each is based on an incompatible classification system. One classification is based on cause (infectious and non-infectious diseases) while the second is based on effect (chronic and acute diseases).¹ Many chronic diseases have an infectious origin, such as cervical cancer (human papillomavirus – HPV) and liver cancer (hepatitis B and C viruses). Many patients with infectious diseases require long-term care. Human immunodeficiency virus (HIV) infection has become a chronic disease in many countries.¹ Furthermore, some chronic diseases have a short duration. Pancreatic cancer is called a chronic disease despite the fact that very few sufferers survive even 1 year. Finally, some non-infectious diseases, such as diabetic ketoacidosis and myocardial infarction, require acute care.

More importantly, the “infectiousness” of chronic diseases needs to be understood. Many chronic diseases are associated with behavioural risk factors.² Although these diseases are not themselves communicable, their behavioural risk factors (e.g. smoking, excess alcohol consumption, poor nutrition and physical inactivity³) are readily transferable from one population to another, through international travel and modern communication. Unlike many infectious diseases, transmission of “agents” of chronic diseases does not even require physical contact. Ideas about smoking and physical inactivity can be transmitted globally and instantly, through satellite broadcasts and the internet.

Infectious and chronic diseases also interact with each other. Infectious diseases (such as seasonal influenza) can increase risk of hospital admission and death among people with pre-existing chronic diseases (such as circulatory and respiratory diseases).^{3,4} Most of those who died in the severe acute respiratory syndrome (SARS) epidemic in Canada had pre-existing chronic conditions, such as diabetes.⁵

Although it is common to approach chronic and infectious diseases as having completely distinct aetiologies, there is an

increasing appreciation for the common determinants of health that underlie both, such as housing and socioeconomic status.

Segregation of epidemiology into chronic and infectious diseases has led to a neglected area in public health – the interface between chronic disease and infectious disease. Indeed, this neglected area requires increased public health attention across a broad spectrum of activity, including research, surveillance, prevention and control. It is time to bring chronic disease epidemiology and infectious disease epidemiology back together.

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