

Health Equity in Cancer Screening in Calgary – A Geographic Approach to Account for Population Socioeconomic Status

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Introduction

There is substantial evidence that cancer screening rates are lower among Canadians with low socioeconomic status (SES) than they are among those with higher SES. In order to optimize cancer screening, there is a need to reduce inequities in cancer screening.

Objectives and Approach

The purpose of this study is to understand how breast, colorectal and cervical cancer screening participation varies by socioeconomic status within local geographic areas (LGAs) in the city of Calgary. A Bayesian multilevel regression method with a spatial component was used to estimate Standardized Incidence Rates (SIR) at the LGA level. Bivariate spatial clustering analyses between screening rates at the Dissemination Area (DA) level and Pampalon material and social deprivation index was performed to better understand spatial structures of low and high screening rates compared to high and low material and social deprivation scores within LGAs.

Results

The effect of material (income, education and employment) and social (living alone, separated, and divorced or widowed) deprivation on lower screening rates was stronger for breast cancer screening, compared to cervical and colorectal screening. Estimated likelihood of screening significantly decreased from the least deprived to the most deprived (9% for the material component and 18% for the social component for Breast cancer; 8% for the material component and 10% for the social component for cervical cancer screening). Clusters of lower screening rates and higher social and material deprivation were identified in the northeastern and central areas of the city.

Conclusion/Implications

The study allowed identifying LGAs and neighborhoods within those LGAs that have lower screening rates likely to be explained by the material and social deprivation of the population. The approach provides additional evidence for planning targeted interventions and reducing inequities for screening.

