EPH25

Five-Year Overall Survival After Diagnosis of Breast and Gynaecological Cancers by Educational Attainment in Sweden and Finland: A Nordic Real-World Registry Study

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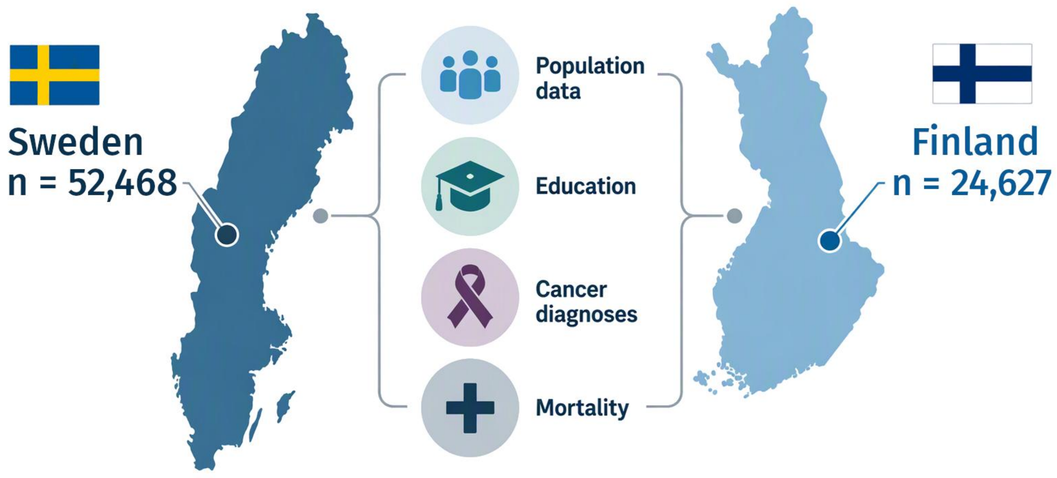

- Population-based cohort study including women with breast and gynaecological cancers in Sweden (n=52,468) and Finland (n=24,627).
- Linked national healthcare and socioeconomic data with longitudinal assessment of overall survival and educational differences.

Data sources

- *Finland:* Finnish Institute for Health and Welfare, Statistics Finland, and Digital and Population Data Services Agency.
- *Sweden:* National Board of Health and Welfare and Statistics Sweden.

BACKGROUND

Educational differences in cancer survival remain a public health concern. Differences may reflect inequalities in early detection, treatment pathways, and access to advances in cancer care. We compared overall survival by educational level among women with breast, cervical, and ovarian cancer in Sweden and Finland.

OBJECTIVES

To quantify educational differences in overall survival among women with breast, cervical, and ovarian cancer in Sweden and Finland.

METHODS

This population-based register study included women aged 34–81 years diagnosed with breast (C50), cervical (C53), or ovarian (C56) cancer during 2012–2018. Overall survival was estimated using Kaplan-Meier methods and compared between women with intermediate and tertiary education. Relative educational differences were calculated as the ratio of estimated 5-year mortality.

Characteristic	Sweden	Finland
Total study population	52,468	24,627
Age at diagnosis, median (IQR)	63 (52-70)	60 (52-67)
Compulsory education	18%	Not available
Intermediate education	48%	48%
Tertiary education	34%	52%
Breast cancer	44,837 (86%)	22,104 (90%)
Cervical cancer	2,656 (5%)	635 (3%)
Ovarian cancer	4,975 (10%)	1,888 (8%)

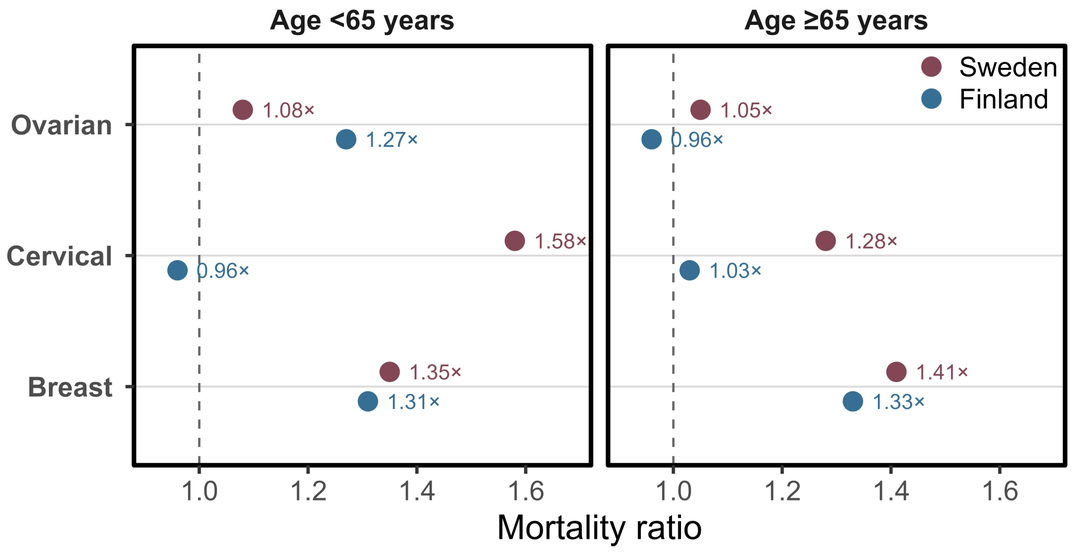

Figure 2. Relative educational differences in estimated 5-year mortality, by country, cancer type, and age group. Mortality ratios compare women with intermediate versus tertiary education. Ratios above 1.00 indicate higher mortality among women with intermediate education. The dashed line denotes no difference.

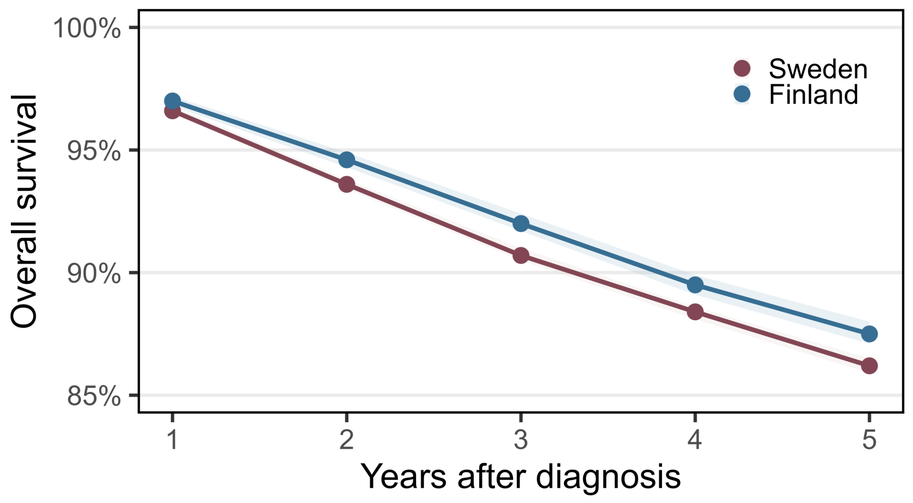

Figure 1. Overall survival after cancer diagnosis in Sweden and Finland
Estimated overall survival (%) from 1 to 5 years after diagnosis of breast, cervical or ovarian cancer. Shaded areas represent 95% confidence intervals.

- Five-year overall survival was similar in Sweden and Finland (86.2% and 87.5%, respectively).
- Higher estimated mortality among women with intermediate versus tertiary education was observed across all examined cancer and age groups in Sweden.
- The largest Swedish difference was observed for cervical cancer among women aged <65 years (mortality ratio: 1.58).
- Educational differences were less consistent in Finland, with the clearest differences observed for breast cancer and ovarian cancer among women aged <65 years.
- In Finland, no educational differences in estimated 5-year mortality were observed for cervical cancer.

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CONCLUSIONS

Educational differences in cancer outcomes varied by country, cancer type, and age group, indicating that inequities persist despite universal healthcare.

These findings underscore the importance of integrating equity considerations into oncology care, access, and post-marketing evaluations to ensure therapeutic advances translate into improved outcomes across all patient groups.

Limitations
Compulsory education was unavailable for Finland, limiting comparisons to intermediate and tertiary education. Unadjusted OS estimates are descriptive and may reflect population differences, including Finland's lower median age at diagnosis.