

## Impact of Mammographic Screening on Ethnic Inequalities in Breast Cancer Stage at Diagnosis and Survival in New Zealand

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**Abstract :** Introduction: Indigenous Māori women experience a 60% higher breast cancer mortality rate compared with European women in New Zealand. We explored the impact of difference in the rate of screen detected breast cancer between Māori and European women on more advanced disease at diagnosis and lower survival in Māori women. Methods: All primary in-situ and invasive breast cancers diagnosed in screening age women (as defined by the New Zealand National Breast Cancer Screening Programme) between 1999 and 2012 in the Waikato area were identified from the Waikato Breast Cancer Register and the national screening database. Association between screen versus non-screen detection and cancer stage at diagnosis and survival were compared by ethnicity and socioeconomic deprivation. Results: Māori women had 50% higher odds of being diagnosed with more advanced stage cancer compared with NZ European women, a half of which was explained by the lower rate of screen detected cancer in Māori women. Significantly lower breast cancer survival rates were observed for Māori compared with NZ European and most deprived compared with most affluent socioeconomic groups for symptomatically detected breast cancer. No significant survival differences by ethnicity or socioeconomic deprivation were observed for screen detected breast cancer. Conclusions: Low rate of screen detected breast cancer appears to be a major contributor for more advanced stage disease at diagnosis and lower breast cancer survival in Māori compared with NZ European women. Increasing screening participation for Māori has the potential to substantially reduce breast cancer mortality inequity between Māori and NZ European women.

**Keywords :** breast cancer, screening, ethnicity, inequity

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