

## Factors associated with the breast cancer diagnostic interval across five Canadian provinces: a CanIMPACT study

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### Introduction

A long breast cancer diagnostic process can affect patient anxiety and survival. Variations in the length of the diagnostic interval for similar patient presentations can indicate health system inequities and/or inefficiencies.

### Objectives and Approach

We describe the breast cancer diagnostic interval across Canada and factors associated with its length.

We studied breast cancer patients diagnosed from 2004/7 to 2010/11/12 in the Canadian provinces: British Columbia, Alberta, Manitoba, Ontario, and Nova Scotia. Using administrative data, we created parallel population-based, provincial-level datasets and ran common analyses. The diagnostic interval was defined from the screening mammogram to the diagnosis for screen-led and from the first referral/test ordering date to the diagnosis for diagnostic-led patients. Stratified by these two diagnostic routes, we describe the variation in the interval across provinces and report on the province-specific associations between the diagnostic interval and: patient age, comorbid disease burden, socioeconomic status combined with rural residence, and continuity of primary care while controlling for cancer stage.

### Results

The median diagnostic interval varied by 6 days (29 to 35 days) across provinces. Screen-led patients were diagnosed more quickly (median 2-12 days quicker). The 90th percentile diagnostic interval was 84-126 days longer in diagnostic-led patients. In the diagnostic-led group, increasing comorbid burden was consistently associated with longer diagnostic inter-

vals and being >70 was associated with a shorter interval at the 90th percentile in Manitoba and Ontario. There was no evidence of a clear rural or low socioeconomic status effect and patients without a primary care physician had shorter intervals. In the screen-led group, patients age 40-49 and those in the medium or low income rural areas waited longer for a diagnosis.

### Conclusion/Implications

Diagnostic wait times differ across Canada and are variably associated with comorbidity, age, area-level socioeconomic status and rural residence. These results point to practice and system-level effects that warrant further study.

