

Modelling Prevalent Cardiovascular Disease in an Urban Indigenous Community

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Background: Several studies have highlighted the inequities between the Indigenous and non-Indigenous populations with respect to the burden of cardiovascular disease and prevalence of predisposing risks.

Objective: To investigate factors associated with cardiovascular disease within and specific to the Indigenous community in Canada.

Methods: Data from the Our Health Counts Toronto study measured the baseline health of Indigenous community members living in Toronto, Canada. An iterative approach, valuing information from the literature, clinical insight and lived experiences, as well as statistical metrics was used to evaluate candidate predictors prior to multivariable modelling. The resulting model was then validated using a distinct, geographically similar sample of Indigenous peoples in Hamilton, Canada. The final model had good reliability, calibration and predictive accuracy.

Results: Diabetes and hypertension were independently associated with disease risk and the presence of both comorbidities was associated with a three-fold increased risk of cardiovascular disease (RR = 3.0 95% CI: 1.66, 5.50). Those who reported previous experiences of discrimination were 50% more likely to have cardiovascular disease (RR = 1.53, 95% CI: 0.89, 2.80). This effect was more pronounced in the validation sample (RR = 2.10, 95% CI 1.13, 3.89).

Summary: Discrimination is a modifiable factor that must be addressed to improve cardiovascular health among Indigenous communities.