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Factors associated with screen-detected breast cancer across five Canadian provinces: a CanIMPACT study

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Introduction

Breast cancer screening is intended to identify cancer in early stages when prognosis is better and treatments less invasive.

Objectives and Approach

We describe Canadian inter- and intra-provincial variation in the percentage of screen-detected cases and identify factors related to having a screen-detected versus a non-screen detected breast cancer. Breast cancers diagnosed from 2004/7 to 2010/11/12 in 5 Canadian provinces were included. Standard provincial datasets were created using screening program and claims data. A common algorithm (Alberta, Ontario) or variable from the screening dataset (British Columbia, Manitoba, Nova Scotia) was used to identify the mode of diagnosis (screening versus not). Relationship between screen-detected cancer and several demographic, clinical and healthcare utilization factors were explored.

Results

The percentage of screen-detected breast cancers varied from 25 to 40 percent across provinces; it ranged 43 to 51 percent for those aged 50-69. Within provinces, the percentage of screen-detected cancers varied across regional health authorities by a low of 1% to a high of 33%. Urban residence was positively associated with screen-detection in some provinces and negatively in others. Women in the lowest neighborhood income quintile had the smallest proportion of screen-detected cancers; the absolute difference from those in the highest quintiles ranged from 3.3-11.5% across provinces. High continuity of care with a usual primary care provider was positively associated with having a screen-detected cancer compared to those with no usual care provider.

Conclusion/Implications

The proportion of screen-detected breast cancers varied significantly across and within provinces suggesting geographic variability in access to screening services. Variation across provinces in terms of factors associated with screen-detected breast cancer also likely reflect access issues. The positive association of high continuity of care with screen-detection in all provinces suggests that regular care with a primary care physician is an important factor in improving screening rates and detection.